OXFORD CATALYSTS
FUELLING A CLEANER WORLD

Oxford Catalysts Group PLC
Acquisition of Velocys, Inc.
Placing and Readmission to AIM

THIS DOCUMENT IS IMPORTANT AND REQUIRES YOUR IMMEDIATE ATTENTION. If you are in any doubt about the contents of this document or the action you should take, you should seek independent professional advice from your stockbroker, bank manager, solicitor, accountant or other independent professional adviser authorised for the purposes of FSMA who specialises in advising on the acquisition of shares and other securities in the United Kingdom.

THE WHOLE OF THE TEXT OF THIS DOCUMENT SHOULD BE READ. PROSPECTIVE INVESTORS SHOULD CAREFULLY CONSIDER THE SECTION ENTITLED "RISK FACTORS" IN PART III OF THIS DOCUMENT BEFORE TAKING ANY ACTION IN CONNECTION WITH AN INVESTMENT IN THE ORDINARY SHARES. ALL STATEMENTS REGARDING THE GROUP'S CURRENT, AND THE ENLARGED GROUP'S FUTURE, BUSINESS SHOULD BE VIEWED IN LIGHT OF THESE RISK FACTORS.

If you have sold or otherwise transferred all or some of your Ordinary Shares, you should immediately send this document, together with the accompanying Form of Proxy, to the stockbroker, bank or other agent through whom the sale or transfer was effected, for transmission to the purchaser or transferee. However, these documents should not be forwarded into the United States, Canada, Australia or Japan or their respective territories or possessions or into any jurisdiction if to do so would constitute a violation of the relevant laws of such other jurisdiction.

The Existing Ordinary Shares are currently admitted to trading on AIM. Application has been made, conditionally on the Resolutions being passed at the General Meeting, to the London Stock Exchange for the Enlarged Share Capital to be admitted to trading on AIM. It is expected that Admission will become effective and dealings in the Ordinary Shares will commence on AIM at 8 a.m. on 20 November 2008. A further application will be made to the London Stock Exchange, for admission to trading on AIM, if any Ordinary Shares are issued pursuant to the Velocys Option Settlement. This document does not contain an offer of transferable securities to the public in the United Kingdom within the meaning of s102B FSMA and is not required to be issued as a prospectus pursuant to s85 FSMA, but comprises an AIM admission document drawn up in accordance with the AIM Rules for Companies. Accordingly, this document has not been pre-approved by or filed with the FSA nor any other competent authority.

AIM is a market designed primarily for emerging or smaller companies to which a higher investment risk tends to be attached than to larger or more established companies. AIM securities are not admitted to the Official List. A prospective investor should be aware of the risks of investing in such companies and should make the decision to invest only after careful consideration and, if appropriate, consultation with an independent financial adviser. Neither the London Stock Exchange nor any other competent authority has itself examined or approved the contents of this document. Each AIM company is required pursuant to the AIM Rules for Companies to have a nominated adviser. The nominated adviser is required to make a declaration to the London Stock Exchange on Admission in the form set out in Schedule Two to the AIM Rules for Nominated Advisers. It is emphasised that no application is being made for admission of Ordinary Shares to the Official List or any other recognised investment exchange and no application has been or is being made for the Ordinary Shares to be admitted to trading on any such exchange.

OXFORD CATALYSTS GROUP PLC

(Incorporated and registered in England and Wales under the Companies Act 1985 with registered number 5712187)

Proposed acquisition of Velocys, Inc.
Placing of 8,251,888 Ordinary Shares at £1.25 per Ordinary Share
Admission of the Enlarged Share Capital to trading on AIM
and
Notice of General Meeting

Nominated Adviser, Broker and Joint Bookrunner
KBC PEEL HUNT LTD

Joint Bookrunner
PIPER JAFFRAY LTD.

Share capital immediately following Admission

Authorised			*Issued and fully paid*	
Amount	*Number*		*Amount*	*Number*
£1,000,000	100,000,000	Ordinary Shares of £0.01 each	£596,492	59,649,281

The Directors, whose names, business address and functions are set out on page 6 of this document and the Company, accept individual and collective responsibility for the information contained in this document including individual and collective responsibility for the Company's compliance with the AIM Rules for Companies. To the best of the knowledge and belief of the Directors and the Company (who have taken all reasonable care to ensure that such is the case) the information contained in this document for which they are responsible is in accordance with the facts and does not omit anything likely to affect the import of such information. No person is authorised to give any information in connection with this document, other than as contained in this document.

KBC, which is a member of the London Stock Exchange and is authorised and regulated in the United Kingdom by the FSA, is acting exclusively as nominated adviser, broker and, together with Piper Jaffray, joint bookrunner to the Company (for the purpose of the AIM Rules for Companies) and no one else in connection with Admission and the Placing and will not be responsible for providing the protections afforded to customers of KBC nor for providing advice in relation to the contents of this document or any matter, transaction or arrangement referred to in it. KBC's responsibilities as the Company's nominated adviser and broker under the AIM Rules for Companies and the AIM Rules for Nominated Advisers are owed solely to the London Stock Exchange and are not owed to the Company or to any Director or to any other person in respect of their decision to acquire Ordinary Shares in the Company in reliance on any part of this document. No representation or warranty, express or implied, is made by KBC as to the contents of this document or for the omission of any material, for which it is not responsible.

Piper Jaffray, which is a member of the London Stock Exchange and is authorised and regulated in the United Kingdom by the FSA, is acting exclusively as, together with KBC, joint bookrunner to the Company and no one else in connection with the Placing and will not be responsible for providing the protections afforded to customers of Piper Jaffray nor for providing advice in relation to the contents of this document or any matter, transaction or arrangement referred to in it. No representation or warranty, express or implied, is made by Piper Jaffray as to the contents of this document or for the omission of any material, for which it is not responsible.

In relation to each member state of the European Economic Area which has implemented the Prospectus Directive (a "Relevant Member State"), an offer to the public of the Ordinary Shares may not be made in that Relevant Member State, except that an offer to the public in that

Relevant Member State of any Ordinary Shares may be made at any time under the following exemptions under the Prospectus Directive, if they have been implemented in that Relevant Member State:

(a) to legal entities which are authorised or regulated to operate in the financial markets or, if not so authorised or regulated, whose corporate purpose is solely to invest in securities;

(b) to any legal entity which has two or more of (1) an average of at least 250 employees during the last financial year; (2) a total balance sheet of more than €43,000,000 and (3) an annual turnover of more than €50,000,000, as shown in its last annual or consolidated accounts;

(c) by KBC and/or Piper Jaffray to fewer than 100 natural or legal persons in aggregate (other than qualified investors as defined in the Prospectus Directive); or

(d) in any other circumstances falling within Article 3(2) of the Prospectus Directive, provided that no such offer of Ordinary Shares shall result in a requirement for the publication by the Company or the by KBC and/or Piper Jaffray of a prospectus pursuant to Article 3 of the Prospectus Directive.

For the purposes of this provision, the expression an "offer to the public" in relation to any Ordinary Shares in any Relevant Member State means the communication in any form and by any means of sufficient information on the terms of the offer and any Ordinary Shares to be offered so as to enable an investor to decide to purchase any Ordinary Shares, as the same may be varied in that Relevant Member State by any measure implementing the Prospectus Directive in that Relevant Member State and the expression "Prospectus Directive" means Directive 2003/71/EC and includes any relevant implementing measure in each Relevant Member State.

In the UK this document is exempt from the general restriction on the communication of invitations or inducements to enter into investment activity (within the meaning of s21 FSMA) and has therefore not been approved by an authorised person within the meaning of FSMA. This document is only being communicated to persons falling within Articles 19 (investment professionals) and 49 (high net worth companies etc. of the Financial Services and Markets Act 2000 (Financial Promotion Order) 2005 (SI. 2005/No. 1529) or other persons to whom it may otherwise lawfully be issued or passed on ("Relevant Persons"). Consequently, this document is directed only at persons who are not overseas, those having professional experience in matters relating to investments or other persons to whom it may lawfully be communicated. The Company, KBC and Piper Jaffray will only deal with Relevant Persons in relation to the investments to which this document relates and those who are not Relevant Persons should not rely on it.

In Belgium, the securities under the present document are not subject to a public offer in the sense of Article 3 §1 of the Belgian Law of 16 June 2006 on the public offer (openbare aanbieding/offre publique) of investment instruments and the admission of investment instruments to trading on a regulated market (the "Belgian Law of 16 June 2008") and are only to be offered to institutional investors (gekwalificeerde beleggers/investisseurs qualifiés) (pursuant to Article 3,2 of the Belgian Law of 16 June 2006, and as defined in Article 10, §1 and 2 of the Belgian Law of 16 June 2006). Accordingly, this document is not intended for, and should not be distributed to, issued to, or directed at Belgian residents other than institutional investors as defined above. Belgian residents other than institutional investors as defined above should not take any action in relation to this document, and should return it immediately to the Company. This document has not been and will not be submitted to nor approved by the Belgian Banking, Finance and Insurance Commission ("Commission bancaire, financière et des assurances/Commissie voor het Bank-, Financie- en Assurantiewezen) and accordingly may not be used in connection with any offering or sale of securities in Belgium except as may otherwise be permitted by law.

Potential investors domiciled in France are hereby advised that this document has not been submitted to the French *Authorité des Marchés Financiers* for approval. Accordingly, the marketing of securities of the Company and the distribution of this document is restricted in France.

In particular, no direct or indirect offer to purchase the Ordinary Shares has been, or shall be, made to the public in France, and neither this document nor any other material relating to the purchase or transfer of the Ordinary Shares may be distributed or caused to be distributed to the public in France. Any subsequent transfer of the Ordinary Shares will be subject to applicable restrictions relating to public offers of securities in France.

All such offers to purchase or transfer the Ordinary Shares have been and shall only be made in France to: (i) qualified investors (*Investisseurs Qualifiés*) or a restricted circle of investors (*Cercle Restreint D' Investisseurs*), acting in each case for their own account; and/or (ii) persons carrying out the activity of portfolio management on behalf of third parties (*Gestion de Portefeuille pour compte de tiers*), all as defined in, and in accordance with, Articles D. 411-1, D. 411-2, D. 734-1, D. 744-1, D. 754-1 AND D. 764-1 of the French Monetary and Financial Code.

Ordinary Shares may only be offered or sold, directly or indirectly, to the public in France in accordance with Articles L. 411-1, L. 411-2, L. 412-1 AND L. 621-8 TO L621-8-3 of the French Monetary and Financial Code.

In Germany, the Ordinary Shares may only be distributed or acquired within the Federal Republic of Germany in accordance with the German Investment Act (Investmentgesetz – "INVG"), the German Sales Prospectus Act (Wertpapier-Verkaufsprospektgesetz – "VerkProspG") and the German Securities Prospectus Act (Wertpapierprospektgesetz – "WPPG") and any other laws and regulations applicable in the Federal Republic of Germany governing the issue, offering, distribution and sale of the Ordinary Shares. The distribution of the Ordinary Shares has not been notified and the Ordinary Shares are not registered or authorised for public distribution in the Federal Republic of Germany. This document has not been filed or deposited with the Federal Financial Supervisory Authority (Bundesanstalt für Finanzdienstleistungsaufsicht – "BAFIN"). Therefore, the Ordinary Shares must not be distributed (i) by way of a public offer, public advertisement or in any similar manner within the meaning of section 2 (11) of the INVG or (ii) by the way of public offering within the meaning of section 8f of the VerkProspG or (iii) by the way of public offering within the meaning of section 2 no. 4 of the WPPG nor shall this document constitute such public offer, public advertisement or similar offer. No German prospectus within the meaning of the INVG, the VerkProspG or the WPPG has been or will be prepared, published or otherwise provided. This document shall only be addressed to recipients to whom this document is personally addressed and does not constitute an offer or advertisement to the public nor may it be supplied to the public in the Federal Republic of Germany or used in connection with any offer for subscription of the Ordinary Shares to the public in Germany. All prospective German investors are urged to seek independent tax advice. This document does not contain any tax indications or an explanation about the possible tax consequences of an investment.

The Ordinary Shares are offered in Finland only in circumstances which do not require the publication of the prospectus under the Finnish Securities Market Act (495/1989, as amended) or the Finnish Investment Funds Act (48/1999, as amended). This document has neither been filed with nor approved by the Finnish Financial Supervision Authority and it does not constitute a prospectus under the Finnish Securities Market Act, the Prospectus Directive or the Finnish Investment Funds Act.

In Ireland, this document is being addressed solely to "Qualified Investors" within the meaning of Article 2(1)(e) of the Prospectus Directive as transposed into Irish Law by the Prospectus Directive (2003/71/EC) Regulations 2005. Each recipient of the document shall be deemed to have acknowledged, represented and agreed that he is a "Qualified Investor" within the meaning of the Prospectus Directive and that he will not pass a copy of this document on to any person other than his professional advisers and that any securities acquired by him pursuant to the offer will not have been acquired with a view to their offer or resale to persons in circumstances which may give rise to an offer to the public in Ireland (within the meaning of the Prospective Directive).

In Luxembourg, the Ordinary Shares are being issued to a limited number of prospective investors only. This document may not be reproduced or used for any other purpose, nor provided for or sold to any person other than the recipient of it. In Luxembourg, this document has not been approved by the Commission de Surveillance de Secteur Financier and may not accordingly be used for direct or indirect offering or reselling of the Ordinary Shares to the public in Luxembourg unless such offering or resale occurs in compliance with the Luxembourg Act dated 10 July 2005 relating to prospectuses for securities.

The Ordinary Shares may not, directly or indirectly, be offered or acquired in the Netherlands by investors except for an offer of Ordinary Shares to investors who acquire Ordinary Shares for a total consideration of at least €50,000 per investor, or the equivalent thereof in another currency, for each separate offer.

In Sweden, this document and its contents are only directed at persons who fall within the exemptions contained in Chapter 2, section 4 of the Swedish Financial Instruments Trading Act 1991:980 (lagen (1991:980) om handel med finansiella instrument). No action has been or will be taken in Sweden that would permit a public offering in the securities of the Company or the possession, circulation or distribution of this document or any other material. Accordingly, the Ordinary Shares may not be offered or sold, directly or indirectly, in connection with a public offering in Sweden and no sales prospectus within the meaning of the Swedish Financial Instruments Trading Acts 1991:980 has been or will be published within Sweden.

This document and any other materials in connection with the Placing relating to Switzerland do not constitute an issuance prospectus within the meaning of Article 652a of the Swiss Code of Obligations nor, as the Company has not applied for a listing of its shares on the SWX Swiss Exchange, a listing prospectus within the meaning of the listing rules of the SWX Swiss Exchange. This document and any other materials in connection with the Placing is being communicated in (or from) Switzerland to a small number of selected investors only. Each copy of this document and any other materials in connection with the Placing is addressed to a specifically named recipient and may not be passed on third parties. The Ordinary Shares are not being offered to the public in (or from) Switzerland, and neither this document nor any other materials in connection with the Placing may be distributed in connection with any such public offering within the meaning of Article 652a of the Swiss Code of Obligations.

The distribution of this document in whole or part may, in certain jurisdictions be restricted by law and therefore persons into whose possession this document comes should inform themselves about and observe any restrictions. Any failure to comply with these restrictions may constitute a violation of the securities laws of any such jurisdiction. The Ordinary Shares have not been and nor will be, registered or qualified for sale under the US Securities Act of 1933, as amended (the "Securities Act") and, unless the Ordinary Shares are registered under the Securities Act or an exemption from the requirements of the Securities Act is available, the Ordinary Shares may not be offered or sold directly or indirectly within the United States or to, or for the account or benefit of any US persons or any national, citizen or resident of the United States. The Placing Shares are being offered and sold only outside the United States to non-US persons in reliance on Regulation S under the Securities Act. Further the Ordinary Shares have not been, nor will be, registered or qualified for sale under the securities laws of any of Canada, Australia or Japan and they may not be offered or sold directly or indirectly within Canada, Australia or Japan or to, or for the account or benefit of any national, citizen or resident of Canada, Australia or Japan.

Notice of a General Meeting of Oxford Catalysts Group PLC, to be held at the offices of Mayer Brown International LLP, 11 Pilgrim Street EC4V 6RW at 10.00 a.m. on 19 November 2008 is set out at the end of this document. The action to be taken in respect of the General Meeting is set out at page 278 of this document. Shareholders will find enclosed with this document a Form of Proxy for use in connection with the General Meeting. Whether or not you plan to attend the General Meeting, please complete and sign the Form of Proxy. To be valid, the Form of Proxy should be completed in accordance with the instructions thereon, signed and returned so as to be received by the Company's Registrars, Capita Registrars, The Registry, 34 Beckenham Road, Beckenham, Kent, BR3 4TU, as soon as possible but in any event at least 48 hours before the time appointed for the General Meeting. Completion and return of a Form of Proxy will not preclude Shareholders from attending and voting at the General Meeting or any adjournment should they wish to do so.

Copies of this document, which contains full details about Oxford Catalysts Group PLC and the admission of the Enlarged Share Capital to trading on AIM, will be available at the Company's website: www.oxfordcatalysts.com/investors/financial-information.html.

NOTICE

The attention of potential investors is drawn to the Risk Factors set out in Part III of this document.

1. **Investment in the Company will involve certain risks and special considerations. Investors should be able and willing to withstand the loss of their entire investment.**
2. **Investments in the Company are subject to market fluctuations and the risks inherent in all investments and there can be no assurance that an investment will retain its value or that appreciation will occur.**
3. **The price of the Ordinary Shares can go down as well as up.**
4. **Investment in the Company is suitable only for institutional investors (which includes authorised or exempt persons under FSMA and other persons who fall within the exemptions contained in Articles 19 and 49 of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (SI. 2005/No. 1529)).**
5. **The Ordinary Shares are only suitable for investors who understand, or who have been advised of, the potential risk of capital loss from an investment in the Ordinary Shares and that there may be limited liquidity in the Ordinary Shares and the underlying investments of the Company and for whom an investment in the Ordinary Shares is part of a diversified investment portfolio and who fully understand and are willing to assume the risks involved with an individual investment in such a portfolio.**

Placing size

The maximum number of Placing Shares available under the Placing should not be taken as an indication of the number of Placing Shares which will be finally issued under the Placing.

Company structure

The Company is a public limited company incorporated on 16 February 2006 and registered in England and Wales under CA85 with registered company number 5712187.

Transfer restrictions

Because of the following restrictions, investors are advised to consult with legal counsel prior to making any resale, pledge or transfer of any of the Ordinary Shares.

The Placing is being made pursuant to Regulation S under the Securities Act. The Placing Shares have not been and will not be registered under the Securities Act or with any securities regulatory authority of any state in the United States or other jurisdiction and may only be offered, sold or delivered outside the United States to persons other than "US persons" in "offshore transactions" (as defined in Regulation S) in reliance on Regulation S, and in each case in accordance with any other applicable law.

Each Placee, and subsequent purchasers, by accepting delivery of this document, will be deemed to have acknowledged, represented and agreed as follows:

1. The Placing Shares have not been and will not be registered under the Securities Act or with any securities regulatory authority of any state of the United States and are subject to certain restrictions on transfer in the United States.
2. Each person purchasing the Placing Shares is a non-US person purchasing such Placing Shares in an offshore transaction meeting the requirements of Rule 903 or 904 of Regulation S.
3. The Placing Shares will not be sold, pledged or transferred other than in accordance with Regulation S, registration under the Securities Act or an exemption from registration under the Securities Act.

General

No broker, dealer or other person has been authorised by the Company, its Directors, KBC or Piper Jaffray to issue any advertisement or to give any information or make any representation in connection with the offering or sale of the Ordinary Shares other than those contained in this document and if issued, given or made, that advertisement, information or representation must not be relied upon as having been authorised by the Company, its Directors, KBC or Piper Jaffray.

This Admission Document does not constitute, and may not be used for the purposes of, an offer or an invitation to subscribe for Ordinary Shares by any person in any jurisdictions: (i) in which such offer or invitation is not authorised; (ii) in which the person making such offer or invitation is not qualified to do so; or (iii) to any person to whom it is unlawful to make such offer or invitation. Prospective investors should not treat the contents of this document as advice relating to legal, taxation, investment or any other matters. Prospective investors should inform themselves as to: (a) the legal requirements within their own countries for the purchase, holding, transfer, repurchase or other disposal of Ordinary Shares; (b) any foreign exchange restrictions applicable to the purchase, holding, transfer, repurchase or other disposal of Ordinary Shares which they might encounter; and (c) the income or other taxation consequences which may apply in their own countries as a result of the purchase, holding transfer, repurchase or other disposal of Ordinary Shares. Prospective investors must rely upon their own representatives, including their own legal advisers and accountants as to legal, taxation, investment and other related matters concerning the Company and an investment therein.

Statements made in this document are based on the law and practice currently in force in England and Wales and are subject to change therein.

This document should be read in its entirety before any application for Ordinary Shares is made.

CONTENTS

DIRECTORS, SECRETARY AND ADVISERS

Directors	Dr Pierre Jean-Marie Henri Jungels, CBE, *Chairman* Roy Solomon Lipski, *Chief Executive Officer* Susan Mary Robertson, *Chief Financial Officer* Jeremy Paul Scudamore, *Non-executive Director* Dr Jan Verloop, *Non-executive Director* *all of:*
Registered office	115e Milton Park Oxford OX14 4RZ Tel: +44 (0)1235 841 700
Company secretary	Susan Robertson
Nominated Adviser, broker and joint bookrunner	**KBC Peel Hunt Ltd** 111 Old Broad Street London EC2N 1PH
Joint bookrunner	**Piper Jaffray Ltd.** 1 South Place London EC2M 2RB
Reporting accountant	**PricewaterhouseCoopers LLP** Thames Valley Office The Atrium 1 Harefield Road Uxbridge UB8 1EX
Auditors	**Deloitte & Touche LLP** Abbots House Abbey Street Reading RG1 3BD
Patent attorneys	**Carpmaels & Ransford** 43-45 Bloomsbury Square London WC1A 2RA
Technical experts	**Nexant, Inc.** 44 South Broadway White Plains NY 10601
Solicitors to the Company	**Mayer Brown International LLP** 11 Pilgrim Street London EC4V 6RW
Solicitors to the Nominated Adviser, broker and joint bookrunners	**Norton Rose LLP** 3 More London Riverside London SE1 2AQ
Solicitors to Battelle	**Bailey Cavalieri LLP** 10W Broad Street Suite 2100 Columbus, Ohio 43215-3422 United States

Bankers	**Barclays Bank plc** PO Box 858 Wytham Court 11 West Way Oxford OX2 0XP
Registrars	**Capita Registrars Limited** The Registry 34 Beckenham Road Beckenham Kent BR3 4TU
Financial public relations	**Financial Dynamics Limited** Holborn Gate 26 Southampton Buildings London WC2A 1PB
EPIC	**OCG**
Website	www.oxfordcatalysts.com

DEFINITIONS

The following definitions apply throughout this document, unless otherwise stated or unless the context otherwise requires:

"Acquisition"	the acquisition of all of the issued and outstanding shares of Velocys pursuant to the Acquisition Agreement
"Acquisition Agreement"	the conditional agreement dated 31 October 2008 between (1) the Company and (2) Battelle the terms of which are summarised in Part IX of this document
"Admission"	the admission of the Enlarged Share Capital to trading on AIM becoming effective in accordance with Rule 6 of the AIM Rules for Companies
"AIM"	AIM, a market of the London Stock Exchange
"AIM Rules for Companies"	the rules and guidance for companies whose shares are admitted to trading on AIM entitled "AIM Rules for Companies" published by the London Stock Exchange, as amended from time to time
"AIM Rules for Nominated Advisers"	the rules and guidance for nominated advisers entitled "AIM Rules for Nominated Advisers" published by the London Stock Exchange, as amended from time to time
"Articles"	the articles of association of the Company, details of which are set out in paragraph 5.3 of Part X of this document
"Battelle"	Battelle Memorial Institute, the world's leading independent science and technology organisation headquartered in the State of Ohio, United States
"Board" *or* "Directors"	the existing directors of the Company, whose names appear on page 6 of this document and "Director" shall mean any on of them
"CA06"	the Companies Act 2006, as amended and to the extent in force
"CA85"	the Companies Act 1985, as amended and to the extent still in force
"certificated" *or* "in certificated form"	shares or other securities which are not in uncertificated form
"Combined Code"	the Principles of Good Governance and Code of Best Practice, issued by the London Stock Exchange and published by the Financial Reporting Council, as amended from time to time
"Company" *or* "Oxford Catalysts"	Oxford Catalysts Group PLC, a company incorporated and registered in England and Wales with registered number 5712187
"Completion"	completion of the Acquisition in accordance with the Acquisition Agreement
"Completion Date"	close of business on the day Completion takes place
"Consideration Shares"	the 10,442,207 Ordinary Shares to be issued by the Company pursuant to the Acquisition Agreement

"CREST"	the relevant system (as defined in the CREST Regulations) operated by Euroclear UK & Ireland in accordance with which securities may be held or transferred in uncertificated form
"CREST Regulations"	the Uncertificated Securities Regulations 2001 (SI 2001 No. 3755) as amended
"Disclosure and Transparency Rules"	the disclosure and transparency rules issued by the FSA acting in its capacity as competent authority under FSMA
"Enlarged Group"	the Company and its subsidiaries from time to time, following Completion as described in paragraph 3.2 of Part X of this document
"Dow Chemical"	The Dow Chemical Company, Inc., a diversified chemical company which delivers a broad range of products and services to customers in around 160 countries
"Enlarged Share Capital"	the entire issued ordinary share capital of the Company immediately following Admission, comprising the Existing Ordinary Shares, the Consideration Shares and the Placing Shares, but for the avoidance of doubt, excludes any Ordinary Shares which may fall to be issued pursuant to the Velocys Option Settlement
"Euroclear UK & Ireland"	Euroclear UK & Ireland Limited, a company registered in England and Wales
"Existing Ordinary Shares"	the 40,566,990 Ordinary Shares in issue at the date of this document
"Form of Proxy"	the form of proxy to be used by Shareholders in respect of the General Meeting
"FSA"	the Financial Services Authority of the United Kingdom
"FSMA"	the Financial Services and Markets Act 2000, as amended, including any regulations made pursuant thereto
"General Meeting" *or* "GM"	the general meeting of the Company to be held at the offices of Mayer Brown International LLP, 11 Pilgrim Street EC4V 6RW at 10.00 a.m. on 19 November 2008, notice of which is set out at the end of this document
"Group"	the Company and its subsidiaries and subsidiary undertakings as described in paragraph 3.1 of Part X of this document and "member of the Group" shall be construed accordingly
"IFRS"	International Financial Reporting Standards as adopted by the European Union
"intellectual property"	all intellectual property, including patents, utility models, trade and service marks, trade names, domain names, right in designs, copyrights, moral rights, topography rights, rights in databases, trade secrets and know-how, in all cases whether or not registered or registrable and including registrations and applications for registration of any of these and rights to apply for the same and all rights and forms of protection of a similar nature or having equivalent or similar effect to any of these anywhere in the world
"ISIN"	International Securities Identification Number

"Isis"	Isis Innovation Limited, a company incorporated in England and Wales, with registered number 2199542, a wholly-owned subsidiary of the University of Oxford which transfers and/or licenses technology rights from the University of Oxford
"KBC"	KBC Peel Hunt Ltd, which is authorised and regulated in the United Kingdom by the FSA
"Licensed Intellectual Property"	the patent, patent applications and patents granted in response to those applications, know-how relating to such patent, patent applications and patents so granted and improvements in respect of the same as described in the licence referred to in paragraph 14.1(a) in Part X of this document
"London Stock Exchange"	London Stock Exchange plc
"MODEC"	MODEC, INC., the world's second largest owner/provider of FPSOs, owned by Mitsui
"New Ordinary Shares"	the Consideration Shares and the Placing Shares
"Notice of General Meeting"	the notice convening the General Meeting set out on pages 276 to 278 of this document
"Novus Energy"	Novus Energy LLC, a Minneapolis based renewable fuels company
"OCL"	Oxford Catalysts Limited, a company incorporated and registered in England and Wales with registered number 5258554
"Official List"	the Official List of the UK Listing Authority
"Ordinary Shares"	ordinary shares of £0.01 each in the capital of the Company
"Piper Jaffray"	Piper Jaffray Ltd., which is authorised and regulated in the United Kingdom by the FSA
"Placee"	a subscriber for Placing Shares
"Placing"	the proposed, conditional, non pre-emptive placing by KBC and Piper Jaffray of the Placing Shares with institutional investors pursuant to the Underwriting Agreement
"Placing Price"	£1.25 per Placing Share
"Placing Shares"	8,251,888 Ordinary Shares to be allotted and issued by the Company pursuant to the Placing
"PNNL"	Pacific Northwest National Laboratory, one of the US Department of Energy national laboratories
"PTT"	PTT Public Company Limited, the Thai State controlled oil and gas company
"Put and Call Option"	the put and call option as described in the put and call option agreement between the Company and Avenir Finances S.A. dated 31 October 2008
"Registrars"	Capita Registrars Limited
"Resolutions"	the resolutions to be proposed at the General Meeting as set out in the Notice of General Meeting
"Securities Act"	US Securities Act of 1933, as amended

"Settlement Shares"	the number of shares to be issued under the separation agreement and general release between the Company, Battelle, Trinet HR Corporation and Wayne Simmons dated October 2008
"Shareholders"	holders of Ordinary Shares from time to time, each individually being a "Shareholder"
"Share Option Plan"	has the meaning given in paragraph 16.1(b) of Part X of this document
"Stand-alone Options"	has the meaning given in paragraph 16.1(a) of Part X of this document
"Statutes"	CA85, CA06 and every other statute (and any subordinate legislation, order or regulations made under any of them) concerning companies and affecting the Company, in each case, as they are for the time being in force
"Toyo Engineering"	Toyo Engineering Corporation, a global EPC company with Mitsui as a minority shareholder
"UK Listing Authority"	the FSA acting in its capacity as competent authority for the purposes of FSMA
"uncertificated" *or* "in uncertificated form"	an Ordinary Share recorded on the Company's register as being held in uncertificated form in CREST and title to which, by virtue of the CREST Regulations, may be transferred by means of CREST
"Underwriting Agreement"	the conditional agreement dated 31 October 2008 between (1) KBC (2) Piper Jaffray (3) Oxford Catalysts and (4) each of the Directors, relating to the Placing and Admission the terms of which are summarised in paragraph 14.1(f) of Part X of this document
"United Kingdom" *or* "UK"	the United Kingdom of Great Britain and Northern Ireland
"United States" *or* "US" *or* "USA"	the United States of America, its territories and possessions, any state of the United States and the District of Columbia
"Velocys"	Velocys, Inc., a subsidiary of Battelle, subsisting under the laws of the State of Delaware, United States
"Velocys Option Settlement"	the consideration to be issued to holders of options over common stock in Velocys either by way of the issue of additional Ordinary Shares, by way of Velocys Rollover Options or by cash, further details of which are set out in Part IX
"Velocys Rollover Options"	has the meaning given in paragraph 16.1(c) and 16.6 of Part X of this document

In this document all references to times and dates are to those observed in London, United Kingdom.

All references to legislation in this document are to the legislation of England and Wales unless the contrary is indicated. Any reference to any provision of any legislation shall include any amendment, modification, re-enactment or extension thereof.

In this document the symbols "£", "p", "pence" and "penny" refers to pounds and pence sterling, and the symbol "$" refers to United States dollars and "cents" refers to United States cents. The exchange rate used in this document is as at the close of business on 30 October 2008 of $1.6377 per pound sterling, as published by Bloomberg.

GLOSSARY

The following terms apply throughout this document, unless the context requires otherwise:

alternative fuels	any materials or substances that can be used as a fuel, other than conventional fuels such as oil, coal, propane, natural gas, and nuclear materials such as uranium
associated gas	associated gas is natural gas which is found in association with crude oil, either dissolved in it or as a cap of free gas above it. Associated gas that is stranded is often either flared or reinjected
ASU	a chemical process unit that separates air into its constituents to obtain oxygen, nitrogen, and occasionally argon
barrel of oil equivalent *or* boe	a unit of energy based on the approximate energy released by burning one barrel of crude oil
bbl	barrels. One barrel of oil is equivalent to 42 US gallons or 159 litres
biofuels	fuels that are derived from biomass, such as biodiesel
biogas	gas produced as a result of the natural decomposition of biomass, typically by anaerobic digestion, such as is found at landfills and waste water treatment plants. Biogas typically comprises a mixture of carbon dioxide and methane
biogas conversion	reforming of biogas
biomass	biological materials including plant or animal matter
Biomass-to-Liquid *or* BTL	a process to produce liquid biofuels from biomass using FT
bpd	barrels per day
carbon-containing wastes	waste materials that contain carbon, such as agricultural and forestry waste, animal waste, waste plastics, food processing waste, and certain constituents of municipal solid waste
catalyst	a material used to initiate or accelerate a chemical reaction, while not itself being consumed in the reaction
chemical process	a method intended to be used in manufacturing of chemical(s), typically in a chemical plant
clean fuels	fuels that combust without emitting excessive harmful emissions such as sulphur oxides or nitrogen oxides
Coal-to-Liquid *or* CTL	a process for converting solid coal into liquid fuels such as gasoline or diesel using FT
commodity chemical	a chemical that is manufactured and sold in large quantities, such as methanol and hydrogen peroxide, and is typically low in cost
CPO *or* catalytic partical oxidation	the chemical process of partially combusting carbonaceous materials, such as natural gas, using a catalyst to produce syngas
Direct-Coal-to-Liquid	a method of converting coal into liquid fuels without either FT or the intermediary step of producing syngas

emulsion	a mixture of two immiscible (unblendable) substances. One substance (the dispersed phase) is dispersed in the other (the continuous phase). Many emulsions are oil/water emulsions. Examples of emulsions include butter and margarine, milk, creams, lotions and paints
EIA	Energy Information Administration, the official provider of energy statistics from the US Government
EPC	engineering, procurement and construction. An EPC contractor designs and delivers finished process plants to its clients
fine chemical	a chemical that is produced in relatively small quantities and is typically high in cost, for example a flavouring or vitamin
first generation biofuels	biofuels made from materials such as sugar, starch, vegetable oil or animal fats that could alternatively be used as part of the human or animal food chain. As such they divert food from human or animal use
Fischer-Tropsch *or* FT	a chemical process that converts syngas into hydrocarbons such as diesel or waxes, as used in XTL processes, including GTL, CTL, and BTL
fixed bed reactor	a reactor in which the catalyst remains stationary while the chemicals to be reacted are passed over it
flare gas	natural gas that is flared. See flaring below
flaring	the process of burning off unwanted natural gas or flammable gas and liquids through an elevated vertical stack or chimney, often found on oil wells or oil rigs, and in refineries, chemical plants and landfills
FMCG	fast moving consumer goods. Examples of FMCG companies include Unilever and Gillette
fossil fuel	energy-rich substances that have formed from long-buried plants and micro-organisms. Fossil fuels, which include petroleum, coal, and natural gas, provide most of the energy that powers modern industrial society. With the exception of coal, fossil fuels are hydrocarbons. They are non-renewable resources
FPSO	a Floating Production Storage and Offloading vessel, a type of floating tank system used by the offshore oil and gas industry and designed to take all of the oil or gas produced from a nearby platform(s), process it, and store it until the oil or gas can be offloaded onto waiting tankers, or sent through a pipeline
Gas-to-Liquid *or* GTL	a process for converting methane (natural gas) into liquid fuels such as gasoline or diesel using FT
greenhouse gases	gases such as water vapour, carbon dioxide, methane, nitrous oxide and ozone that are believed to contribute to global warming
hydrocarbons	a class of chemicals comprising primarily carbon and hydrogen, such as natural gas, diesel or gasoline

hydro-desulphurisation *or* HDS	a process for the removal of sulphur from liquid hydrocarbons, such as oil distillates, by treating with hydrogen gas over a catalyst
Instant Steam	a chemical method of producing steam (between 200°c and 600°c) directly and instantaneously from a liquid fuel mixture, developed by the Company
LAB	linear alkyl benzene, a group of hydrocarbon chemicals
landfill	a site for the disposal of waste materials by burial
LNG	liquified natural gas, natural gas that has been temporarily converted to liquid form by cooling it to very low temperatures, for the purposes of transportation
microchannel	a small chamber, typically 0.1–5mm wide, designed to perform chemical reactions and/or to conduct heat between a substance and its surrounding environment
microchannel process technology *or* microchannel technology *or* MPT	process technology that comprises chambers (microchannels) that are significantly smaller than those used conventionally
microchannel reactor	a reactor comprising one or more microchannels
MRSA	methicillin-resistant staphylococcus aureus, a superbug responsible for difficult-to-treat infections in humans
natural gas	natural gas used in general domestic and industrial applications which is mainly composed of methane
natural gas upgrading	the removal of impurities, such as mercury, from natural gas
NGL *or* natural gas liquids	light hydrocarbons that are naturally or can be easily liquefied. This typically refers to ethane, propane, butane and pentane, and sometimes somewhat heavier materials called condensate
NO_x	nitrogen oxides produced during combustion, especially at high temperatures, and which are a contributor towards air pollution
oil distillate	an oil fraction generated by distillation which is a process for separating oil into different groups of hydrocarbons, such as diesel and gasoline
organic compound	any member of a large class of chemical compounds whose molecules contain carbon
Organic Matrix Combustion Method	a novel method developed by Dr Xiao and Professor Green for the preparation, activation and optimisation of a supported catalyst in the presence of one or more organic compounds and one or more transition metal compounds, which are mixed and combusted under a specific atmosphere
peak oil	the point in time when the maximum rate of global petroleum extraction is reached, after which the rate of production enters terminal decline
POX *or* partial oxidation	the chemical process of partially combusting carbonaceous materials, such as natural gas, crude oil fractions or coal, to produce syngas

process technology	technology used in a chemical process
ppm	parts per million
R&D	research and development
reactor	a device, or a vessel, designed to perform chemical reactions
reformer	a device for reforming a fuel
reforming	a chemical process for converting a fuel into hydrogen gas and either or both of carbon dioxide and carbon monoxide. Reforming is a common method of producing syngas
reinjection	the injection of natural gas into an underground reservoir, typically one already containing both natural gas and crude oil, in order to increase the pressure within the reservoir and thus induce the flow of crude oil, or else to sequester unwanted associated gas that is stranded
renewable resource	a natural resource that is replenished by natural processes at a rate comparable to or faster than its rate of consumption by humans or other users. Some renewable resources, such as geothermal, fresh water, timber, and biomass must be carefully managed to avoid exceeding the environment's capacity to replenish them
second generation biofuels	biofuels made from the residual non-food parts of current crops, such as stems, leaves and husks that are left behind once the food crop has been extracted, as well as other crops that are not used for food purposes, such as switch grass and cereals that bear little grain, and also carbon-containing wastes such as wood chips
selectivity	the desired yield from a chemical reaction, typically referred to as a percentage. An example is the C5+ yield percentage for certain types of processes, which means the total amount of all the products from a chemical reaction that have 5 carbon atoms or more per molecule, divided by the total amount of all products from the reaction
steam methane reforming *or* SMR	a method of producing syngas through the reaction of methane with steam over a catalyst at elevated temperatures
stranded gas	natural gas that exists in locations where no economic method of transporting it to market exists or where the local market for natural gas is saturated
superbug	a strain of bacteria that is resistant to all known antibiotics
syncrude *or* synthetic crude oil	a mixture of hydrocarbons produced by chemical or refining processes from non-oil feedstocks. Syncrude is commonly used to refer to mixed hydrocarbons made from processing tar sands or from FT. Syncrude from FT is sometimes further processed to produce larger yields of synethtic fuel
syngas *or* synthesis gas	a mixture of hydrogen gas and carbon monoxide that can be used to synthesise a variety of chemicals, including methanol and hydrocarbons such as diesel

synthetic fuels	near zero sulphur and aromatics liquid transport fuels made with Fischer-Tropsch, such as via the GTL, CTL and BTL processes
tcf	trillion cubic feet. In the context of the volume of a gas, a trillion cubic feet of gas at standard temperature and pressure. One trillion cubic feet is equivalent to 28.3 billion cubic meters
thermally active packaging	packaging that changes the temperature of its contents when used, such as self-cooling beer cans and self-heating coffee
transition metal	any element in the d-block of the periodic table of elements, including zinc, cobalt and nickel
viscosity	a physical property of fluids that determines the internal resistance to shear forces
XTL	a process involving Fischer-Tropsch for the production of synthetic fuels, whereby the feedstock used to produce the intermediary syngas required is not specified. It could, for example, be natural gas, coal, biomass or plastics

KEY INFORMATION

This information is derived from, and should be read in conjunction with, the full text of this document. This information does not purport to be complete. Any decision to invest in the Ordinary Shares should be based upon consideration of the whole of this document.

Summary of the transaction

The Company has agreed to acquire Velocys, the recognised world-leader in the design and development of microchannel process technology for the production of synthetic fuels and commodity chemicals, for consideration of $35.0 million (approximately £21.4 million), to be satisfied by the payment of $5.0 million in cash (approximately £3.1 million), $28.2 million (approximately £17.2 million) by the issue of 10,442,207 Consideration Shares and 388,196 Settlement Shares and the remainder by the Velocys Option Settlement.

In order to fund the cash element of the payment for the Acquisition and to provide working capital to finance the Enlarged Group's integration, development and commercialisation strategies, Oxford Catalysts intends to raise £10.3 million (approximately £8.2 million net of expenses) via a conditional, non pre-emptive institutional placing. The Placing has been underwritten by KBC and Piper Jaffray.

In view of the size of Velocys, the Acquisition will, on Completion, constitute a reverse takeover under Rule 14 of the AIM Rules for Companies.

Information on Velocys

Velocys was formed in 2001 to commercialise microchannel process technology developed by Battelle, (the world's leading independent science and technology organisation), at PNNL, one of the US Department of Energy's national laboratories. Velocys owns, or has licences to, the largest microchannel patent portfolio in the world. It is commercialising systems for both FT and methane reforming, two of the key components of the GTL process.

The basic building blocks of the Velocys technology are reactor components, each with large numbers of parallel and/or perpendicular microchannels. These microchannel reactors enable the use of significantly more active catalysts than can be utilised by conventional reactors, such as the FT catalyst developed by the Group. They can result in substantial capital cost savings, improved product yields, and greater energy efficiencies than conventional technologies, particularly when incorporated into smaller scale projects such as those suited to BTL, and to GTL for flare gas and small to medium scale stranded gas, a potentially significant new addressable market.

Velocys has formed strategic partnerships with several industry leaders in various application areas. Over $160 million has been invested to date in its technology, primarily by industrial partners. Several partner supported projects are currently targeting commercial demonstration of the technology, including one with Toyo Engineering Corporation (a global EPC company with Mitsui as a minority shareholder) and MODEC, INC. (the world's second largest owner/provider of FPSOs, owned by Mitsui). In the synthetic fuels market, these projects are aiming for commercial demonstration beginning as early as 2009.

Velocys has over 60 employees and operates from a 27,000 sq. ft. custom fitted facility near Columbus, Ohio. In the year ended 30 September 2007, Velocys had $15,790,000 of revenue and an operating loss of $714,000.

Information on Oxford Catalysts

Oxford Catalysts is developing and commercialising catalysts primarily for use in the production of clean fuels from both fossil fuels and certain renewable resources, such as biogas. These include applications in the hydro-desulphurisation of crude oil fractions, and in the production of synthetic fuels via the Fischer-Tropsch process. In addition, the Group is aiming to co-develop products incorporating its novel steam production technology for the steam-applications market. Furthermore, the Group is developing catalysts to be used for other applications such as biogas conversion.

The Group has developed a high activity fixed bed FT catalyst that can operate at more than fifteen times the productivity of conventional catalysts. The catalyst was demonstrated by Velocys for over 3,000 hours in a nominal two gallon per day pilot unit. The performance of the catalyst was better than any other catalyst it had tested, including catalysts provided by other catalyst companies, as well as those developed by Velocys.

In addition to its ongoing development project with Velocys, the Group has announced active working engagements with PTT Public Company Limited, the Thai state controlled oil and gas company, a leading fast moving consumer goods multinational, and Novus Energy LLC, a Minneapolis-based renewable fuels company.

Background to and reasons for the Acquisition

Production of alternative fuels, including synthetic fuels, is set to grow faster than conventional fuels reaching nine per cent. of global liquid fuels production by 2030.

The Directors consider that the largest potential opportunity for Oxford Catalysts' current business is in the emerging synthetic fuels market, primarily through the use of FT.

In particular, the Directors believe that there is strong demand for smaller scale applications of FT, for which there is a potentially significant new addressable market from captured flare gas, gas that is currently reinjected, stranded gas reserves and biomass that can be converted to liquid fuels via BTL.

For conventional process technology, efficiency and cost-effectiveness rapidly deteriorate as plant capacities decrease. In contrast, the relative potential benefits achievable with microchannel reactors become more pronounced at smaller scales. The Directors believe that at smaller scales of 5,000 bpd and less, microchannel reactors are the clear solution of choice for certain key steps in the production of synthetic fuels, including FT.

As microchannel reactors need catalysts that are significantly more active than those utilised by conventional reactors, and since the Group's platform technology could enable the production of such catalysts, there is potentially a strong natural fit between Oxford Catalysts' and Velocys' technologies.

Velocys and the Group have been working together since May 2007 to integrate and demonstrate their technologies in the area of FT. Indeed, tests using the combined technologies show significantly superior performance to that which either company has been able to attain separately to date, and at a level which meets initial commercial targets required by Velocys' partners.

The Directors believe that by extending the Company's offering to include Velocys' microchannel reactors, it will be able to capture a larger proportion of the revenue available in the emerging synthetic fuels market, and that the Enlarged Group will have a strong competitive advantage in smaller scale applications of FT.

The Directors believe that the Acquisition will accelerate time to market, reduce risks and cost of commercialisation, broaden the product portfolio to appeal to a wider group of potential partners and customers, strengthen competitiveness and achieve critical mass.

Admission to AIM and Placing

Oxford Catalysts intends to apply for admission of its Enlarged Share Capital (to be effective immediately after Completion) to trading on AIM and to raise gross proceeds of approximately £10.3 million pursuant to a placing of 8,251,888 Ordinary Shares at a price of £1.25 per Ordinary Share. Admission is expected to become effective on 20 November 2008.

STATISTICS

Mid-market closing price per Ordinary Share on 31 October 2008 (being the last practicable date prior to the publication of this Admission Document)	£1.59
Number of Existing Ordinary Shares	40,566,990
Number of Consideration Shares being issued and allotted pursuant to the Acquisition	10,442,207
Number of Placing Shares being issued and allotted pursuant to the Placing	8,251,888
Number of Settlement Shares	388,196
Enlarged Share Capital following Admission	59,649,281
Placing Price	£1.25 per Ordinary Share
Market capitalisation of the Company at the Placing Price on Admission	£74.6 million
Gross proceeds of the Placing	£10.3 million
Estimated net proceeds of the Placing	£8.2 million
Percentage of Enlarged Share Capital represented by	% of Enlarged Share Capital
Existing Ordinary Shares	68.0
Consideration Shares	17.5
Placing Shares	13.8
Settlement Shares	0.7
ISIN of Ordinary Shares	GB 00B11SZ269

TIMETABLE

Each of the dates and times in this timetable are subject to change at the absolute discretion of the Company and satisfaction of all conditions contained in the Acquisition Agreement is assumed.

Publication of this document	3 November 2008
Latest time and date for receipt of Forms of Proxy	10.00 a.m. on 17 November 2008
General Meeting	10.00 a.m. on 19 November 2008
Completion	8.00 a.m. on 20 November 2008
Admission to become effective and trading in the Enlarged Share Capital to commence	8.00 a.m. on 20 November 2008
CREST stock accounts credited in respect of the Placing Shares (where applicable)	20 November 2008
Certificates in respect of the Consideration Shares and the Placing Shares (where applicable) despatched	by 27 November 2008

PART I

LETTER FROM THE CHAIRMAN OF OXFORD CATALYSTS GROUP PLC TO SHAREHOLDERS

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Directors:
Pierre Jungels, CBE, *Chairman*
Roy Lipski, *Chief Executive Officer*
Susan Robertson, *Chief Financial Officer*
Jeremy Scudamore, *Non-executive Director*
Jan Verloop, *Non-executive Director*

3 November 2008

To Shareholders of Oxford Catalysts Group PLC

Dear Shareholder,

Proposed acquisition of Velocys, Inc., the Placing of 8,251,888 Ordinary Shares at a price of £1.25 per Ordinary Share, Admission of the Enlarged Share Capital of the Company to trading on AIM and Notice of General Meeting

1. Introduction

The Board announced today that it has entered into the Acquisition Agreement for the purposes of acquiring the entire issued and to be issued share capital of Velocys, the recognised world-leader in the design and development of microchannel process technology for the production of synthetic fuels and commodity chemicals, for a consideration of $35.0 million (approximately £21.4 million), to be satisfied by the payment of $5.0 million in cash (approximately £3.1 million), $28.2 million (approximately £17.2 million) by the issue of 10,442,207 Consideration Shares and 388,196 Settlement Shares and the remainder by the Velocys Option Settlement.

In order to fund the cash element of the payment for the Acquisition, and to provide working capital to finance the Enlarged Group's integration, development and commercialisation strategies, Oxford Catalysts intends to raise £10.3 million (approximately £8.2 million net of expenses) via a conditional, non pre-emptive institutional placing of 8,251,888 Ordinary Shares at the Placing Price. The Placing has been underwritten by KBC and Piper Jaffray.

In view of the size of Velocys, the Acquisition will, on Completion, constitute a reverse takeover under Rule 14 of the AIM Rules for Companies, and as such will require Shareholder approval at a general meeting (notice of which is set out on pages 276 to 278 of this document) convened for this and other purposes. If the Resolutions are duly passed by Shareholders at the General Meeting and other conditions set out in the Acquisition Agreement are met, trading in the Existing Ordinary Shares on AIM will be cancelled and the Enlarged Share Capital will be admitted to trading on AIM, with dealings expected to commence at 8.00 a.m. on 20 November 2008.

After completion of the Acquisition, the businesses of Oxford Catalysts and Velocys will constitute the main business of the Enlarged Group.

Incorporated and registered in England and Wales under the Companies Act 1985 with registered number 5712187

The purpose of this document is: (i) to give more details on the Acquisition, the Placing and Admission; and (ii) to recommend that you vote in favour of the Resolutions at the General Meeting.

Certain Shareholders (including Pierre Jungels and Jan Verloop) have irrevocably undertaken to vote in favour of the Resolutions at the General Meeting in respect of their beneficial holdings, which amount in aggregate to 351,468 Existing Ordinary Shares representing 0.87 per cent. of the Existing Ordinary Shares, further details of which are set out in paragraph 17 of Part I of this document.

2. Information on Velocys

Velocys, a US corporation based near Columbus, Ohio, was formed in 2001 to commercialise microchannel process technology developed by Battelle at PNNL, one of the US Department of Energy's national laboratories.

The basic building blocks of the Velocys technology are reactor components, each with large numbers of parallel microchannels. These microchannel reactors enable the use of significantly more active catalysts (such as the FT catalyst developed by the Group) than can be utilised by conventional reactors. They can result in substantial capital cost savings, improved product yields, and greater energy efficiencies than conventional technologies, particularly when incorporated into smaller scale projects such as those suited to BTL, and to GTL for flare gas and small to medium scale stranded gas, a potentially significant new addressable market. At a time of high energy, oil and chemical feedstock prices, the need for these benefits has never been greater.

Microchannels have been the subject of increasingly intense and widespread research since the early 1990s. Today, Velocys is the recognised world-leader in the design and development of microchannel process technology for the production of synthetic fuels and commodity chemicals. It owns, or has licences to, the largest microchannel patent portfolio in the world.

Velocys is commercialising systems for both FT and steam methane reforming (SMR), two of the key components of the GTL process. It has formed strategic partnerships with several industry leaders in various application areas. Over $160 million has been invested to date in its technology, primarily by industrial partners. Several partner supported projects are currently targeting commercial demonstration of the technology, including one with Toyo Engineering Corporation (a global EPC company with Mitsui as a minority shareholder) and MODEC, INC. (the world's second largest owner/provider of FPSOs, owned by Mitsui). In the synthetic fuels market, these projects are aiming for commercial demonstration beginning as early as 2009.

In the financial year ended 30 September 2007, Velocys had revenues of $15,790,000 and an operating loss of $714,000.

Further information on Velocys is set out in Part II of this document.

3. Information on Battelle

Battelle is the world's leading independent science and technology organisation that develops technology and manages laboratories for companies and government agencies, including the United States Department of Energy and the Department of Homeland Security. It oversees more than 20,000 staff and conducts approximately $4 billion in annual R&D. Velocys is, as at the date of this announcement, a subsidiary of Battelle.

Further information on Battelle is set out in paragraph 2.2 of Part II of this document.

4. Background to the Acquisition

Following Oxford Catalysts' admission to AIM in April 2006, it has continued to focus on developing catalysts, particularly for use in the production of clean fuels from both fossil fuels and certain renewable sources, such as biogas. Catalysts are a key element in the production process of certain clean fuels, including low-sulphur diesel and synthetic fuels.

Liquid fuels derived from crude oil are the world's dominant energy source, and despite increasing fuel efficiency, world consumption of transportation fuels is expected to keep rising over the next 20 years. Production of alternative fuels, including synthetic fuels from FT, is set to grow faster than conventional fuels reaching nine per cent. of global liquid fuels supply by 2030.

The Directors consider that the largest potential opportunity for Oxford Catalysts' current business is in the emerging synthetic fuels market, primarily through the use of FT.

In particular, the Directors believe that there is strong demand for smaller scale applications of FT, for which there is a potentially significant new addressable market, including: up to 1.7 million bpd potential from captured flare gas, and almost twice as much potential from gas that is currently reinjected; over 20 million bpd potential from small and medium scale stranded gas reserves; and millions of bpd potential via BTL, where for example 1.1 million bpd of biofuels that could be made by BTL have been mandated in the US alone by 2022. The Directors estimate that currently some $3–4 of FT catalyst is required to produce 1 barrel of synthetic fuel.

For conventional process technology, efficiency and cost-effectiveness rapidly deteriorate as plant capacities decrease. In contrast, the relative potential benefits achievable with microchannel reactors become more pronounced at smaller scales. The Directors believe that at smaller scales of 5,000 bpd and less, microchannel reactors are the clear solution of choice for certain key steps in the production of synthetic fuels, including FT.

Microchannel reactors are able to exploit the benefits of catalysts that are more active than those utilised by conventional reactors, and since the Group's platform technology enables the production of such catalysts, there is potentially a strong natural fit between Oxford Catalysts' and Velocys' technologies.

Velocys and the Group have been working together since May 2007 to integrate and demonstrate their technologies in the area of FT. Indeed, tests using the Group's proprietary high activity catalysts with Velocys' microchannel reactors show significantly superior performance to that which either company has been able to attain separately to date, and at a level which meets initial commercial targets required by Velocys' partners.

The Directors believe that by extending the Company's offering to include Velocys' microchannel reactors, it will be able to capture a larger proportion of the revenue available in the emerging synthetic fuels market, and that the Enlarged Group will have a strong competitive advantage in smaller scale applications of FT.

5. Reasons for the Acquisition

The Directors believe that the Acquisition would provide the following key benefits to Oxford Catalysts, particularly in the area of FT.

(a) ***Accelerate time to market***

The Directors believe that targeting smaller scale FT using the Enlarged Group's technologies will provide a faster route to gaining market acceptance for its FT catalysts, and to enhancing income. The Acquisition will provide the Company with direct and intimate access to a proprietary FT process, thereby accelerating the development cycle, as well as providing scope for producing a better overall offering (process and catalyst combined).

(b) ***Reduce risk and cost of commercialisation***

Velocys has already secured several partnerships in the synthetic fuels and commodity chemical markets. The Directors believe that access to these partnerships will not only validate the Company's technology and help fund commercial demonstration but that they will also provide the initial routes to market for the Enlarged Group. Furthermore, the Directors consider that the modular nature of the Velocys technology will alleviate a substantial proportion of the time and risk typically associated with scaling up a chemical process.

(c) ***Broaden the product portfolio***

In addition to its FT microchannel reactor, Velocys is commercialising a compact steam methane reformer for GTL applications, as well as solutions for the commodity chemical and emulsion markets. The Directors anticipate that the Enlarged Group will be able to licence or supply catalysts for operation in other parties' processes, licence reactors to incorporate other parties' catalysts and, most importantly, offer integrated catalyst/reactor solutions.

(d) ***Appeal to a wider group of potential partners and customers***

The Directors believe that the Enlarged Group will not only have offerings for the Company's current target partners (primarily catalyst companies and technology developers), but will also be in a position to offer technology solutions to energy companies, engineering firms, process licensors, project integrators, and producers of fuels and commodity chemicals.

(e) ***Strengthen competitiveness***

The Company will benefit from a strengthened intellectual property portfolio of approximately 590 granted patents and patent applications (including those patents and patent applications licensed to the Enlarged Group as at 1 September 2008). As the Enlarged Group will operate from both Europe and the US, the Directors believe that the Company will be better positioned to target the emerging global market for synthetic fuels.

(f) ***Achieve critical mass***

Velocys has over 60 employees, who will broaden and complement the Group's existing skills, particularly in the areas of business development, intellectual property management, process engineering, scale up and commercial deployment. Furthermore, the Company's management team will be strengthened, which the Directors anticipate will enable the Enlarged Group to function more effectively during the anticipated period of rapid growth.

6. Current trading and prospects of the Enlarged Group

Oxford Catalysts and Velocys reported operating losses before tax for the half year ended 30 June 2008 and for the nine months ended 30 June 2008 of £1,720,000 and $2,438,000 respectively, on revenues of £158,000 and $9,470,000 respectively. Further financial information on Oxford Catalysts and Velocys is set out in Parts VI and VII of this document.

In its 2008 Interim Statement published on 25 September 2008, Pierre Jungels, Chairman of Oxford Catalysts said: "The outlook for the Group across the markets in which we operate is universally positive. I am confident that we are on course to deliver commercial agreements which will enhance shareholder value. The Board is optimistic of exceeding management revenue expectations for the full year, and looks to the future with confidence and excitement."

Following Completion, the Enlarged Group will have active working engagements with several companies and industry leaders, including Dow Chemical, Toyo Engineering, MODEC, PTT, a leading FMCG company, a major petrochemical producer, the biofuels subsidiary of a large European company, a company set up by one of the leading US coal industrialists, and Novus Energy.

7. Board of the Enlarged Group

The existing Directors of Oxford Catalysts will make up the board of the Enlarged Group. The Executive and Non-executive Directors are:

Pierre Jungels, PhD, CBE (64), *Chairman*
Pierre, a chartered engineer, holds a PhD in geophysics and hydraulics from the California Institute of Technology, and has over 30 years' experience in the oil industry, 12 of which have been served at main board level, including appointments as Chief Executive of Enterprise Oil plc, Executive Director of PetroFina and Managing Director of British Gas. He is currently also Chairman of Rockhopper Exploration plc, and holds non-executive directorships at Woodside Petroleum Ltd, Baker Hughes Inc. and Imperial

Tobacco Group plc. He was twice President of the Institute of Petroleum. Pierre was appointed Chairman of Oxford Catalysts in March 2006.

Roy Lipski (37), *Chief Executive Officer*
Roy has a scientific background, having obtained a MA degree in Natural Sciences from Cambridge University. Following university, he joined Goldman Sachs International where he worked for several years. Roy founded Infonic Limited, an internet research software and services company, which served numerous multinational clients. As Managing Director of Infonic Limited, he raised venture capital financing from Herald Ventures, developed and then sold the company to Corpora plc in 2004, a UK publicly listed company, at which point he was appointed as Group Strategy Director. Roy has served as Oxford Catalysts' Chief Executive Officer, and as an Executive Director, since March 2006.

Susan Robertson (née Hill) (44), *Chief Financial Officer*
Susan has an economics degree from Cambridge University and qualified as a chartered accountant with Arthur Andersen in 1989. Subsequently, she worked for over 18 years for the BOC Group where she held various senior financial management positions in Japan, the UK and globally, as well as strategic and business development roles in the UK. Susan served as Vice President and Chief Financial Officer of Japan Air Gases (JAG) between 2003 and 2006, from the inception of this £700 million joint venture between The BOC Group and Air Liquide. Susan joined Oxford Catalysts as Chief Financial Officer in October 2007 and was appointed to the Board in May 2008.

Jeremy Scudamore (61), *Non-executive Director*
Jeremy worked for ICI, Zeneca, AstraZeneca and Avecia for 35 years in a number of senior positions, latterly as Chairman and Chief Executive of the Avecia Group and previously as Chief Executive of Zeneca Specialties, Managing Director of Zeneca Seeds, and Business Director of Zeneca Agrochemicals. He has held various general manager and international roles including Zeneca Group Regional Executive for Eastern Europe and General Manager in Brazil. Jeremy was educated at Nottingham University and INSEAD, France. Currently, he is also Non-executive Chairman of SkyePharma plc and Oxford Advanced Surfaces Group plc, Senior Independent Director of ARM Holdings plc and a non-executive director of Plant Health Care PLC. Jeremy was appointed Non-executive Director of Oxford Catalysts in May 2007.

Jan Verloop, PhD (65), *Non-executive Director*
Jan received a PhD in chemical engineering from the Technical University of Delft in 1971. He worked for over 30 years at Shell in The Netherlands, UK and Singapore, in a variety of technical and senior management positions in research, refining, licensing, strategy, planning and product development. In 1998, he became Innovation Manager for Shell Global Solutions where he was responsible for developing strategic innovation. In 2003, Jan founded and is director of Causa Innovatie, an innovation consultancy company in The Hague. He is the author of Insight in Innovation. Jan is also a Non-executive Director of the Commonwealth Partnership for Technology Management Limited, a London based not-for-profit organisation. Jan was appointed Non-executive Director of Oxford Catalysts in March 2006.

Details relating to the senior management of the Enlarged Group are set out in paragraph 4 of Part II of this document.

8. Principal terms and conditions of the Acquisition

Battelle and the Company have entered into the Acquisition Agreement, pursuant to which the Company will acquire the entire issued and to be issued share capital of Velocys. The consideration payable by the Company is $35.0 million (approximately £21.4 million), to be satisfied $5.0 million in cash (approximately £3.1 million) $28.2 million (approximately £17.2 million) by the issue of 10,442,207 Consideration Shares to Battelle and 388,196 Settlement Shares and the remainder by the Velocys Option Settlement. The Consideration Shares will represent 17.5 per cent. of the Enlarged Share Capital and will rank in full for all dividends or other distributions hereafter declared, made or paid on the ordinary share capital of the Company, and will rank *pari passu* in all other respects with all other Ordinary Shares in issue on Admission.

Completion of the Acquisition Agreement is conditional, amongst other things, upon:

(a) the Underwriting Agreement becoming unconditional;

(b) the passing of the Resolutions by the Shareholders at the General Meeting; and

(c) Admission.

A summary of the principal terms of the Acquisition Agreement is set out in of Part IX of this document.

9. Placing

9.1 ***Reasons for the Placing***

The Directors consider that the Group has sufficient capital to pursue its current business strategy, but that additional funds are required to take advantage of the commercial opportunities that will be available to the Enlarged Group.

Historically, Velocys has primarily been financed through its partner development programmes, as well as by government and state grants. The Directors consider that whilst this approach has been appropriate for a technology-led business, it will not result in the fastest route to market for Velocys' technologies, and it is not suited to the market-led strategy that the Board plans for the Enlarged Group.

The Board considers speed to market as crucial to achieving competitive advantage, particularly in the synthetic fuels market. In order to maximise speed to market, the Directors intend to draw on the Enlarged Group's working capital to support and supplement current development programmes, and to help ensure timely commercialisation of Velocys' technologies.

Assuming the full proceeds of the Placing are vested, the Directors intend to use the proceeds of the Placing to fund the cash element of the purchase price payable pursuant to the terms of the Acquisition Agreement, being $5.0 million (approximately £3.1 million), and to provide additional working capital to the Enlarged Group.

9.2 ***Details of the Placing and Admission***

KBC and Piper Jaffray, as agents for the Company, have conditionally placed, at the Placing Price, 8,251,888 Placing Shares with institutional investors representing, in aggregate, approximately 13.8 per cent. of the Enlarged Share Capital. Each of KBC and Piper Jaffray shall severally subscribe for those Placing Shares that are not subscribed for by prospective Placees. As part of the Placing, the Directors have agreed to subscribe, in aggregate, for 68,000 Placing Shares (representing approximately 0.11 per cent. of the Enlarged Share Capital). The Placing is conditional on, amongst other things, Admission taking place on or before 20 November 2008, or such later time as KBC, Piper Jaffray and the Company may agree.

The Placing is intended to raise £10.3 million for the Company, before expenses. After the expenses of the Placing and Admission, estimated to be £2.1 million (excluding VAT) in total, the Placing is intended to raise £8.2 million.

Application has been made for the Enlarged Share Capital to be admitted to trading on AIM, conditional on the Resolutions being passed at the General Meeting. It is expected that Admission will become effective and dealings will commence on AIM at 8.00 a.m. on 20 November 2008 and that the proceeds of the Placing due to the Company will be received by it on or soon after Admission. In the case of Placees requesting Placing Shares in uncertificated form, it is expected that the appropriate stock accounts will be credited with effect from 20 November 2008. In the case of Placees requesting Placing Shares in certificated form, it is expected that certificates in respect of such shares will be dispatched by post within 14 days of Admission.

Pending dispatch of share certificates or crediting of CREST accounts, the Company's Registrars will certify any instruments of transfer against the register.

The Placing Shares will rank in full for all dividends or other distributions hereafter declared, made or paid on the ordinary share capital of the Company and will rank *pari passu* in all other respects with all other Ordinary Shares in issue on Admission.

A further application will be made to the London Stock Exchange, for admission to trading on AIM, if any Ordinary Shares are issued pursuant to the Velocys Option Settlement.

Further details of the terms of the Underwriting Agreement are set out in paragraph 14.1(f) of Part X of this document.

10. Put and Call Option

The Company and Avenir Finances S.A. have entered into a put and call option pursuant to which:

(a) either Avenir Finances S.A. may, in the period of 24 months after Completion, exercise a call option to acquire 1,600,000 Ordinary Shares in the capital of the Company at the Placing Price (in aggregate, £2,000,000); or

(b) the Company may, in the period from 12 months after Completion up to 24 months after Completion, exercise a put option to require Avenir Finances S.A. to acquire 1,600,000 Ordinary Shares in the capital of the Company at the Placing Price (in aggregate £2,000,000).

The Put and Call Option was arranged by Innovator Capital Ltd on behalf of Avenir Finances S.A. in consideration of the payment of a fee of £100,000 which will be payable by the Company upon the exercise of the Put and Call Option.

11. Lock in and orderly market arrangements

The Directors have entered into lock in deeds and orderly market restrictions pursuant to which they have agreed (i) for a period of 12 months from the date of Admission, that neither they (nor their respective spouses or infant children) shall dispose of any shares in which they are interested, other than in circumstances permitted by the AIM Rules for Companies; and (ii) for a further period of 12 months, the Directors (and their respective spouses or infant children) shall only be entitled to dispose of these shares through KBC as the agent selling stockbroker.

Battelle has also entered into a lock in deed and pursuant to which it has agreed not to dispose of the Ordinary Shares which it will be interested in following Admission for a period of 24 months after the date of Admission save that Battelle shall be entitled to dispose of its Ordinary Shares during the first 12 months of that period in the circumstances permitted by the AIM Rules for Companies and, for the following 12 month period, shall only be entitled to dispose of those shares in the event of claim(s) against it, which are in excess of $5,000,000 under the Acquisition Agreement.

Further, certain key employees of Velocys will enter into lock in and orderly market arrangements, pursuant to which they will agree (i) for a period of 12 months from the date of Admission, neither they (nor their connected persons) shall dispose of any restricted shares other than in certain specified circumstances; and (ii) for a further period of 12 months, those persons (and their connected persons) shall, subject to the Company's and KBC's consent (not to be unreasonably withheld), only be entitled to dispose of these shares through KBC.

The aggregate number of Ordinary Shares to be held by Battelle and the Directors as at Admission, to which such lock in and orderly restrictions will apply, will be 10,442,207 Ordinary Shares, representing 17.5 per cent. of the Enlarged Share Capital. The maximum aggregate number of Ordinary Shares to be held by certain key employees of the Velocys management in the form of Velocys Rollover Options will be 1,244,480 Ordinary Shares.

12. Amendments to Share Option Plan

It is proposed that the Oxford Catalysts Group Share Option Scheme be amended in two respects, and the Company is seeking Shareholders' approval of these proposed changes, prior to effecting the changes. The amendments are explained below.

(a) ***Amendments to facilitate awards as nominal value exercise price options***

The Remuneration Committee of the Board has been reviewing the Company's incentive and remuneration arrangements, and has sought professional advice on ways of effectively aligning employees' interests with those of Shareholders, and also remunerating those employees in an efficient manner.

As a result of this advice, the Remuneration Committee has concluded that it would be in the best interests of the Company to be able to offer awards of shares to employees in appropriate circumstances (which would normally be subject to appropriate vesting and/or performance conditions). It has also concluded that the most cost efficient way to effect this would be to add a facility to the Company's existing share option plan to allow the grant of options with an exercise price equal to the nominal value of Ordinary Shares, that is £0.01 per share. At present, the rules of the Share Option Plan require the exercise price of options granted to be no less than the market value of Ordinary Shares at the time the options are granted. It is proposed that this be amended so that, where appropriate, options can be granted with an exercise price equal to the nominal value of Ordinary Shares as mentioned above.

A resolution approving this amendment is set out in the Notice of General Meeting.

If this amendment is approved, the Remuneration Committee intends to grant awards in the form of nominal value exercise price options as soon as practicable to the two Executive Directors, Roy Lipski and Susan Robertson, which it had recommended in December 2007 but was unable to grant due to the Company being in a close period.

As recommended by the Remuneration Committee in December 2007, the awards will be subject to performance conditions and a vesting period of three years from January 2008, over a maximum number of Ordinary Shares of 600,000 for Roy Lipski and 160,000 for Susan Robertson. In addition, as originally intended, the awards will give the Remuneration Committee discretion, which it intends to exercise, to accelerate the vesting of up to 2/3rds of the awards in the event of the completion of the Acquisition and the Placing.

The Remuneration Committee also intends to use nominal value exercise price options in future to pay part of the annual bonus of executive management as shares, rather than cash.

(b) ***Amendments to limits in relation to Velocys Rollover Options***

As explained in paragraph 16.6 of Part X, Velocys intends to amend the terms of certain options to acquire shares in Velocys granted under the Velocys, Inc 2001 Stock Incentive Plan so that they become options to acquire shares in the Company (the "Velocys Rollover Options") in connection with the Acquisition. Since the consideration for the Acquisition has been set taking into account the dilution represented by these options, the Board considers that it is inappropriate to include the Velocys Rollover Options in assessing the overall company limits on the use of Ordinary Shares in employees' share schemes. Accordingly, it is proposed that the Share Option Plan also be amended to expressly state that the Velocys Rollover Options are not so taken into account.

A resolution approving this amendment is included in the composite resolution set out in the Notice of General Meeting which approves the Acquisition.

13. Corporate governance

From Admission, the Directors will have responsibility for the overall corporate governance of the Enlarged Group and recognise the need for the highest standards of behaviour and accountability. The Directors are committed to the principles underlying best practice in corporate governance and intend to comply with the

principles of the Combined Code in such respects as are appropriate for a company of the size and nature of the Enlarged Group. The Board will ensure that proper procedures are adhered to with regard to the approval of Oxford Catalysts' annual and interim accounts.

The Group holds regular Board meetings and has in place an Audit Committee, a Nomination Committee and a Remuneration Committee.

The Audit Committee comprises Jeremy Scudamore (Chairman), Pierre Jungels and Jan Verloop (all of whom are non-executive directors of the Company). It is responsible for ensuring that the financial performance of the Enlarged Group is properly reported on and monitored and for reviewing the auditor's and management's reports relating to accounts and the Enlarged Group's internal control systems.

The Nomination Committee comprises Pierre Jungels (Chairman), Jeremy Scudamore and Jan Verloop. It is responsible for reviewing the structure, size and composition of the board, making recommendations to the board with regard to any adjustments that are deemed necessary and for identifying and nominating candidates for the approval of the board, to fill Board vacancies as and when they arise.

The Remuneration Committee comprises Jan Verloop (Chairman), Pierre Jungels and Jeremy Scudamore. It is responsible for determining, making recommendations and agreeing with the board the framework for the remuneration of all executive directors of the Company, the Company Secretary and such other members of the executive management as it is designated to consider. It is also responsible (within the terms of the agreed policy and in consultation with the Chairman and/or Chief Executive as appropriate) for determining the total individual remuneration package of each executive director and other senior executives including where appropriate, bonuses, incentive payments and share options. The remuneration of non-executive directors is a matter for the executive members of the board. No director or manager is involved in any decisions as to their own remuneration.

The Company has adopted a share dealing code for directors and relevant employees which is appropriate for a company admitted to trading on AIM and will take proper steps to ensure compliance by the directors and those employees.

14. CREST

The Ordinary Shares are eligible for CREST settlement. The Directors have applied to Euroclear UK & Ireland, and Euroclear UK & Ireland has agreed, for the Enlarged Share Capital to be admitted to CREST with effect from Admission. Accordingly, settlement of transactions in the Enlarged Share Capital may take place within CREST if the relevant Shareholder so wishes. CREST is a voluntary system and Shareholders who wish to receive and retain share certificates will be able to do so.

15. Dividend policy

The Directors currently intend to retain earnings for the foreseeable future to finance the growth of the Enlarged Group. However, the Directors intend to pay dividends when the Enlarged Group has sufficient cash and distributable reserves for this purpose and it becomes commercially prudent to do so.

16. Taxation

General information concerning UK taxation in relation to the Placing and Admission is set out in paragraph 21 of Part X of this document. These details are, however, intended only as a general guide to the current taxation law position in the UK for certain types of investor. If you are in any doubt as to your tax position, or you are subject to tax in a jurisdiction other than the UK, you should consult your own professional adviser immediately.

17. General Meeting

A notice convening a general meeting of the Company to be held at the offices of Mayer Brown International LLP, 11 Pilgrim Street, London EC4V 6RW at 10.00 a.m. on 19 November 2008 is set out on pages 276 to 278 of this document. The following Resolutions will be proposed, at that general meeting:

(a) an ordinary resolution to approve the increase of the Company's authorised share capital from £750,000 to £1,000,000 by the creation of a further 25,000,000 Ordinary Shares;

(b) an ordinary resolution to approve, conditional upon the passing of the resolution described in paragraph (a) above, the Acquisition and Admission and the amendments to the Share Option Plan (as described in paragraph 11(b) above);

(c) an ordinary resolution to, subject to and conditional upon the passing of the resolutions described in paragraph (a), grant authority to the Directors under s80 CA85 to allot relevant securities (as defined in s80 CA85) up to the maximum aggregate nominal amount of £389,203.85 such authority expiring on the earlier of 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009;

(d) an ordinary resolution to approve amendments to the Share Option Plan (as described in paragraph 11(a) above); and

(e) a special resolution to, subject to and conditional upon the passing of the resolution described in paragraph (a) above, empower the Directors to make the allotments under the Placing, the Acquisition, in connection with the Velocys Rollover Options, the Put and Call Option, the Settlement Shares and otherwise to allot Ordinary Shares up to the maximum nominal amount of £59,649.28, on a non-pre-emptive basis, such authority expiring on the earlier of 31 July 2009 or at the conclusion of the next annual general meeting of the Company.

The Resolutions described in paragraphs (a) to (d) above are ordinary resolutions and require a majority of more than 50 per cent. of the Shareholders voting in person or by proxy to be passed. The Resolution described in paragraph (e) above is a special resolution and requires the approval of not less than 75 per cent. of the Shareholders voting in person or by proxy to be passed.

If the resolution referred to in paragraph (c) is passed, the Directors will have authority under s80 CA85 to allot Ordinary Shares up to the maximum aggregate nominal amount of £389,203.85, this amount being the aggregate of £82,518.88 (being the maximum amount required under the Placing), £104,422.07 (being the maximum amount required pursuant to the Acquisition), £3,881.96 (being the maximum amount required to meet the Company's obligations pursuant to the Settlement Shares) and £198,830,944 (being one third of the Company's to be issued share capital).

If the resolution referred to in paragraph (e) is passed, the Directors will have the authority to allot the Placing Shares and Consideration Shares and to grant the Velocys Rollover Options and to satisfy the Put and Call Option and the Settlement Shares without offering those shares to existing Shareholders. The Company will also be able, in the event of a rights issue, to meet certain practical requirements which may, amongst other things, arise in connection with fractional entitlements and which prevent shares from being issued strictly *pro rata*. The resolution referred to in (e) also empowers the Directors to allot Ordinary Shares up to the aggregate nominal amount of £59,649.28 (being ten per cent. of the Company's to be issued share capital), without first offering those shares to existing Shareholders.

These authorities will allow the Directors to allot the Placing Shares and the Consideration Shares and to satisfy the Velocys Rollover Options and give a degree of flexibility to allot further Ordinary Shares in circumstances in which they deem appropriate.

18. Irrevocable undertakings

The Company has obtained irrevocable undertakings to vote in favour of the Resolutions from Pierre Jungels, Jan Verloop, the University of Oxford, Top Technology Ventures IV LP, IP2IPO Limited, Professor Malcolm Green, Dr Tiancun Xiao and William Barton in respect of their own beneficial shareholdings, which amount in aggregate to 18,913,915 Ordinary Shares (representing approximately 46.62 per cent. of the Existing Ordinary Shares currently in issue). Details relating to the Board's holdings of Ordinary Shares and irrevocable undertakings are set out in paragraphs 9 and 14.1(k) respectively of Part X of this document.

19. Risk factors and further information

Your attention is drawn to the risk factors set out in Part III of this document. Potential investors should read the whole of this document which provides additional information on the Company and Velocys and should not rely on summaries or individual parts of this document, and should carefully consider the risks described in Part III before making a decision to subscribe for Ordinary Shares.

20. Actions to be taken

A Form of Proxy is enclosed for use by Shareholders at the General Meeting. Whether or not Shareholders intend to be present at the General Meeting (and any adjournment thereof), they are asked to complete, sign and return the Form of Proxy to the Company's Registrars, Capita Registrars, The Registry, 34 Beckenham Road, Beckenham, Kent, BR3 4TU, as soon as possible but in any event so as to arrive no later than 10.00 a.m. on 17 November 2008. The completion and return of a Form of Proxy will not preclude a Shareholder from attending the General Meeting and voting in person should they wish to do so.

21. Recommendation

The Board unanimously recommends that all Shareholders vote in favour of the Resolutions as Pierre Jungels and Jan Verloop (being those Directors who hold Ordinary Shares) have confirmed they will do in respect of their own beneficial shareholdings, which amount in aggregate to 351,468 Ordinary Shares (representing approximately 0.87 per cent. of the Existing Ordinary Shares).

Yours faithfully,

Pierre Jungels, CBE
Chairman

PART II

INFORMATION ON THE ENLARGED GROUP

1. History and background of Oxford Catalysts

1.1 *Introduction*

The Group is currently focused on developing catalysts with particular application in the generation of clean fuels from both fossil fuels and certain renewable sources, such as biogas. The Group's catalysts are based on almost 20 years of research at the University of Oxford which has resulted in a unique platform of proprietary rights to which the Group has exclusive access.

A combination of factors is driving demand for ways to reduce the harmful environmental consequences of traditional fossil fuels and for alternative more sustainable fuels. These factors include: declining oil reserves; increasing demand for transportation fuels; security of supply issues; political instability in certain oil and gas producing states; high oil prices; environmental and sustainability concerns; and the cost of meeting regulatory requirements for the control of greenhouse gases and harmful emissions, such as sulphur dioxide.

Catalysts are a key element in the production processes for certain clean fuels, including low-sulphur diesel and synthetic fuels. Catalysts can reduce the cost of producing useful chemicals and, in some circumstances, it is impossible to make chemical products economically without them. By improving the performance of catalysts, such as those used in the production of clean fuels, it may be possible to generate significant financial and environmental benefits. The global market for energy and environmental catalysts was worth $12.2 billion in 2006 and is forecast to grow at 7 per cent. per annum to 2012.

Liquid fuels derived from crude oil are the world's dominant energy source and account for the vast majority of the energy consumed by the transport sector. Despite increasing fuel efficiency, world consumption of transportation fuels is expected to keep rising over the next 20 years. Production of alternative liquid fuels, including synthetic fuels from Fischer-Tropsch, is set to grow even faster reaching nine per cent. of global supply by 2030. In addition to the development of alternative fuels, there is demand both to reduce the detrimental effects of fossil fuels and to make better use of remaining reserves.

The Directors believe that the world is set to witness a period of substantial investment in the energy and fuels market, which will create an environment conducive to the emergence and rapid growth of new technologies, such as those of the Enlarged Group.

1.2 *History*

OCL was incorporated in October 2004 to commercialise research at the University of Oxford's world-leading Wolfson Catalysis Centre, set up by Professor Malcolm Green, a highly regarded inorganic chemist. Professor Green co-founded OCL with Dr Tiancun Xiao. Following 15 years as Head of Inorganic Chemistry, Professor Green remains a Professor Emeritus at the Chemistry Department at the University of Oxford, which is the largest academic chemistry research department in the Western world. Dr Xiao is now employed by Oxford Catalysts as Chief Scientific Officer, whilst Professor Green is involved in the business as a consultant and as Chairman of its Scientific Advisory Panel.

In April 2006, Oxford Catalysts (the parent company of OCL) was admitted to trading on AIM, having raised £15 million before expenses from institutional investors. In July 2007, the Company raised a further £4 million net of expenses through a private placement with Pioneer Investments (a trading name of the Pioneer Global Asset Management S.P.A. group of companies). Pioneer Investments, which has assets under management of €190 billion, is the fund management arm of the UniCredit Group, one of the largest banking and financial services organisations in Europe.

1.3 ***Principal activities***

Oxford Catalysts is developing and commercialising catalysts primarily for the petroleum, synthetic fuels and steam-applications markets. These include applications in the hydro-desulphurisation of crude oil fractions, and in Gas-to-Liquid, Coal-to-Liquid and Biomass-to-Liquid processing. In addition, the Group is aiming to co-develop products incorporating its novel steam production technology for the steam-applications market. Furthermore, the Group is developing catalysts to be used for other applications such as biogas conversion.

1.4 ***Intellectual property***

Following Oxford Catalysts' admission to AIM in April 2006, the Group has continued to protect and enhance its portfolio of intellectual property and proprietary know-how relating to the design and development of catalysts, and has filed new patent applications in the key areas of promoted FT catalysis and steam production. As neither of these patent applications has yet been published, they are not discussed further in this document.

The Group also has the benefit of the following key patents and patent applications owned by Isis and licensed to Oxford Catalysts:

(i) the preparation, activation and use of carbide-based catalysts;

(ii) a novel method for the preparation and optimisation of catalysts, the Organic Matrix Combustion Method; and

(iii) an innovative catalytic process that enables the production of either hydrogen gas or steam, from a liquid fuel such as methanol mixed with water and an oxidising agent, such as hydrogen peroxide, instantaneously and starting from ambient temperatures.

The Company's licence agreement with Isis is on an exclusive worldwide basis for the lifetime of any patents granted pursuant to the applications. Under the terms of the licence, Isis is entitled to royalties of four per cent. on all direct sales and 11 per cent. on any indirect sales incorporating the Licensed Intellectual Property. Further details of this licensing arrangement are set out in paragraph 14.1(a) of Part X of this document. Further information on the Company's intellectual property is set out in Part V of this document.

1.5 ***Market applications***

(a) *Synthetic fuels*

Overview

The FT reaction is the key step in the processes of converting natural gas, coal or biomass (including carbon-containing wastes) into sulphur-free synthetic liquid fuels, such as diesel and jet fuel (known as GTL, CTL and BTL respectively, or XTL collectively).

XTL products can be used on their own or blended with comparable oil distillates, which include gasoline, jet fuel and diesel, to reduce the sulphur content and improve the engine performance of the distillates. FT is a potentially disruptive technology as it opens the oil distillates market to competition from natural gas, coal and biomass (including carbon-containing wastes).

The Directors believe that the next 20 years will see significant growth in the FT synthetic fuels market as a result of:

- growing global demand for liquid fuels;
- increasing regulatory targets for second generation biofuels;
- concerns about peak oil;
- large reserves of coal in many oil importing nations;

- significant reserves of stranded natural gas; and
- flaring of associated natural gas being outlawed.

The Directors believe that currently some $3–4 of FT catalyst is required to produce 1 barrel of synthetic fuel, and therefore that the future market for FT catalysts could grow to several billion dollars per annum.

Demand for liquid fuels is expected to rise between 2005 and 2030, driven by growing need from Non-OECD Asian countries and the Middle East; some 75 per cent. of this growth coming from the transportation sector. To help satisfy this growing demand, production of alternative fuels is set to increase faster than conventional fuels between 2005 and 2030, accounting for 9 per cent. of total world liquid fuels production by 2030 (9.7 million bpd). Over 40 per cent. of these alternative fuels are expected to be from sectors addressable by FT – GTL, CTL and biofuels (although this estimate does not specifically include additional fuel made by smaller scale FT). Assuming oil prices remain high, alternative fuels are predicted by the EIA to comprise an even larger portion (nearly 20 per cent.) of total world liquid fuels production by 2030.

Regulations around the world have, or are expected to, come into effect setting targets for the quantity of biofuels to be incorporated in transportation fuels. Recently, there have been mounting concerns that so-called first generation biofuels (those produced from plants grown on agricultural land such as sugar cane, palm and corn), not only result in limited reductions in greenhouse gas emissions, but can also lead to rises in food prices. As such, regulations are increasingly seeking to distinguish between first generation and so-called second generation biofuels that are instead derived from biological waste materials, and hence avoid the "fuel vs. food" trade-off. For example, the latest US Renewable Fuels Standards set a cap on first generation biofuels in that their target is frozen beyond 2015, whereas targets for the production of second generation biofuels continue to grow. They also set specific targets for biofuels that could be produced via FT, amounting to some 1.1 million bpd by 2022.

BTL has the advantage over many other forms of producing biofuels in that the fuel it produces is virtually identical to those derived from crude oil. As it can convert biological wastes into fuel, BTL also avoids diverting agricultural crop land from the production of food to that of fuel, and can help minimise the use of landfills for the disposal of carbon-containing wastes. Furthermore, BTL has one of the lowest lifecycle carbon footprints of any method of producing biofuel, and whilst it can be more capital intensive than first generation ethanol production, overall, it could still be cheaper than first generation methods of producing biodiesel. As a component of the cost of producing biofuels, including BTL, is that of feedstock transportation, smaller plants tend to benefit from lower feedstock costs, as well as greater security of feedstock supply.

Over 5.6 tcf of associated natural gas was flared in 2006, equivalent to 30 per cent. of the EU's gas consumption. The gas is flared because, in the locations where it is produced, neither a local use for it, nor an economic method of shipping it to a viable market exists. In these situations, the alternative of reinjecting the gas can cost up to $13 per barrel of oil equivalent. Flaring is increasingly regulated around the world and hence an economic method of dealing with associated gas is not only needed to maintain production from existing oil fields, but also to avoid stalling development of new fields such as the extensive Tupi reserves discovered recently off the shore of Brazil. GTL holds the promise of turning an expense into a revenue stream, and indeed a bookable reserve. If all the gas flared each year were turned into synthetic fuel, this could yield as much as 1.7 million bpd of fuel, whilst if all the gas that is presently reinjected each year were converted to fuels it would yield almost twice as much.

Some 50 per cent. of the world's natural gas is considered to be stranded, as either no economic method of transporting it to market exists or the local market for natural gas is saturated. However, only 6 per cent. of stranded gas fields could support large scale GTL (greater than

15,000 bpd). If GTL could be made economic at a smaller scale (1,000–15,000 bpd), some 1,300 tcf of stranded gas could be monetised, sufficient to produce 20.3 million bpd of synthetic fuel for 20 years.

The Directors believe that there is strong demand for smaller scale FT processes (less than 5,000 bpd) due to the possibility of:

- capturing currently flared gas and unlocking certain oil reserves;
- monetising a greater proportion of the world's stranded gas reserves;
- reducing feedstock transport costs and increasing security of supply for BTL; and
- converting carbon-containing wastes into synthetic fuel.

The Group's FT catalysts

The Group's FT catalysts have been independently tested by several oil majors, as well as by independent technology developers such as Velocys. The Directors believe that the Group's FT catalysts:

- can meet the needs of conventional processes at a reduced cost; and
- are particularly suitable for smaller scale FT as they can be made to be extremely active.

The Group has developed a high activity fixed bed FT catalyst that can operate at more than fifteen times the productivity of conventional catalysts. The catalyst was demonstrated by Velocys for over 3,000 hours in a nominal two gallon per day pilot unit. The performance of the catalyst was better than any other catalyst it had tested, including catalysts provided by other catalyst companies, as well as those developed by Velocys.

Competition

Many companies are focusing on FT catalysts, although the vast majority of commercial catalysts are proprietary to major corporations such as Royal Dutch Shell plc and Sasol Limited. A few catalyst companies are believed by the Directors to have their own FT catalysts, although none have yet been used commercially.

Competition also exists from alternative approaches to producing synthetic fuels, such as Direct-Coal-to-Liquid. This approach is less mature than the methods which utilise the Group's catalysts, and in particular, the Directors understand this approach has encountered significant technical problems. In addition, methods of compressing or liquefying natural gas, such as LNG, compete with GTL as a means of reducing the flaring of natural gas. The main barrier to widespread adoption of such methods is making them economic at the smaller scales required by this market.

(b) *Hydro-desulphurisation*

Overview

In an effort to lower pollution levels emanating from the transportation sector, governments and multi-national regulatory bodies have been mandating significant reductions in the sulphur levels of transportation fuels, and are expected to continue doing so in different jurisdictions over the next 12 years. For example, the EU has current mandated levels of less than 50 ppm of sulphur in gasoline and diesel, down from 2,000 ppm in 1995, with permitted levels due to fall to 10 ppm as of 2009. In the US, non-road diesel, presently at 2,370 ppm is due to be reduced to 7 ppm by 2014. In the maritime sector, a long standing outlet for unwanted high sulphur fuels from refineries, mandated sulphur levels are expected to be reduced from 45,000 ppm presently, to 5,000 ppm by 2020.

In addition to facing increasingly stringent regulation, in order to exploit their proven resources, oil producers are now utilising reserves of heavier oils which contain a greater quantity of contaminants including sulphur. In the 10 years to 2005, the average sulphur content of US crude imports increased from 9,000 ppm to 14,000 ppm, whilst the percentage of low-sulphur (less than 5,000 ppm) crude oil produced globally has fallen from 38 per cent. to 35 per cent. in the period, and is predicted to fall to 30 per cent. by 2020.

These factors have resulted in oil refiners needing to remove increasing amounts of sulphur to produce their refined products.

HDS is the most common process used for the removal of sulphur from hydrocarbon fuels. This process involves treating the fuel with hydrogen gas in the presence of a catalyst. The global market for HDS catalysts was worth $1.4 billion in 2007 and expected to grow by more than 8 per cent. per annum to 2013, of which diesel HDS catalysts comprised some $0.7 billion in 2007, a figure that is expected to more than double by 2013.

The Group's HDS catalyst

In recent tests by the Company against two commercially available competing catalysts using a refinery sourced feedstock, one of the Group's HDS catalysts showed superior performance in its ability to process more than 35 per cent. additional diesel per hour than the competing catalysts, under similar operating conditions and with similar or better desulphurisation performance.

Competition

There are a number of established catalyst suppliers in this market and alternative methods for sulphur removal are also available. For example, an international oil major has developed a method involving non-selective gasoline desulphurisation. In the diesel HDS sector, the main catalyst competitors are Albemarle Corporation, Criterion Catalysts, Advanced Refining Technologies LLC,, Axens S.A. and Haldor-Topsøe A.S.

(c) *Steam production*

Overview

Steam is applied extensively in certain industrial and domestic applications for multiple purposes such as heating, energy generation, cleaning and disinfection. Intensive users are manufacturing facilities such as chemical and food processing plants. Domestic applications include general cleaning such as that of hard surfaces, floors and carpets. The professional cleaning market extensively uses steam to clean grime from walls, pavements and street furniture, and there is growing use of steam to fight the spread of superbugs, such as MRSA, in hospitals. In 2004, this professional cleaning market was estimated to be worth over $400 million globally growing at a rate of approximately 18 per cent. per annum.

In addition, the Directors believe that the Group's steam production technology could enable new applications of steam, for example allowing the possibility of thermally active packaging that heats products on use. Such packaging could be used to deliver hot soap instantly onto surfaces using a light, portable, economic device; it is well known that hot soap is more effective at cleaning certain stains than cold soap. The global market for household cleaners was worth more than $5 billion in 2007 with an annual growth rate of 6 per cent.

The Group's steam production technology

The Group has developed a novel catalytic method of generating steam directly from a liquid fuel mixture ("Instant Steam"). The steam can be produced at a variety of temperatures and pressures (200–600°C at atmospheric pressure), and contains a small amount of carbon dioxide (for example less than 5 per cent. by volume at 200°C) as a by-product of the reaction.

The Group has demonstrated that it can produce a practical equipment package that is able to generate chemical steam instantly on demand from an ambient temperature fuel without a flame or external heat source, and in a compact and portable way. One such embodiment has the fuel contained in a plastic spray bottle and the catalyst incorporated into the nozzle spray mechanism; when the trigger is squeezed, the fuel passes over the catalyst and steam is produced instantly.

By overcoming many of the practical limitations of traditional methods of making steam – boilers and kettles – the Directors believe that such catalytically generated steam could help bring the many benefits of using steam for cleaning and disinfection to a wider population of users.

The technology has the potential to be used in steam applications where portability and/or the instant nature of the process are valued. For example, the Group has already demonstrated that Instant Steam can be used to:

- enhance substantially the effectiveness of current cleaning products;
- deliver hot liquids onto surfaces;
- generate steam with properties well suited to hospital disinfection; and
- produce electrical energy and/or motive power.

Safety

Safety is a critical component in launching any new chemical process. A comprehensive hazard identification process on the Instant Steam fuel mixture (containing mostly water mixed with hydrogen peroxide and methanol) using external safety consultants was successfully completed in 2008. This involved the performance of a series of detailed physical characterisation tests at independent safety laboratories, including a national health and safety organisation.

Competition

The primary competition for the Group's Instant Steam technology comes from boilers heated by an external energy source. However, competing steam systems tend to be heavier, require an electrical connection when in use, and need time to heat up.

The Directors believe that the Group's potential competitive advantage is greatest where portability and/or rapid generation of steam are required. Additionally, there are industrial locations such as warehouses, where the fumes from combustion are not desirable and/or access to electricity is not available. Finally, the superheat that can be achieved with the Instant Steam technology facilitates the destruction of bacteria.

2. History and background of Velocys

2.1 ***Introduction***

Velocys is the recognised world-leader in the design and development of microchannel process technology for the production of synthetic fuels and commodity chemicals. It owns, or has licences to, the largest microchannel patent portfolio in the world.

Velocys is developing, and is in the process of commercialising, production systems for selected high value and growth market segments. Its main focus is on the synthetic fuels market, with additional offerings for the conventional energy and chemical markets. The Velocys technology could provide substantial capital cost savings, improved product yields, and greater energy efficiencies than conventional technologies, particularly when incorporated into smaller scale projects.

At a time of high energy, oil and chemical feedstock prices, the need for these benefits has never been greater. Furthermore, the opportunity of producing synthetic fuels economically on a smaller scale and distributed basis coincides well with regulatory and market trends.

Velocys has formed strategic partnerships with several industry leaders in various application areas. Not only do these partnerships provide funded routes to commercial demonstration and validation, but they also offer an opportunity to leverage partners' expertise and resources to reduce the risk of market introduction and to help create early market acceptance for the technology. Over $160 million has been invested to date in the Velocys technology, primarily by its industrial partners.

In the synthetic fuels market, Velocys is developing production systems for both FT and steam methane reforming, two of the key components of the GTL process. It is currently engaged in several projects targeting commercial demonstration of the technology, including one with Toyo Engineering and MODEC, that are aiming to begin commercial demonstration as early as 2009.

Velocys has over 60 employees and operates from a 27,000 sq. ft. custom fitted facility near Columbus, Ohio.

2.2 ***History***

Velocys was formed in 2001 to commercialise microchannel technology developed in the mid to late 1990s by the Battelle Memorial Institute at the Pacific Northwest National Laboratory.

Battelle is the world's leading independent science and technology organisation that develops technology and manages laboratories for companies and government agencies, including the United States Department of Energy and the Department of Homeland Security. Headquartered in Columbus, Ohio, it has significant science and technology reach; with the national laboratories that Battelle manages or co-manages, it oversees more than 20,000 staff and conducts approximately $4 billion in annual research and development. Battelle has facilities or offices in more than 130 locations worldwide.

Each year since 1969, Battelle and the US national labs it manages or co-manages have earned R&D 100 Awards for developing one or more of the 100 most significant scientific and technological innovations worldwide (previous R&D 100 winners include the automated teller machine (1973), the fax machine (1975), liquid crystal displays (1980), the printer (1986), and HDTV (1998)). Two such awards were granted in 1999 for its microchannel developments. Most recently, a team from Velocys won an R&D 100 award for its application of microchannel technology to the FT process.

Battelle incorporated Velocys with $10 million of equity capital, and has subsequently invested a further $5 million in the form of a convertible loan. Prior to this, Battelle invested approximately $25 million on microchannel research and development. Since its formation, Velocys has secured over $115 million for the development of its technology, from commercial partners, including Dow Chemical, Toyo Engineering, MODEC and nine other multi-national oil and chemical companies, as well as a global process gasses company.

Today, Velocys has over 60 employees, 19 of whom hold PhDs. Its development team combines over 250 years of experience in microchannel technology, and includes many of the scientists and engineers who advanced the technology originally at Battelle and PNNL. Its management averages more than 25 years of experience in its target industries, with proven expertise in developing and deploying breakthrough process technologies gained at such companies as Exxon Mobil Corporation, Chevron Research Company, DuPont EI De Remours & Co, BP plc, General Electric Company, ABB Lummus Global LLC and Degussa Corporation. Velocys operates from a 27,000 sq. ft. facility near Columbus, Ohio, built specifically for the development, testing, and scaling up of its microchannel systems.

2.3 ***Technology***

Chemical reactions are commonly limited by the rate that heat can be added to or removed from the reaction. Chemical reactors are vessels designed to perform chemical reactions, often in the presence

of a catalyst. The Velocys microchannel reactors perform chemical reactions in chambers that are significantly smaller than those used conventionally. Therefore, by dramatically reducing the distances needed for heat and chemicals to travel, microchannels can accelerate chemical reaction rates by 10–1,000 times. Furthermore, the higher rate at which heat can travel into and out of microchannel reactors allows significantly greater control over the temperature inside each reaction chamber, which can result in higher efficiencies compared to conventional reactors.

For those chemical reactions that require a catalyst, to take full advantage of their unique benefits, microchannels reactors need catalysts that are significantly more active than those used in conventional reactors, such as the FT catalyst developed by the Group. This combination provides an opportunity to generate new intellectual property even for mature chemical processes.

The basic building blocks of the Velocys system are reactor components, each with large numbers of parallel and/or perpendicular microchannels. These components (known as reactor blocks), which have fixed capacities, can be added or removed from a production system to match market demand and to help reduce risk by managing the economic phasing of projects.

Since the dimensions of each reactor block remain constant, commercialising the Velocys technology involves adding more blocks, or "numbering up", rather than the "scaling up" (an increase in reactor dimensions) often involved in commercialising conventional reactors. As a result, the Velocys technology minimises the time, cost and risk of commercialising reactors and their associated catalysts.

The specific benefits provided by the Velocys modular microchannel technology depend on the actual application. Coupled with the appropriate catalysts, these include some, or all of, the following:

- capital cost reductions;
- lower feedstock and operating costs;
- smaller and lighter systems;
- higher energy efficiency;
- higher yield of target product;
- lower NO_x, carbon dioxide and other emissions;
- shorter deployment time;
- possibility of incremental increases or decreases in plant capacity;
- high overall process safety standards;
- no need for an oxygen plant; and
- ability to synthesise novel products.

The net result of all of these benefits is improved returns on capital employed, which could be as large 20 to 30 per cent. compared to conventional technology.

Due to the modularity of the Velocys system, these benefits accrue similarly to plants with both large and small production capacities. For conventional technology, efficiency and cost-effectiveness are optimised for large scale facilities and rapidly deteriorate as plant capacities decrease. As such, the relative potential advantages of the technology become more pronounced in smaller facilities, such as those suited to BTL, and to GTL for flare gas and small to medium scale stranded gas. The Directors believe that at smaller scales of 5,000 bpd and less, microchannel reactors are the clear solution of choice for both FT and SMR.

The Velocys modular microchannel technology is in the fourth and final stage of development (commercial demonstration) for both FT and SMR. The prior three stages involved in commercialising the technology are: proof of principle; laboratory scale, and pilot scale. Each of the four stages typically takes between one and one and a half years to complete, if successful.

2.4 ***Intellectual property***

Velocys owns, or has licences to, the largest microchannel portfolio in the world, and has developed trade secrets relating to the fabrication of its systems. Since inception, Velocys has collected over 700 invention disclosures.

(a) *Velocys patents*

As at 1 September 2008, Velocys owns 20 US issued patents and 65 US patent applications, and co-owns an additional US patent application with a third party. Velocys also has licences to 63 US issued patents and 28 US patent applications from Battelle (see below for more details of the Battelle licence). In addition to these US patents, Battelle and Velocys have, where appropriate, filed in other jurisdictions around the world after giving due consideration to the target markets for commercialisation and the importance of the inventions. Outside of the US, Velocys has a further 17 issued patents and approximately 175 pending patent applications. Battelle has also licensed to Velocys rights in approximately 100 issued patents and 100 pending patent applications outside of the US. Velocys also has a non-exclusive licence to three Dupont patents (plus their overseas counterparts).

The philosophy of both Velocys and Battelle has been to obtain the broadest claims possible for each patent application. Accordingly, the potential commercial application of the technology protected by this portfolio of patents is broader than Velocys' current commercial initiatives, and thus prepares the ground well for future expansion of the business. The various patent applications cover microchannel related technology areas, including:

- new processes;
- existing processes using microchannel technology;
- catalyst composition;
- catalyst forms;
- hardware design;
- integration of micro-components; and
- fabrication methods.

Velocys is continually analysing its technical work to identify new inventions and decides, through a well established management process, whether invention proposals should be pursued by way of patent or trade secret protection.

(b) *Velocys licence agreements with Battelle*

Velocys has three licence agreements with Battelle giving it access to certain patents and technical information developed by Battelle and related to microchannel process technology applications in certain fields of use, and for all territories covered by the patents.

Further details of the terms of these licences and the arrangements agreed to be made between the Company and Battelle in connection with them and the Acquisition are set out in paragraph 14.2(c) of Part X of this document.

2.5 ***Competitors***

(a) *Other microchannel-based technologies*

Microchannels have been the subject of increasingly intense and widespread research since the early 1990s. However, most microchannel competitors are focused on developing reactors for small volume applications, such as the production of fine chemicals or fuel processing for fuel cells. The only organisations the Directors are aware of which are concerned, to varying degrees, with large volume applications of microchannels in the energy and chemical industries are Evonik Degussa GmbH, Bayer Technology Services GmbH, Heatric (a division of Meggit

(UK) Ltd), Chart Energy & Chemicals of Chart Industries Inc., and CompactGTL plc. The latter is specifically targeting small scale GTL for associated gas in remote or deepwater locations. In May 2008, CompactGTL plc was reported by Bloomberg as estimating that a 5,000 bpd module of theirs suitable for an FPSO would cost $350–500 million. Velocys is targeting lower costs for the same capacity module.

(b) *Conventional technology*

Many companies provide conventional catalyst and process technologies to the chemical and petroleum industries. UOP LLC, Technip S.A., IFP, the Davy Process division of Johnson Matthey plc and Haldor-Topsøe A.S are potential direct competitors of Velocys. Similarly, in GTL, several companies have developed proprietary technologies, including Royal Dutch Shell plc, Sasol Limited, Axens S.A., Rentech Inc. and Syntroleum Corp. In the area of BTL, Choren Industries GmbH, a company that has received investment from Royal Dutch Shell plc and Volkswagen A.G., is the first to be finalising a 300 bpd demonstration plant scheduled to begin operation in 2009; however, there is as yet no established FT technology for BTL or any other application of FT smaller than 5,000 bpd, including for flare gas capture.

2.6 ***Applications***

(a) *Synthetic fuels*

Velocys currently has active partnerships in a number of segments of this market:

- *offshore GTL*: for applications under 15,000 bpd, with initial focus on flare gas capture. Partners: Toyo Engineering and MODEC;
- *BTL*: for applications typically ranging from 500–5,000 bpd. Partner: biofuels subsidiary of large European company; and
- *CTL/BTL*: for North America. Partner: private company set up by one of the leading US coal industrialists.

Velocys has several FT demonstration programmes under way, ranging from 25 gallons per day at the US Air Force Research Laboratory's Fuels Branch, to some 50 bpd for its BTL and CTL/BTL partners, with feedstock including biomass, municipal solid waste and natural gas. The various FT demonstrations are expected to begin in 2009 and early 2010, with an integrated GTL (SMR & FT) demonstration for flare gas capture scheduled to start in mid/late 2010.

(b) *Ethylene*

Ethylene is the most produced organic compound in the world, with global production at more than 120 million tonnes per annum (valued at more than $145 billion) and still growing strongly. It is a key building block chemical for the polymer industry, required in the manufacture of polyethylene, PVC, PET and styrene, as well as many other chemicals. Most ethylene is produced from light liquid hydrocarbons by an energy intensive process called steam cracking.

Velocys has an active relationship with Dow Chemical to evaluate its microchannel technology for the production of ethylene via a more efficient catalytic process called oxy-dehydrogenation. This process requires careful control of operating conditions, which Velocys' laboratory testing has indicated microchannels can potentially achieve. The Directors believe that the Velocys technology could be suitable for retrofitting existing plants as part of normal refurbishment cycles, as well as for new plants.

(c) *Selective oxidations*

There are a number of selective oxidations employed in the petrochemical industry where the catalysed reactions produce large amounts of heat. Since product yield and catalyst life reduce with increasing reaction temperature for these oxidations, conventional reactors must operate at low productivity rates to limit the heat generation in the reactor. Such processes include those for ethylene oxide, formaldehyde, vinyl acrylic monomer and styrene. Due to the ability of microchannels to rapidly remove heat from chemical reactions, Velocys' technology has shown potential for improved product yields and catalyst life for a number of selective oxidation reactions. The Directors believe that the Velocys technology could be suitable for retrofitting existing plants, as well as for new plants.

The ethylene oxide market was worth an estimated $24 billion in 2007 and is expected to grow at some 6.5 per cent. per annum, driven by ethylene glycol requirements for polyester fibres and polymers. Velocys is currently evaluating the feasibility of applying its technology to this market through a funded project with a major petrochemicals producer.

(d) *Emulsions*

Microchannels can provide an effective and innovative method of mixing fluids to form emulsions. The unique benefit of microchannel emulsification technology is its ability to vary viscosity and particle size independently of chemical formulation, whereas conventionally these properties are obtained alongside adjustments to formulation. As such, the Velocys technology allows a given chemical formulation to be embodied in emulsions with a wide variety of properties. Indeed, emulsion compositions can be achieved with the Velocys technology that are unattainable with standard mixing technology, such as high-shear mixers.

In addition, the technology enables more reliable and precise reproduction of emulsion properties than conventional technology, thereby increasing the speed with which new emulsions can be introduced to markets (i.e. produced) following the research and development stage.

The current emulsions market is diverse and fragmented, consisting of areas such as cosmetics, personal care, processed foods, coatings (e.g. paints and adhesives), and pharmaceuticals.

Velocys has successfully demonstrated its technology for a leading cosmetics company, a consumer goods multinational, and a leading agribusiness and food company. The Directors believe that the Velocys emulsification technology is now ready for commercial exploitation in initial target market segments.

3. The Enlarged Group

3.1 *Vision*

The Board's vision for the Enlarged Group is to become the leading technology innovator for the production of clean fuels.

3.2 *Development and commercialisation strategy*

The Directors plan that the Enlarged Group will continue to pursue a partnering strategy, supplying access to technology for catalysts, microchannel reactors and integrated reactor/catalyst solutions. The Directors believe that such an approach will:

- allow early commercial and technical validation of the technology;
- reduce the risk, cost and time required for commercialisation;
- maximise the probability of commercial success by leveraging partners' expertise in manufacturing, engineering and implementation;

- provide a route to early market adoption and subsequent growth; and
- enable the Enlarged Group to focus on its core competencies in technology development.

The Directors do not intend that the Enlarged Group will manufacture catalysts or reactors on a large scale itself. Instead it anticipates earning licence and/or royalty revenues from the following:

- third party manufacture and supply of the Enlarged Group's catalysts and microchannel reactors;
- process and/or site licences; and
- where possible, end-user operating royalties.

Additionally, the Directors expect that the Enlarged Group will earn revenue on the supply of contract manufactured catalysts, especially for inclusion in its microchannel reactors. It is also anticipated that the Enlarged Group will provide a limited scope of technical services to clients, in particular for the refurbishment of catalysts in its microchannel reactors. Where appropriate, the Enlarged Group may earn exclusivity payments from partners. Prior to commercial deployment of its technologies, the Directors expect that the Enlarged Group will earn development revenues as it works with partners towards commercialisation.

For example, in the synthetic fuels market the Directors anticipate that the Enlarged Group would earn upfront license fees related to the production capacity being installed (bpd), ongoing income from the supply and refurbishment of catalysts, and where possible, royalties in connection with the amount of fuel being produced. The Directors estimate that currently some $3–4 of FT catalyst is required to produce 1 bbl of synthetic fuel. One of Velocys' competitors, CompactGTL plc, is reported as estimating that the capital cost of a GTL module suitable for an FPSO would cost between $75,000-100,000 per bpd capacity. Against these market benchmarks, the Directors believe the Enlarged Group will be able to generate significant upfront licence fees from its process and ongoing income from catalyst supply, whilst remaining cost competitive.

The Directors believe that the Enlarged Group has an opportunity to capitalise on its potential competitive advantages arising from the proprietary know-how and intellectual property available to it, and from its possible early-mover advantage, to form sustainable long-term commercial partnerships. In particular, the Directors believe that the Enlarged Group will have a strong competitive advantage in smaller scale applications of FT, where it intends to focus a significant portion of its development and commercialisation activities and use its working capital, where necessary, to help ensure that the current commercialisation timetable is met.

The Directors intend that the Enlarged Group will focus on nurturing its existing relationships and leading current projects to successful commercial conclusion. In addition, the Directors expect the Enlarged Group to secure, where appropriate, further agreements with leading producers, suppliers and project integrators, as outlined in the market-specific strategies below:

(a) *Synthetic fuels*

seek to enter into agreements with catalyst, energy and engineering companies, as well as project developers and technology providers, to commercialise and/or deploy the Enlarged Group's FT, biogas reforming and SMR technologies. It is intended that these collaborations will lead to commercial demonstration of the Enlarged Group's technologies, prior to widespread commercial deployment;

(b) *Petroleum*

aim to secure agreements with catalyst and/or petroleum companies to manufacture and market, and/or deploy the Enlarged Group's HDS and natural gas upgrading technologies. Furthermore, the Enlarged Group is seeking to leverage its access to know-how and intellectual property to help address key client needs, forming strategic relationships with the likes of national oil companies;

(c) *Commodity chemicals*

seek to enter into development and commercialisation partnerships with leading producers of commodity chemicals. Once the technology has been demonstrated commercially with producers, the Enlarged Group aims to accelerate market exploitation through partnerships with leading process licensors, such as Lummus Technology, KBR, Inc., Shaw Group, Inc., Technip S.A. and Linde-KCA-Dresden GmbH;

(d) *Steam production*

aim to earn licence and royalty income by participating in the development of consumer products incorporating Instant Steam, as well as co-developing applications in certain other fields such as industrial cleaning and disinfection;

(e) *Emulsions*

target initial sales from sectors where differentiation and speed to market are key drivers, and where only small to medium production capacities are required, such as in the cosmetics and personal care markets. In parallel, the Enlarged Group intends to explore the market appetite for its technology in larger volume markets, such as food processing and paints.

3.3 ***Current partnerships and prospects***

(a) *Synthetic fuels*

In March 2007, Velocys signed a memorandum of understanding with the biofuels subsidiary of a large European company for the development and commercial deployment of its FT technology for synthetic fuel applications, encompassing principally BTL, as well as other waste feedstocks. The agreement contemplates an exclusive relationship for the European Union and South America, subject to meeting deployment targets beginning in the year after the first demonstration unit operates, together with some conditional non-exclusive options. Expected development and demonstration revenues to Velocys under the agreement are projected to exceed $10 million during the period from the inception of the programme until completion (due in the next two years).

In November 2007, Velocys signed a Joint Development Agreement with Toyo Engineering and MODEC for the development and commercial deployment of their SMR and FT technologies for offshore synthetic fuel applications of 15,000 bpd and less. The agreement contemplates a worldwide exclusive relationship for offshore applications, and limited non-exclusive onshore rights for specific applications. Over $3 million has been committed to the programme to date and expected development revenues to Velocys going forward are upwards of $10 million over the next two years.

In January 2008, Oxford Catalysts announced that it had formed a strategic alliance with Novus Energy to develop and deploy technology for the production of renewable transportation fuels from organic wastes. According to the agreement, the Company will earn royalties based on fuel sales, which are projected by Novus Energy to average $750,000 per annum per full-scale facility, with the first unit expected in 2010. Novus Energy has announced plans to roll out dozens of facilities in the USA and Europe over the coming years.

In July 2008, Velocys signed a memorandum of understanding with a private company set up by one of the leading US coal industrialists, for the development and commercial deployment of its FT technology for synthetic fuel applications, encompassing CTL, as well as other feedstocks including mixtures of coal and biomass. The agreement contemplates an exclusive relationship for North America, subject to meeting deployment targets beginning in the year after the first demonstration unit has operated, although Velocys remains free to pursue other projects within the scope of the agreement. Expected development and demonstration revenues to Velocys under the agreement exceed $10 million over the next two years.

In September 2008, Oxford Catalysts announced that it had signed a contract with PTT to specify and supply know-how and materials, including catalysts, for a system for the production of synthetic liquid fuels using small scale FT.

Current projects in the synthetic fuels market are scheduled to commence commercial demonstration from 2009, and, if successful, commercial orders for FT and biogas reforming are expected from 2010/2011 onwards, and for integrated GTL (SMR & FT) from 2012 onwards.

The Enlarged Group is engaged, or in discussions, with most major energy companies known to be targeting large scale GTL, as well as several project and technology developers, for the evaluation of its FT catalysts. In addition, it is in discussions, with numerous project operators seeking to demonstrate BTL and CTL, for the evaluation of its microchannel systems.

(b) *Petroleum*

In July 2008, Oxford Catalysts announced that it had signed a memorandum of understanding with PTT for the evaluation and commercialisation of a technology for upgrading natural gas. Results of testing of the technology by PTT in two commercial side-stream units are expected by early 2009. If successful, the project could ultimately lead to the supply of materials for commercial deployment as early as 2010, with expected licence and royalty income to the Company.

The Company is engaged in programmes or discussions, with several leading catalyst companies, refiners and petroleum firms for the evaluation of its HDS technology. The Directors believe that the Company's HDS catalysts could enter commercial use within 30 months, and gas upgrading technology could enter commercial use within 18 months.

(c) *Commodity chemicals*

In April 2003, Velocys signed a Letter of Intent with Dow Chemical to explore jointly the potential commercial benefits of the application of its technology to lower olefins (e.g. ethylene) production through oxy-dehydrogenation of paraffinic hydrocarbons (e.g. ethane), as defined in a US Department of Energy Solicitation Proposal, for which the latter provided a grant of $2.25 million. The project began in February 2004 and was completed in 2008. Discussions concerning commercial exploitation have now been initiated between Velocys and Dow Chemical with a potential commercial deployment target of 2013. The Directors expect that an agreement could be in place during 2009.

In June 2006, Velocys entered into a Joint Development Agreement with a major petrochemicals producer for the application of its technology to the production of ethylene oxide from ethylene. The agreement initiated a multi-stage development programme, with a total of $2.1 million having been committed to the project to date. Pending a successful review of the current stage of development by both parties during the remainder of 2008, the Directors expect that a further development agreement could be in place during the first half of 2009 that would lead to a commercial demonstration in 2012, opening the way for commercial contracts to follow.

The Directors believe that the experience gained from this ethylene oxide project could be leveraged into several other important selective oxidation processes, including those for the production of maleic anhydride, acrylic acid and vinyl acetate monomer, resulting in a shorter time to market for those applications.

(d) *Steam production*

In October 2007, the Company announced that it had entered into a memorandum of understanding with a world-leading fast moving consumer goods multinational to explore the use of the Company's proprietary technology for Instant Steam. The Directors believe that new

applications of Instant Steam could enter the market within 36 months of proof-of-concept work being initiated, and that its current work with its FMCG partner could result in a product launch as early as 2011.

(e) *Emulsions*

Velocys began working with a leading cosmetics company in 2005 to develop and demonstrate its emulsification technology in the laboratory. Following successful conclusion of this project, in April 2007, Velocys entered into a Technology Licence and Service Agreement with the same cosmetics company granting a non-exclusive, limited licence to use the technology for evaluation purposes, at its own facilities, in connection with the formulation and development of cosmetic products. Velocys supplied, for a one-off payment of $100,000 in September 2007, the fully assembled equipment required for the evaluation. A review of the project is expected by early 2009.

Velocys is currently actively engaged, or in discussions, with several cosmetics and personal care companies, a paint producer, a leading agribusiness and food company, a major producer of coatings and a polymer producer. Velocys is targeting initial sales of its emulsification technology in 2009.

3.4 ***Summary financial information***

The following financial information has been extracted from the historical financial information contained in Parts VI and VII of this document and should be read in conjunction with the full text of this document. Investors should not rely solely on the summarised information.

(a) *Oxford Catalysts*

	For the year ended 31 December	
	2007	*2006*
	£'000	*£'000*
Revenue	163	64
Gross profit	32	27
Operating loss	(2,560)	(1,410)
Net cash outflow from operating activities	(2,048)	(739)
Short term investments – cash held on deposit	7,000	7,000
Cash and cash equivalents	8,630	6,528
Net assets	16,533	14,078

(b) *Velocys*

	For the year ended 30 September	
	2007	*2006*
	$'000	*$'000*
Revenue	15,790	12,494
Gross profit	6,137	3,514
Operating loss	(714)	(738)
Net cash inflow/(outflow) from operating activities	2,357	(70)
Cash and cash equivalents	3,278	987
Borrowings	(6,331)	(5,787)
Net liabilities	(4,616)	(3,820)

3.5 ***Current trading***

Oxford Catalysts announced its unaudited interim results for the six months to 30 June 2008 on 25 September 2008. Those results showed revenue to be ahead of management's expectations at £158,000 which was an increase of 82 per cent. on the equivalent period in 2007 (H1 2007: £87,000; full year 2007: £163,000). The loss for the period was £1,299,000 (H1 2007: £545,000 full year 2007:

£1,744,000) which reflects Oxford Catalysts' accelerated growth over the past year, new laboratories and equipment, and is in line with the Company's stated strategy. The unaudited interim results are set out in full in Part VI, Section A of this document.

In the 2008 Interim Statement, Pierre Jungels, Chairman of Oxford Catalysts said: "The outlook for the Group across the markets in which we operate is universally positive. I am confident that we are on course to deliver commercial agreements which will enhance shareholder value. The Board is optimistic of exceeding management revenue expectations for the full year, and looks to the future with confidence and excitement."

Unaudited financial information on Velocys for the nine months ended 30 June 2008 is set out in Part VII, Section A of this document. Revenues during this period were $9,470,000 (9 months 2007: $12,161,000) and the loss was $2,696,000 (9 months 2007: $470,000).

Velocys' commercialisation strategy has, so far, involved seeking cash contributions from strategic partners to fund development costs and help support its overheads. To date, over $115 million has been received from such partners. These development revenues are Velocys' main source of income at present. Being project based and subject to the commercial requirements and timetables of partners, Velocys' development revenues can be uneven.

For example, the decrease in revenue in the nine months ended 30 June 2008 compared to the same period the previous year reflects a slowdown on one specific project in relation to an area that is not considered by the Directors to be core to the intended business of the Enlarged Group (hydrogen production – see note 22 to Velocys' financial information on page 234 for further detail). The same period also saw the commencement of initial revenues from Velocys' Joint Development Agreement with Toyo Engineering and MODEC in relation to synthetic fuels, an area that the Directors do consider to be core to the intended business of the Enlarged Group.

Following Completion, the Enlarged Group will have active working engagements with several companies and industry leaders, including Dow Chemical, Toyo Engineering, MODEC, PTT, a leading FMCG company, a major petrochemical producer, the biofuels subsidiary of a large European company, a company set up by one of the leading US coal industrialists, and Novus Energy.

The Board intends that the Enlarged Group will focus on nurturing its existing relationships and leading current projects to successful commercial conclusion (further details of which are set out in paragraph 3.3 of Part II of this document). In addition, the Board aims for the Enlarged Group to enter into further select partnerships – Velocys and the Company are currently engaged, or in discussions, with several leading petroleum companies, chemical companies, catalyst companies, project and technology developers, and cosmetics and personal care companies, as well as companies in other potentially relevant industries.

4. Key management

The existing Directors of Oxford Catalysts, whose details are set out on page 6 of this document, will remain as Directors of the Company on Admission. It is intended that the operations of the Enlarged Group will be managed by a group-level executive committee that oversees the UK and US operations of the Enlarged Group. In addition to separate management teams for the two geographies, it is intended that a number of group-level roles will be created in technology, intellectual property, licensing and business development.

In addition to the Directors, the following individuals have been identified as key management of the Enlarged Group following Completion:

William Barton, D.Phil, *Chief Operating Officer (Oxford Catalysts Limited)*
Will joined Oxford Catalysts' founders in 2005 having previously spent his career in the chemicals industry. He held roles with increasing responsibility at ICI plc (later Zeneca plc), FMC Corporation, and Flexsys S.A., the rubber chemicals JV between Akzo Nobel B.V. and Solutia Inc., where he was vice president and member of the management board. He is currently a member of the Council of the Chemical Industries

Association. Will has a D.Phil. in physics from the University of Oxford and is a Fellow of the Royal Society of Chemistry.

Professor Malcolm Green, *Chairman of the Scientific Advisory Panel*
Malcolm, co-founder of Oxford Catalysts, currently chairs the Company's scientific advisory panel. He has now retired from serving as Head of the Inorganic Chemistry Department at the University of Oxford but remains active in that department as an Emeritus Professor. Malcolm is a Fellow of The Royal Society, was recognised as one of the most cited UK scientists of the 1990s, and holds numerous other prestigious accolades.

Tiancun Xiao, PhD, *Chief Scientific Officer (Oxford Catalysts Limited)*
Tiancun, co-founder of Oxford Catalysts, obtained his PhD in heterogeneous catalysis from the Chinese Academy of Science in 1993. In 1999, he joined Professor Green's group at the University of Oxford as a Royal Society BP Amoco Research Fellow. Tiancun has published over 80 papers in catalysis, has filed seven patents and has received numerous awards for his research.

Thomas Hickey, *Managing Director (Velocys)*
Prior to joining Velocys in 2003, Tom spent thirty years with ABB Lummus Global, latterly as Deputy Managing Director and Director of Marketing of CDTECH, and previously as Department Manager for Process Engineering where he provided direction, coordination, and engineering leadership on all process design activities, including those for clients in the refining and petrochemical industries. He has a BSc and MSc in Chemical Engineering from Manhattan College, and an MBA from The University of St. Thomas.

Jan Lerou, PhD, *Chief Technology Officer (Enlarged Group)*
Jan is currently managing the Experimental Operations and Catalysis R&D at Velocys. He has nearly 30 years of experience in leading catalysis, process engineering and experimental programs, including 16 years at DuPont, where he managed heterogeneous catalyst R&D, as well as headed microchannel development activities. Jan has co-authored 9 issued patents and has authored more than 40 publications. He has a BSc in Chemical Engineering from the Catholic University Leuven (Belgium), and a PhD from the University of Gent (Belgium).

Laura Silva, *Director of Intellectual Property and Licensing (Enlarged Group)*
Laura currently leads Velocys' intellectual property management and licensing activities, as well as driving its business development activities in the commodity chemicals and emulsions markets. Prior to joining Velocys, Laura served as a Commercialisation Manager at PNNL. She has co-authored 7 issued patents and has authored/co-authored more than 20 publications. Laura has a BSc and MSc in Chemical Engineering from Washington State University.

Lee Tonkovich, PhD, *Vice President of Microchannel Development (Velocys)*
Lee leads Velocys' microchannel design and development activities. She has a BSc from the University of Rochester and a PhD in chemical engineering from the University of Minnesota. In 2007, Lee won the Inventor of the Year Award from TechColumbus for her innovations with microchannel technology. In 2008, she was part of the Velocys team which was awarded an R&D100 award for its microchannel FT reactor, whilst in 1999 she headed a team at PNNL that also won an R&D100 award for its microchannel work. Lee has co-authored 52 issued patents.

Robert Underhill, *Finance Director (Velocys)*
Rob currently leads Velocys' finance and administrative functions. His career began 20 years ago at KPMG where he worked in both audit and tax practices. Prior to joining Velocys, Rob held several financial leadership roles including the Controller of General Electric's Superabrasives business, and the Controller of Greif, Inc.'s North American operations. Rob has a BSc in accounting from The Ohio State University and is a Certified Public Accountant.

5. Further information

Your attention is drawn to the additional information set out in Part I and Parts III to X (inclusive) of this document.

PART III

RISK FACTORS

Prospective investors should be aware that an investment in the Company involves a high degree of risk and should only be made by those with the necessary expertise to appraise the investment. The following are considered by the Directors to be the main risk factors which could have a material adverse effect on the business, financial condition, results or future operations of the Enlarged Group. The following list is not intended to be exhaustive and is not set out in order of priority but it should be considered carefully by prospective investors (in addition to the other information contained in this document) in evaluating whether to make an investment in the Company.

Additional risks and uncertainties not currently known to the Board or which the Board currently deem immaterial may also have an adverse effect on the Enlarged Group's business and the information set out below does not purport to be an exhaustive summary of the risks affecting the Enlarged Group. In particular, the Enlarged Group's performance may be affected by changes in the market and/or economic conditions and in legal, regulatory and tax requirements. An investment in the Ordinary Shares described in this document is speculative. Potential investors are accordingly advised to consult an independent professional adviser authorised for the purposes of FSMA who specialises in advising on investment of this kind before making an investment decision. A prospective investor should consider carefully whether an investment in the Company is suitable in the light of his, her or its personal circumstances and the financial resources available to him, her or it. If you are in any doubt about the action you should take, you should consult your independent professional adviser authorised under FSMA.

1. Risks relating to the business of the Enlarged Group

1.1 *Early stage of operations*

Both the Group and Velocys are at an early stage of development. The commencement of the Enlarged Group earning material revenues is difficult to predict and there is no guarantee that the Enlarged Group will generate any material revenues in the foreseeable future. The Enlarged Group has a limited operating history upon which its performance and prospects can be evaluated and faces the risks frequently encountered by developing companies. These risks include the uncertainty as to which areas to target for growth. There can be no assurance that the Enlarged Group's proposed operations will be profitable or produce a reasonable return, if any, on investment.

1.2 *Product development*

The Enlarged Group will continue to develop technologies which are intended to have a commercial application. There is no guarantee that any new technology will be successful technically nor that any successful technologies will actually result in any commercial applications.

The success of the Enlarged Group is reliant upon there being a demand for its technologies. In addition, the Enlarged Group relies upon third parties to incorporate its technologies into their own products or processes. A particular third party having access to the Enlarged Group's technologies may fail to produce a successful product or use the technologies in an effective process, or the products or processes may not be or become commercially viable.

The Enlarged Group has certain technologies which require further development before any commercialisation is possible. It is possible that the Enlarged Group focuses its activities on a limited number of such technologies and that after such further development has taken place, the Enlarged Group finds that the resulting technology is not technically successful or has no profitable commercial application, or that the resulting technology has been superseded by other technologies which have a more profitable commercial application when compared with those of the Enlarged Group.

The development of technologies takes some time to complete. Depending on the process, the Enlarged Group may not be able to develop its technologies within the timeframe required by its

potential customers and/or that targeted by its competitors. Further, the success of the Enlarged Group may depend on its continued ability to develop and master new technologies and to meet potential customers' changing requirements.

There can be no guarantee that any of the Enlarged Group's technologies will result in any profitable commercial applications.

1.3 ***Market acceptance***

The Enlarged Group's technologies are to be incorporated into the products or processes of third parties. There can be no assurance that such products or processes will achieve commercial success or be an attractive alternative to conventional products or processes. The development of a mass market for a new product or process is affected by many factors, most of which are beyond the control of the Enlarged Group, including the emergence of newer and more competitive products or processes, the future price of oil and natural gas, the tax regime on diesel, biofuels and petrochemicals, the costs of the products or processes developed by third parties, regulatory requirements, including any future regulatory changes, end-users' perceptions as to the safety of any product or process and the propensity of end-users to try new products or processes.

If a mass market for any product or process fails to develop or develops more slowly than anticipated, the Enlarged Group may fail to achieve profitability with respect to the technology associated with such product or process. In addition, the Enlarged Group may not continue to develop such technology if market conditions do not support the continuation of the product or process.

1.4 ***Dependence on recruitment and retention of key personnel***

The success and growth of the Enlarged Group is dependent upon its ability to continue to retain and attract high quality scientific and other staff with relevant expertise and experience.

In addition, the Enlarged Group is reliant on its executive management to develop its business. A loss of the services of one or more members of its executive team may adversely affect the Enlarged Group's technology development programmes and/or its business, financial condition and results.

1.5 ***Intellectual property***

Much of the fundamental intellectual property on which the Enlarged Group's business will be based is not owned by it but is licensed to it by Isis and/or Battelle on a worldwide basis for the duration of each patent (a period of 20 years from the date of the filing of the relevant patent application). The licence from Isis is exclusive. The licences from Battelle are exclusive for some technology and non-exclusive for others.

The licences may be terminated by Isis or Battelle if the Enlarged Group breaches the terms and conditions of the licences. Upon termination for such a breach, the relevant intellectual property will revert to Isis or Battelle and the Enlarged Group will be unable to use or further develop that intellectual property in its business.

The licence for much of the microchannel technology which is licensed by Battelle on an exclusive basis may convert from exclusive to non-exclusive (and in the case of one patent, the licence may be terminated by Battelle) if the Enlarged Group fails to meet diligence or payment obligations. The diligence obligations will usually require the Enlarged Group to invest significant amounts in R&D. The licence from Isis may convert from exclusive to non-exclusive if the Enlarged Group fails to exploit the licensed technology.

The fact that certain of the licences which Battelle has granted to Velocys are non-exclusive or may be converted to non-exclusivity means that Battelle is (or would be) free to license competitors of the Enlarged Group to use the same technology. The same would apply to Isis if the Isis licence were converted to non-exclusivity.

In addition, the Enlarged Group is reliant upon Isis pursuing the licensed patent applications, maintaining the registrations of any patents granted and enforcing these patents against third parties

pursuant to its commitments to do so under the licence. If, for whatever reason, Isis failed or refused to do so, the Group would effectively lose its right to the technology so licensed to the Group. Similarly, the Enlarged Group is reliant upon Battelle pursuing the licensed patent applications and maintaining the registrations of any patents granted. If, for whatever reason, Battelle failed or refused to do so, the Group would effectively lose its right to the technology so licensed to the Group.

No assurance can be given that any pending patent applications or any future patent applications will result in granted patents, that the scope of any patent protection will exclude competitors or provide advantages to the Enlarged Group, that in the future any patent granted in favour of the Enlarged Group will be held valid on being challenged, or that third parties will not in the future claim rights in or ownership of the patents and other proprietary rights from time to time held by the Enlarged Group.

Furthermore, there can be no assurance that others have not developed or will not develop similar products, duplicate any of the Enlarged Group's products or design around any pending patent applications or patents (if any) subsequently granted to the Enlarged Group. Other persons may hold or receive patents which contain claims having a similar scope.

A substantial cost may be incurred if the Enlarged Group is required to defend its intellectual property rights or requires Isis or Battelle to do so. In addition, a third party could also claim that the Enlarged Group's technology infringes its proprietary rights. These claims, even if without merit, could be time-consuming and expensive to defend and could have a materially detrimental effect on the Enlarged Group. A third party asserting infringement claims against the Enlarged Group and its customers could require the Enlarged Group to cease the infringing activity and/or require the Enlarged Group to enter into licensing and royalty arrangements. The third party could also take legal action which could be costly. In addition, the Enlarged Group may be required to develop alternative non-infringing solutions that may require significant time and substantial unanticipated resources. There can be no assurance that such claims will not have a material adverse effect on the Enlarged Group's business, financial condition or results.

The commercial success of the Enlarged Group may also depend in part on non-infringement by the Enlarged Group of intellectual property owned by third parties. If this is the case, the Enlarged Group may have to obtain appropriate intellectual property licences or cease or alter certain activities or processes or develop or obtain alternative products or challenge the validity of such intellectual property in the courts.

1.6 ***Competition***

The Enlarged Group may face significant competition from organisations which have greater capital resources than the Enlarged Group and/or which have a product offering competitive to that of the Enlarged Group, to the detriment of the Enlarged Group. As the Enlarged Group will continue to develop its technologies there is no guarantee that any of the Enlarged Group's technologies will ultimately be competitive. Further, given that in certain areas which the Board intends that the Enlarged Group will target, for example, emulsion formation, there is little data available in relation to competitors' products, and so it will not be possible to compare quantitatively the Enlarged Group's offering to its competitors. There is no assurance that the Enlarged Group will be able to compete successfully in the market place in which it seeks to operate.

1.7 ***Dependence on arrangements with third parties***

The Enlarged Group has entered into, and may continue to enter into arrangements with third parties (including commercial partners, manufacturers, suppliers and licensees) in respect of the development, production, marketing and commercialisation of its products where appropriate. An inability to enter into such arrangements, or disagreements between the Enlarged Group and any such third parties could lead to delays in or could inhibit or prevent the Enlarged Group's product development and/or commercialisation plans. In particular, the Enlarged Group will have, and will continue to put in place, agreements, letters of intent and memoranda of understanding with third parties for the purposes of its development and commercialisation strategies. The termination (or

purported termination) of any such arrangement may inhibit or prevent the Enlarged Group's plans and strategies and/or use of intellectual property and may lead to infringement claims in relation to intellectual property or claims for breach of contract. These claims, even if without merit, could be time consuming and expensive. The Enlarged Group will initially have a relatively small number of partners. If the Enlarged Group were to lose one or more of its key partners or if the Enlarged Group is unable to establish business relationships with new partners, there may be a material and adverse effect on the Enlarged Group.

1.8 ***Catalysts will not be able to be scaled up***

The Group has demonstrated the ability of its catalysts in laboratory conditions. There is no guarantee that these catalysts will continue to display their advantageous properties when they are scaled up to the quantities required for some industrial or commercial usage. Also, there is no guarantee that the catalysts will continue to be as economic to produce when manufactured in industrial quantities. Further, Velocys has obtained data on its technologies, including, on its FT reactor design. However there can be no guarantee that these technologies will continue to display their advantageous properties when scaled up. As with any new technology, there are risks associated with the industrial development, performance and the long term operational life of the product.

1.9 ***Microchannel reactors will not be manufactured economically***

Many of the manufacturing processes used in the fabrication of the microchannel reactors have only been demonstrated at a laboratory or pilot level. There is no guarantee that when taking these fabrication processes to a commercial production level that the mechanical integrity, performance or economics required for commercial success will be attained. In addition, there are risks associated with the industrial deployment of a new technology in commercial systems including the long term operational life of the product.

1.10 ***Additional capital and dilution***

The Directors anticipate that the Enlarged Group could potentially require capital in addition to the proceeds of the Placing in order to develop products and services and to enable them to be brought to market. Further, the capital required for the continuing research and development of the Enlarged Group's products is difficult to predict accurately if the Enlarged Group's research and development requirements change the then Enlarged Group may require additional capital. Further, if the Enlarged Group fails to generate sufficient cash through the provision of its products or services, then it may need to raise additional capital in the future, whether from equity or debt sources, to fund such expansion and development. If the Enlarged Group is unable to obtain this financing on terms acceptable to it then it may be forced to curtail its planned development. If additional funds are raised through the issue of new equity or equity-linked securities of the Company other than on a *pro rata* basis to existing Shareholders, the percentage ownership of such Shareholders may be substantially diluted. There is no guarantee that the then prevailing market conditions will allow for such a fundraising or that new investors will be prepared to subscribed for new Ordinary Shares at the same price as the Placing Price or higher.

1.11 ***Dividends***

There can be no assurance as to the level of any future dividends. The declaration, payment and amount of any future dividends of the Company are subject to the discretion of the Shareholders or, in the case of interim dividends, to the discretion of the directors of the Company at the time in question, and will depend upon, among other things, the Enlarged Group's earnings, financial position, cash requirements, availability of profits, as well as provisions for relevant laws or generally accepted accounting principles from time to time.

1.12 ***Exchange rate risk***

The Enlarged Group will transact principally in pounds Sterling and in United States dollars. The Enlarged Group's performance will therefore be subject to exchange rate fluctuations with respect to the currencies employed.

1.13 ***Insurance risk***

It is proposed that the Enlarged Group will take out adequate indemnity insurance as required. However, the insurance coverage may prove inadequate to satisfy potential claims and losses. Further, the Enlarged Group may become subject to liabilities that cannot be insured against or against which it may elect not to be so insured because of high premium costs.

1.14 ***Legal risk***

The possibility exists that new legislation or regulations in any relevant jurisdiction may be adopted in the future that may materially adversely affect the Enlarged Group's operations or its cost structure. New legislation or regulations, or different or more stringent interpretation or enforcement of existing laws and regulations, may also require the Enlarged Group or its potential customers, partners or suppliers to change operations significantly or incur increased costs which could have a material adverse effect on the financial results of the Enlarged Group.

1.15 ***Health & safety***

The Enlarged Group's operations will be subject to numerous health, safety and environmental ("HSE") requirements under the laws and regulations in the jurisdiction in which the Enlarged Group conducts its business. Such HSE laws and regulations govern, among other matters, air emissions, wastewater discharges, solid and hazardous waste management, and the use, composition, handling, distribution and transportation of hazardous materials. Many HSE laws and regulations are becoming increasingly stringent (and may impose "strict liability") and the cost of compliance with these requirements can be expected to increase over time. The failure to comply with HSE laws and regulations could result in the Enlarged Group incurring costs and/or liabilities including as a result of regulatory enforcement, personal injury, property damage and claims and litigation resulting from such events, which could adversely effect the Enlarged Group's results of operation and financial condition.

Accidents or mishandlings involving hazardous substances could cause severe or critical damage or injury to property and human health. Such an event could result in civil lawsuits and/or regulatory enforcement proceedings, both of which could lead to significant liabilities. Any damage to persons, equipment or property or other disruption of the Enlarged Group's business could result in significant additional costs to replace or repair and insure the Enlarged Group's assets, which could negatively affect the Enlarged Group's business, prospects, operating results and financial condition.

The Company cannot predict the impact of new or changed HSE laws or regulations or other concerns or changes in the ways that such laws or regulations are administered, interpreted or enforced. The requirements to be met, as well as the technology and length of time available to meet those requirements, continue to develop and change. To the extent that any of these requirements impose substantial costs or constrain the Enlarged Group's ability to expand or change its processes, the Enlarged Group's business, prospects, operating results and financial conditions could suffer.

2. Risks relating to the Acquisition

2.1 ***Ability to integrate the Group and Velocys effectively***

The Enlarged Group's success will, to a significant extent, be dependent on its ability to integrate the Group's and Velocys' businesses effectively, and any other business it may acquire in the future, without disruption to its existing business. There is a risk that the Enlarged Group will encounter difficulties in integrating the Group and Velocys. Detailed plans for achieving the operating benefits of the Acquisition are being prepared but these cannot be implemented until Completion and there are

execution risks associated with these plans. The integration process may also take up a substantial amount of managerial resources which in turn may adversely impact the performance of the Enlarged Group's business.

2.2 ***Management of future growth***

Future growth of the Enlarged Group will place additional demand on its management, customer support, marketing, administrative and technological resources. If the Enlarged Group is unable to manage its growth effectively its business, operations or financial condition may deteriorate.

2.3 ***Benefits of the Acquisition not being realised***

The Directors have identified a number of benefits to the Company from the Acquisition that they believe will enhance the business and profit of the Enlarged Group and create a platform for future growth. There is no guarantee that these benefits will be achieved or that such future growth will ever materialise.

2.4 ***Compliance with the US Securities Exchange Act***

Upon Admission, it is intended that the Company will own 100 per cent. of the issued and outstanding shares of Velocys, a Delaware private corporation, whose common stock is not registered under the US Securities Exchange Act of 1934, as amended (the "Exchange Act"). Following the Acquisition, Battelle will hold Ordinary Shares. Although the Company currently has no reporting obligations under the Exchange Act, it may become a reporting company if it comes to have more than 500 shareholders worldwide, of which more than 300 are US residents. Should the Company become a reporting company under the Exchange Act, it will need to comply with various requirements under the Exchange Act, including filing of annual and periodic reports. Compliance with these requirements may be time consuming and costly and may require hiring additional financial reporting, internal auditing and other finance staff in order to develop and implement appropriate additional internal controls, processes and reporting procedures.

2.5 ***Contracts with US government agencies***

Velocys has, and may in future seek to enter into further, agreements, or other arrangements, with agencies of the United States government. Typically, pursuant to these agreements, companies must comply with certain statutory and regulatory provisions. These agreements may, for example, restrict US government contractors' performance of certain work, or even entire contracts, to US citizens, US owned or controlled companies, or to those with security clearances. Further, pursuant to these types of agreement, if a non-US shareholder has a controlling interest in the company, its ability to obtain future US government work, including research and development contracts or grants, may be restricted or subject to regulatory requirements such as placing the US interest in a separately US controlled legal entity to perform classified work. If Velocys is unable to comply with such regulations and requirements, it may be unable to procure future government contracts or grants in its business area. This could have a material adverse effect on Velocys', and in turn, the Enlarged Group's business, financial condition and results of operations.

2.6 ***Battelle's ownership of shares***

Following Admission, Battelle will own 17.5 per cent. of the Enlarged Share Capital and as a result may have the ability to exercise influence on the business and may cause or take actions that are not in, or may conflict with, the best interests of the Company or its other Shareholders. In future other Shareholders may also have, or obtain, such an ability to exercise influence or take actions relating to the Company. If Battelle (or any persons acting in concert with it or any other person (as the case may be)) acquires an interest, that is equal to 30 per cent. or more, in the Enlarged Share Capital, Battelle (or any other person (as the case may be)) will be required to extend an offer to all other Shareholders under the City Code of Takeovers and Mergers.

3. General investment risks

3.1 ***General economic conditions and volatility***

Market conditions may affect the ultimate value of the Company's share price regardless of operating performance. The Enlarged Group could be affected by unforeseen events outside its control, including, natural disasters, terrorist attacks and political unrest and/or government legislation or policy, variations in operating results, announcements of technological innovations or new products and services by the Enlarged Group or its competitors, changes in financial estimates and recommendations by securities analysts, the share price performance of other companies that investors may deem comparable to the Company, news reports relating to trends in the Enlarged Group's markets, and other factors outside the Enlarged Group's control. Market perception of technology companies may change which could impact on the value of investors' holdings and on the ability of the Enlarged Group to raise funds by an issue of further shares in the Company. Further general economic conditions may affect exchange rates, interest rates and inflation rates. Movements in these rates may have an impact on the Company's cost of raising and maintaining debt financing should it seek to do so in the future. Prospective investors should be aware that the value of the Ordinary Shares could go down as well as up and investors may therefore not recover their original investment especially as the market in the Ordinary Shares may have limited liquidity.

3.2 ***Energy, oil and chemical price volatility***

The Directors consider that there is a greater need for the benefits of technology that will be available for the Enlarged Group as a result of recent high energy, oil and chemical feedstock prices. Crude oil and natural gas prices are volatile, depending on shifts in local, regional and world supply and demand, as well as the policies of the Organization of Petroleum Exporting Countries, the prices of other hydrocarbon products and the general economic and political climate. Any decrease in oil prices could reduce the market's perception of the benefits of the Enlarged Group's offering, which could adversely affect the Enlarged Group's business and financial performance.

3.3 ***Liquidity***

The Ordinary Shares will be traded on AIM rather than the Official List. It may be more difficult for an investor to realise his or her investment in an AIM-traded company than a company whose securities are listed on the Official List. Admission to AIM does not guarantee that there will be a liquid market for Ordinary Shares. An active public market for Ordinary Shares may not develop or be sustained after Admission and the market price may fall below the Placing Price.

AIM is a market for emerging or smaller, growing companies and may not provide the liquidity normally associated with the Official List.

In particular, the market for the Ordinary Shares may be, or may become, relatively illiquid and therefore the Ordinary Shares may be or may become difficult to sell.

3.4 ***Lock-in arrangements***

Whilst certain holders of Ordinary Shares have agreed to certain lock-in arrangements in respect of Ordinary Shares held by them, a proportion of the Enlarged Share Capital will not be subject to lock-in arrangements and in any event after the existing lock-in arrangements cease to apply there will be no contractual restriction on the sale of the Ordinary Shares held by the locked-in Shareholder. Furthermore, KBC may release all or any portion of the Ordinary Shares subject to these lock-in arrangements. Further information on these lock in arrangements is set out in paragraph 10 of Part I of this document.

3.5 ***AIM Rules for Companies***

AIM securities are not admitted to the Official List. Neither the FSA nor the London Stock Exchange has itself examined or approved the contents of this document. A prospective investor should be aware

of the risks of investing in such shares and should make the decision to invest only after careful consideration and, if appropriate, consultation with an independent financial adviser.

4. Forward-looking statements

This document contains certain forward-looking statements that are subject to certain risks and uncertainties, in particular statements regarding plans, goals, prospects, developments and strategies for the Enlarged Group's future. The Enlarged Group's actual results and operations could differ fundamentally from those anticipated in such forward looking statements as a result of many factors including the risks faced by the Enlarged Group which are described in this Part III and elsewhere in this document. These statements and the assumptions that underlie them are based on the current expectations of the Directors and are subject to a number of factors, many of which are beyond their control. As a result, there can be no assurance that actual results will not differ materially from those described in this document. Forward-looking statements are identified by their use of terms and phrases such as "believe", "could", "envisage", "estimate", "intend", "may", "plan", "will" or the negative of those, variations or comparable expressions, including references to assumptions.

PART IV

TECHNICAL EXPERTS' REPORT

Nexant, Inc., 44 South Broadway, White Plains, NY 10601 USA
Nexant Ltd., Griffin House, 1st Floor South, 161 Hammersmith Road, London W6 8BS, UK

Oxford Catalysts Group PLC
115e Milton Park
Oxford
OX14 4RZ

KBC Peel Hunt Ltd
111 Old Broad Street
London
EC2N 1PH

31 October 2008

Dear Sirs,

OXFORD CATALYSTS GROUP PLC

As instructed by Oxford Catalysts Group PLC (the "Company"), Nexant, Inc. ("Nexant") has performed an independent review of the proposed transaction and prepared this report dated 31 October 2008 for inclusion in the AIM Admission Document in relation to the Company's admission to trading on the AIM.

Neither Nexant nor any person acting on behalf of it assumes any liabilities with respect to the use of or for damages resulting from the use of any information contained in this report. Nexant does not represent or warrant that any assumed conditions will come to pass. Please note that in this report where Nexant has provided estimated data on third party technologies and plants, these estimates have used non-confidential data from the public domain. This report speaks only as of the date of the report and Nexant has no responsibility to update this report. This report is integral and must be read in its entirety.

Yours faithfully,

Nexant, Inc.

CONTENTS

1. Introduction

1.1 *Introduction*

Nexant is an internationally known consulting company which primarily consults in the energy, chemical and petrochemical industry segments worldwide. Our core strengths and knowledge efforts lie at the intersection of rapidly shifting energy and chemical markets, advancements in process technologies and ongoing innovations in information technology. We are known internationally as well as in the highly developed economies of North America, Europe and East Asia for our technical and market expertise.

Nexant was formally established on 1 January 2000, formed from a core group of approximately 130 professionals drawn from Bechtel's Technology and Consulting Group. The company has since grown organically and through acquisitions, such as the acquisition of Chem Systems in 2001 which formed Nexant's Energy Resources and Chemicals ("ER&C") consulting group, and now totals over 400. As an independent company with a number of shareholders, Nexant provides impartial advice to clients in the energy and chemical sectors worldwide on all matters relating to technologies, markets, projects, trends and strategies. Please visit www.nexant.com for additional discussion and examples of our work.

1.1.1 *Independent insight and understanding*

Our ER&C consulting services span the entire industry value chain, from alternative fuels, oil and gas production through the downstream sub-sector to chemicals, including specialties. These services complement Nexant's other business units, which provide a comprehensive range of consultancy and related software to the petroleum, electric power and chemical sectors.

Nexant's ER&C services offer its clients independent insight and understanding. Our focus on the alternative fuels, petroleum and chemical industry gives us an unrivalled insight into the current issues and opportunities, as well as the shifting landscape and changing fortunes that affect the sector. We understand our clients' businesses, such as the challenges they face and the competitive pressures which shape their actions, since many of our consultants have previously worked in energy and chemical companies.

1.2 *Oxford Catalysts*

Oxford Catalysts Group PLC (the "Company") is a UK–based company that is engaged through its subsidiary, Oxford Catalysts Limited ("OCL") in research and development, to exploit technical discoveries involving a number of novel metal carbide catalysts and novel catalyzed processes. OCL develops specialty catalyst technology for the generation of clean fuels, from both conventional fossil fuels and renewable sources such as biomass. OCL's patented intellectual property and technology (some of which is licensed to it by Isis Innovation Limited) is the result of nearly two decades of research at the University of Oxford's prestigious Wolfson Catalysis Centre, headed by renowned co-founder of the Company Professor Malcolm Green, a highly respected inorganic chemist, much of whose work has been commercially focused.

OCL's catalysts offer several of the following key benefits: greater cost effectiveness; higher productivity; better selectivity (leading to higher quality output); increased resistance to contaminants; and longer operational life.

OCL's key technologies include catalysts that appear highly attractive for applications for the following markets:

- Gas-to-Liquid ("GTL") and Coal-to-Liquid (CTL"), including Fischer-Tropsch ("FT"),
- removing sulphur from gasoline/diesel;
- creating steam instantaneously from methanol and hydrogen peroxide;
- transforming waste methane into the chemical building blocks of liquid fuels.

1.3 ***Velocys***

Velocys, Inc. is based near Columbus Ohio, where its laboratory, office space, employees, and management are located. It was formed in 2001 to commercialize microchannel technology (particularly microchannel reactors and processes) a concept that was initially developed in the mid to late 1990s by the Battelle Memorial Institute ("Battelle") at the Pacific Northwest National Laboratory ("PNNL"). Battelle is a global science and technology not-for-profit enterprise that manages a number of "National Laboratories" in the United States, and which has a very broad science and technology reach. Battelle and the national labs it manages or co-manages have regularly earned awards for developing one or more of the 100 most significant scientific and technological innovations worldwide.

Velocys has been researching and developing production systems for selected high value and growth market segments. A team from Velocys recently won an R&D 100 award for its application of microchannel technology to the FT process. Velocys' main focus is on the synthetic fuels market, with additional offerings for the conventional energy and chemical markets. In the synthetic fuels market, Velocys is developing production systems for both FT and steam methane reforming ("SMR"), two of the key components of GTL processing. In order to fund its research and development activities, Velocys has formed strategic partnerships with several industry leaders in various application areas, including for example one with Toyo Engineering and MODEC for offshore GTL. Over $160 million has been invested to date in Velocys' technology, primarily by industrial partners. Some of Velocys' partnerships are kept confidential due to the expressed wishes of its partners. Not only do these partnerships provide funded development to pursue commercial demonstration and validation, but they also offer opportunities to leverage the partners' expertise and resources to reduce the risks of market introduction and to help create early market acceptance for Velocys' technology.

At this time, Velocys has begun the business process of commercialising a number of its technologies, including those for FT and SMR, and separately for emulsification. Several partner-supported projects are currently targeting commercial demonstration of Velocys' FT/SMR technologies. In the synthetic fuels market, these partnerships are aiming for commercial demonstration beginning as early as 2009. In addition, Velocys has also received research and development grants from government agencies, and has ongoing programs underway with the US Department of Energy and the US Department of Defense.

1.4 ***This report***

1.4.1 *Principal authors*

The principal authors (all Chemical Engineers by education, University degree and practice) of this report have been the following consultants at Nexant, Inc.

- Mr Michael J. Kratochwill
- Mr Edward S. Glatzer
- Ms Luann M. Farrell

The backgrounds of the principal authors are as follows:

Mr Michael J. Kratochwill, Vice President of Nexant's Finance & Strategy Practice, was the Project Executive for this engagement. As head of the Finance & Strategy Practice, Mr Kratochwill has extensive experience in due diligence analysis, including technical assessments and company/plant valuations. He has a strong knowledge of petroleum and chemical industry structure, manufacturing routes, process technologies and economics. In addition, Mr Kratochwill has served as an expert witness on several occasions on such matters. Mr Kratochwill has over 35 years' industry experience.

Mr Edward S. Glatzer, Director of Technology, was the Project Manager for this study. Mr Glatzer is highly experienced in all areas of process technology assessment, including technical and economical evaluations, plant operation benchmarking, technology business analysis and market evaluation. He has managed numerous engagements on such topics in which he has

assisted technology holders or investors in expanding or broadening their technology platforms and portfolios, including GTL and related technologies, and has over 35 years' industry experience.

Ms Luann M. Farrell, Senior Consultant, worked on the project, primarily on the analysis of Velocys' technology for SMR. She has strong experience in analyzing process technologies and markets, with 25 years' industry experience.

1.4.2 *Engagement outline*

The objectives of this engagement were for Nexant to perform an independent review of the proposed transaction from a technical and market perspective, focused on the merits of Velocys and the benefits of the transaction for OCL. This review was focused on reaching conclusions about Velocys' technologies and documenting our work in an Experts' Report on the technical and commercial aspects of the transaction, as required for an AIM Admission Document (the "Experts' Report"). Our work was done with the full cooperation of Velocys and OCL during the course of this engagement and entailed 440 man-hours of work. Neither our Experts' Report nor our review constituted an accounting review, audit or valuation in the financial sense. At the end of the engagement work, Nexant provided Oxford Catalysts with this Experts' Report that documents our review, opinions and conclusions regarding Velocys and the proposed transaction.

Thus, Nexant's scope of work in developing this Experts' Report was to perform a study of key topics relevant to Velocys, its prospects for success in further developing and commercializing its technologies, and the proposed combination transaction with Oxford Catalysts. Nexant's fee for this engagement has been on an hourly time and materials basis and did not depend on either the conclusions or the opinions provided in this Experts' Report.

2. Technology

2.1 ***Introduction***

In this section, Nexant has compared Velocys' principal technologies which are in the development phase prior to commercialization, to current commercial (proven state-of-the-art) technologies. We also have provided various opinions on the merits and prospects for successful commercialization of Velocys' technologies.

2.2 ***Technology opportunities and challenges***

In Nexant's opinion, there have been a number of very important events and dynamics, all external to Velocys and OCL, which have emerged or strengthened over the last 5 to 10 years in particular that combine to provide the basis of strong opportunities for Velocys to further develop and successfully commercialize its technologies. In our view, the following are the most important:

- the rise in prices for oil, gas, and virtually all sources or types of energy;
- rapidly rising global demand for energy as previously developing countries, notably China and India and much of Southeast Asia, have achieved very impressive growth rates in their GDP and average standard of living;
- the need to develop more efficient and economical chemical processes, in order to both allow the development of untapped energy sources and reduce emissions of pollutants; and
- the inability of the global petroleum industry to keep up with demand growth by finding and exploiting new oil and gas reserves, with the result that the ratio of petroleum reserves to annual production has fallen.

A multitude of factors have emerged as strong drivers favoring the development of the technologies that Velocys and OCL have been researching.

2.2.1 *The challenges in technology development*

2.2.1.1 **General**

The development of any new process technology carries inherent risks and opportunities throughout the life of the development. There are risks associated with the technical success of the process as well as with the commercial success once the process is successful on a technology basis.

The aim of process development programs is to achieve the ultimate goal of successful commercialization while simultaneously minimizing risk by following well-accepted steps and procedures from laboratory data gathering through to full industrial scale demonstration. Nexant believes that by following these steps, risks are minimized, although never eliminated, and the chances for success are increased. Much of the risk minimization can be accomplished by performing sufficient testing and reasonable plant design/testing and scale up prior to a full sized commercial plant.

Nexant regularly performs consulting engagements related to technology development and commercialization. These include work in technology opportunity screening and scale-up activities. Thus, we believe that Nexant has a good understanding of both the opportunities and challenges faced in the development and commercialization of new technologies, particularly in SMR/FT.

The concept of a "new" technology in the energy, chemical and hydrocarbon industries may include one or more of the following features:

- new product;
- new technology (such as a catalyst, process or type of reactor, but with a known and established product or material); and/or
- new combination of existing technologies or process steps.

This leads to an array of potential risks and opportunities. Our work, surveys and contacts with industry practitioners lead us to conclude that there is no standard type of criteria for success in developing and commercializing new technologies.

Thus, we conclude that there are several areas of potential concern representing possible risks, as well as opportunities in relation to SMR/FT. One major licensor/contractor, experienced in GTL and methanol type technology development, stated the following critical issues:

- proof of concept and materials of construction;
- scale-up (increasing the size of the test or production scale facility), to a commercial scale (making thousands of pounds or more per day);
- effects of long term operation on factors such as by-product formation, recycle streams, fouling, corrosion, and catalyst selectivity and life;
- durability and sustainability of the plant and equipment;
- test of start-up, shut down and other operating modes and procedures that are important to successful and economic long term operation, and their effects on catalyst performance and overall plant on-stream time and production rates; and
- product qualities, including conformance with industry specifications (for commodity type products) or testing and acceptance by customers (for specialty type products), or compatibility with downstream units in large integrated facilities.

2.2.1.2 **Nexant's observations on Velocys**

In our investigation regarding Velocys, Nexant has concluded that Velocys has been and is proceeding along a very thoughtful and risk-minimizing development track for its microchannel process technologies ("MPT"). An important feature of Velocys' MPT technology is that due to its unique MPT reactor-block approach, scaling up to demonstration and commercial sized MPT SMR/FT plants will involve adding more reactor blocks of the same proven dimensions ("numbering up"), rather than dramatically increasing the size of each reactor as with conventional reactors as practiced by other SMR/FT practitioners. This numbering up reduces scale-up risks for Velocys' MPT. Additionally, the reactor blocks will be shop-fabricated, rather than the substantial field fabrication for large reactors associated with large scale GTL plants, and this should help install Velocys' technology in plants with a reasonable construction time schedule. Further, compared to other new technologies, Nexant notes that since Velocys' knowledge about many of the "real-world" operating issues related to SMR/FT benefits from long industry experience with conventional SMR/FT reactors and processes, we believe Velocys' risks are substantially lower than for many other types of new technology commercialization endeavors.

In a practical sense, a technology developer faces a critical step of getting enough serious interest in the technology for a project sponsor to invest sufficient funds to design and build the first demonstration-sized plant (whether of either true commercial or rather "semi-works" size that shows that scale-up from the lab and pilot scale tests have been successful). The "first plant sponsor challenge" is well known to those companies which make a business of developing chemical process technologies. In Nexant's opinion, Velocys' partnering strategy helps to mitigate this risk because industry partners have provided their funding and expertise during the development program and these partners intend to build the first plants.

In summary, any new process design or process development has inherent risk and rewards. These risks, however, can be minimized by following prudent development steps, which, in Nexant's opinion, Velocys has done. Velocys' highest priority target application in GTL (SMR and FT) is a potentially significant opportunity that may bring very large amounts of currently untapped fuel resources to market. Once Velocys' SMR and FT process technologies have been successfully commercialized for the initial target applications, they may very well also be adapted to other products and process steps, such as for syngas production in producing methanol and ammonia, and for hydrogen production in petroleum refineries.

The above discussion is intended to provide a reader of this Experts' Report with Nexant's views on the overall risks and rewards of technology development as they are relevant to Velocys, since in most of this report we primarily focus on and provide our opinions on the advantages and prospects for success of Velocys in relation to OCL.

2.3 ***Microchannel process technology***

MPT is a developing field of chemical processing technology that exploits rapid reaction rates by minimizing heat and mass transport limitations through reducing dimensions of the reactor systems. MPT typically applies to systems in which the reactions or other key process steps are done in parallel arrays of microchannels, each having typical dimensions in the range of 0.1 mm to 5.0 mm. In MPT, processes are intensified by a decreased resistance between process fluids and channel walls. The structure and its dynamics allow the use of more active catalysts than conventional systems, and this greatly increases the throughput per unit volume of reactors. MPT is being developed to be used in different fields of chemistry and chemical engineering to test and produce materials with capabilities exceeding those of conventional macroscopic systems.

The initial ideas relevant to MPT appear to have started showing up in some technical literature in the 1970s, but the topic was relatively dormant through the 1980s. Much research work has been done regarding MPT in the US in efforts affiliated with some of the national research establishments, such as Battelle Memorial Institute, the Pacific Northwest National Laboratory, and Oregon State University. Some of the major energy and engineering companies have partnered with research groups in selected efforts regarding MPT that have variously focused on goals regarding GTL and ethylene plant optimization. In recent years, Battelle Memorial Institute spun-off its MPT technology assets into a private company, Velocys, Inc., in which Battelle retained a significant ownership interest.

In a broad sense, MPT appears to have a high potential for application in chemical and process systems that involve the following:

- thermal processing;
- fuel processing catalytic processes;
- chemical reactions and production;
- separations, mixing and emulsification;
- catalytic processes;
- gas processing (such as for hydrogen production);
- biological and medical applications; and
- integrated and multi-phase systems.

The types of specific advantages of using MPT technology include the following key factors in many energy and chemical process applications:

- improved heat transfer properties and higher energy efficiency;
- smaller size and weight of reactors;
- increased yields of target products;
- lower feedstock and operating costs;
- making new products via optimizing process conditions to an extent not achievable with conventional process techniques;
- improved durability and service ability;
- improved inherent operating safety by a reduction in the reactant residence time;
- improved corrosion protection;
- reduced refrigerant charge up to 50 per cent. (for processing that involve coolant);
- accelerated chemical process rates by 10 to 1000 fold;
- amenable to the use of new, novel more active catalysts;
- minimization of production of emissions and undesirable by-products; and
- lower overall capital costs.

If this list of MPT advantages seems long, it must be noted that these are the goals of most reactor and chemical process optimization programs. From a high-level perspective, MPT holds the potential to be a breakthrough technology that would transcend specific applications. In this respect, it could be viewed as similar to catalytic hydrotreating technology, developed initially in the 1950s, that is prevalent in most petroleum refining and petrochemical processing across many products. Another example of a possible analogy could be cryogenic technology, initially developed in the 1930s.

2.4 ***Catalyst technology***

A catalyst is a substance that is used to increase the rate of a chemical reaction, but the catalyst is not chemically consumed at the end of the reaction process. Catalysts do this by acting as a host to the chemical reaction, which can take place on the catalyst surface. Catalysts are vital components of many industrial chemical reactions. They allow reactions to take place on a large scale, with high efficiency, and with minimum energy inputs. Since catalysts work very rapidly and are effectively used repeatedly in the chemical process, only a small amount, relative to the raw materials used in the process, is typically required to make the reaction proceed quickly. By changing the rate of reaction for different reaction pathways, catalysts can frequently change the end mix of the products from a chemical process.

Most catalysts consist of a metal, or combination of metals, deposited onto a support material, which may be carbon, silica, alumina or other metal oxides. The metals used in the catalyst will depend upon the required reaction and the operating conditions. Where the operating conditions are aggressive or the reaction is demanding then precious metals, particularly platinum, may be required.

While catalysts are not consumed in the true sense of the term, nevertheless, catalysts may get more or less effectively deactivated by the reaction or side-reactions, such as coking or fouling, or by one or more other ways. In many catalytic reactions it is possible to regenerate the catalyst to a condition near to its original state of effectiveness.

Catalysts have been an important part of the petroleum, natural gas and chemical industries for many decades, starting from the late 1930s. The importance of catalysts, however, has increased in recent years as the drivers of energy efficiency, product quality and environmental issues have provided increased economic and regulatory incentives to achieve higher efficiencies and more environmentally acceptable products and chemical processes. Further, the significant rise in oil, natural gas and other energy prices since the beginning of the current decade have provided a strong additional economic incentive to develop more effective catalysts.

While catalysts are critical to most chemical and hydrocarbon processing steps, in order for a catalyst to be used successfully on an industrial scale, another factor of equal importance is the design of the reactor in which the process occurs. For instance, in processes for highly exothermic or endothermic reactions, and in high pressure processes, the reactors by necessity are highly complex and expensive, and typically employ large amounts of high-tech and expensive metal alloys. MPT allows process reactors to be greatly reduced in size, driving down the amounts and therefore costs of metal alloys, structural supports, foundations and piping, compared to today's conventional processes. This is one of MPT's key advantages.

2.5 ***Competitors***

2.5.1 *Status of competitors in microchannel process technology*

MPT has been a research topic in a number of R&D laboratories and operating companies worldwide since the early to mid 1990s, when theorists and researchers began to formulate theories and potential ways in which to do experiments on the subject. The most noteworthy entities which have been involved in similar or somewhat related fields to Velocys' efforts are the following:

- CompactGTL plc ("Compact");
- Heatric, a division of Meggitt (UK) Ltd ("Heatric");
- Chart Industries, Inc. ("Chart");
- Das Institut für Microtechnik Mainz GmbH ("IMM");
- Alfa Laval AB ("Alfa Laval");
- Evonik Degussa, a subsidiary of Evonik Industries AG ("Evonik"); and

- Others – not related to MPT : Exelus, Inc. ("Exelus"), Uhde GmbH ("Uhde"), Choren Industries GmbH ("Choren"), Axens S.A. ("Axens"), GTL.F1 AG ("GTL.F1")).

Compact

Compact is a technology company focused on developing GTL technology for associated gas. They have developed and are in the process of demonstrating in a pilot or pre-commercialization step their own compact reactor technology. Their intention is to use their technology to enable the gas produced in oilfields to be converted easily and economically to syncrude. The technology on which they are working combines the two stages of the GTL process into one integrated system that is intended to give high levels of volumetric efficiency safety, and reliability. The technology at a glance entails: SMR, syngas conversion by FT synthesis, tail gas recycled as fuel to heat the SMR reactor, and waste water recycled to feed the SMR process.

Thus, Compact is designing a prototype pilot plant. The status of this effort is that in October 2006, Compact announced an agreement with Petrobras, the Brazilian government-backed oil company, to build a pilot scale demonstration unit to produce up to 20 bbl/day of syncrude. Testing was scheduled to begin in 2008 at an onshore Petrobras production site (although it appears to have been delayed, with construction of the 20 bbl/day pilot now planned to begin in the Autumn of 2008; it may have been indirectly delayed by an explosion at Compact's laboratory in the UK, after which Compact relocated its facilities away from the Oxford area up to Wilton, a more industrial site in the Northeast of England). If the onshore construction and operation of the pilot plant proceeds successfully, it is planned to be moved to an offshore facility in 2010. Compact plans to continue this development program with a commercial GTL plant after that, but at present no timing or other details have been announced. In Nexant's view, Compact is the closest competitor to Velocys' efforts in the GTL/FT arena, but we conclude that Velocys' technology and state of development has some significant advantages, including smaller scale and estimated capital costs, over Compact's. Nevertheless, given the size of the industry opportunity to convert stranded or flared methane to Gas-to-Liquid fuel products, we believe that there is more than enough room for a number of competitors.

Heatric

Heatric is a leading supplier of compact heat exchangers, serving a wide range of markets in the oil, gas and petrochemical industries where they have supplied heat transfer products. Heatric uses microchannel printed circuit technology which was invented as a result of research performed at the University of Sydney. This technology is mainly used for manufacturing printed circuit heat exchangers, although Heatric is attempting to extend that focus. Thus, in Nexant's opinion, Heatric is not a direct competitor of Velocys.

Chart

Chart's energy & chemicals unit is focused on process equipment, primarily heat exchangers cold boxes and LNG fuel systems. They are a global leader in industrial gas, hydrocarbon, LNG, petrochemical processing and refinery expansions. Chart has integrated a heat exchanger technology into reactors for the GTL and other industries. Chart's designs integrate temperature control of the reaction by using unique reactor designs of metallurgical bonded shims ("Shimtec") or plate fin concepts ("Fintec"). We understand that Chart has sold only one or two reactors, one many years ago, and does not focus on developing processes for their reactors. Thus, in a manner similar to Heatric, Chart is not a direct competitor of Velocys.

IMM

IMM is a cross-sectoral research and development service-provider based in Germany that develops analytical chemical systems, bridging the divide between basic research and application purposes. IMM jointly develops, with and for the chemical industry, system

technology to solve complex analytical or procedural problems and solutions, principally for biomedical analysis and diagnosis. IMM has developed prototypes for microfluidic solutions in the fields of bio-analytical and industrial analysis. Thus, IMM is working at the same microscale as Velocys, but is not a competitor to Velocys with regard to fuels and commodity chemicals.

Alfa Laval

Alfa Laval is a respected name in chemical engineering flow dynamics, heat exchange and reactors, and has been researching and developing a concept known as its ART® Plate Reactor. This has some general similarity to MPT, but our understanding is that it is not as close to the micro scale as MPT. Furthermore, Alfa Laval is designing and demonstrating this technology as a substitute for batch reactors in specialty and fine chemicals. Thus, it is not a competitor of Velocys in MPT.

Evonik

Evonik uses falling film microreactors which were developed by IMM, and which are standard reactors used for gas-liquid reactions. Evonik and u.Pro.Chem, the joint venture research project team, have been developing micro process engineering for process intensification of chemical reactions. Their pilot plant's main feature is an exchangeable micro structured reaction module, and it commenced operation in the third quarter of 2007. In Nexant's opinion, we do not see Evonik as a significant competitor of Velocys for gas phase reactions with high heat transfer, such as with FT and SMR.

2.5.2 *Competitors in GTL operations*

Royal Dutch Shell plc ("Shell")

Shell has an operating GTL plant in Malaysia ("Bintulu") that has been in operation since about 2000. Shell is currently involved in the building of the world's largest GTL plant in Qatar in the Middle East. At the Bintulu plant, Shell technologists have said they have the confidence to scale up to a world scale 140,000 bbl/day GTL plant planned to be operational in Qatar towards the end of the decade. This 140,000 bbl/day Pearl GTL Project is also planned to produce 260 ktpa (thousand metric tons per annum) of Shell GTL Normal Paraffin, the first tranche (130 ktpa) of which is thought to be planned to become available to LAB producers around 2009.

Sasol Limited ("Sasol")

Sasol Chevron Limited uses the Sasol Slurry Phase Distillate™ ("SPD") which consists of the typical three main steps of synthesis gas formation, FT conversion and product treatment/upgrading. Sasol Slurry technology requires approximately 10,000 standard cubic feet of natural gas to produce one barrel of GTL product. The product ratio from the SPD process is approximately 70 per cent. diesel and 30 per cent. naphtha. A joint venture between Qatar Petroleum (51 per cent.) and Sasol (49 per cent.), ORYX GTL in Qatar is the first low temperature FT GTL plant outside South Africa. They expect to increase the capacity of this plant to about 100,000 bbl/day. Also under construction in Nigeria is the Escravos GTL (EGTL) project. Sasol also has its own iron-based FT technologies (High Temperature FT as implemented at Secunda, and Low Temperature FT, e.g. Mossgas, now Petroleum, Oil and Gas Corporation of South Africa ("PetroSA").

Others

Rentech Inc. ("Rentech") has developed and patented the Rentech process which they claim is an advanced version of the FT process. Rentech has also developed an iron-based catalyst for FT applications.

Syntroleum Corp ("Syntroleum") had also been attempting to develop one or more GTL projects around the world since the late 1990s, and in early 2007 signed a non-binding memorandum of understanding with the China Petrochemical Technology Company ("Sinopec") to advance FT technology in China. Nevertheless, lately we understand that Syntroleum appears to have shifted its focus away from GTL toward potential niche specialty applications of its technology and may possibly be exiting GTL development altogether. Syntroleum's offered technology was more or less conventional, but used air rather than oxygen in the partial oxidation of methane ("POX") step, at the expense of moving even more total gas through their process.

Ivanhoe Energy Inc. ("Ivanhoe") and Egyptian Natural Gas Holding Company ("EGAS"), the state organization charged with the management of Egypt's natural gas resources, signed a memorandum of understanding regarding a GTL plant in Egypt. Ivanhoe holds a GTL licence from Syntroleum, but we have not been able to confirm the status of this and suspect that the development may have slowed or stalled.

A University of Witwatersrand FT research consortium includes Golden Nest Technology Group (China), Linc Energy Ltd (Australia), ENI S.p.A ("ENI") (who are also working with IFP) and StatoilHydro ASA (who have a partnership, and joint pilot facility with PetroSA at Mossel Bay), indicating other companies are still active in the field.

Choren is a European company focused on developing biomass sourced fuels and chemicals. It has developed an advanced gasifier design, its Carbo-V Process and has a demonstration facility under construction to have a capacity (planned for 2009) of 300 bbl/day.

Axens is a European company (which was formed through the merger of IFP's technology licensing division and Procatalyse) that is well known for its longstanding petrochemical and petroleum refining technology. It has been involved in developing GTL technology in a joint venture with ENI, and has operated a pilot plant for a number of years. We understand its interest is to be in large scale GTL plants, and therefore it is not a direct competitor to Velocys.

GTL.F1 is a joint venture owned by Lurgi, Statoil and PetroSA, with the role of marketing and licensing. It has been pursuing large scale GLT projects for a number of years, based on many years of laboratory research by the owners. However, its focus has been on large scale GTL projects and, to Nexant's knowledge, they have not announced any projects, even new demonstration units, within the last couple of years, although they had been pursuing a project in Iran. Thus, Nexant concludes that GTL.F1 is not a direct competitor to Velocys.

2.5.3 *Competitive intellectual property activity*

Nexant concludes that based on the technical details of the patents that we have been able to find, and other information in the public domain, Velocys appears to have a very strong patent position for the areas of key interest to them, i.e. high heat flux processing for oxidation, SMR and FT type reactions. One illustration of this is that for total patent filings (essentially granted plus pending) in microreactor technology (a common industry term for MPT, but perhaps somewhat broader), a paper (by Hessel, of Eindhoven University, and Knoblock and Lowe, affiliated with IMM) that was published in 2008 states that Battelle and Velocys combined have 264 patents. Nexant understands that a substantial number of Battelle patents are licensed to Velocys, as explained in Part II, section 2.4 of the admission document of which this report forms part and references in this report to Velocys' technology (or similar phrases) should be read as including patents used by Velocys under licence. The next leading company with patents in this technical area is Merck & Co., Inc. ("Merck"), the large pharmaceutical firm, with 144, whose focus is entirely different from Velocys'.

During the period of 1991 to 2007, "microreactor" (another term sometimes used generally interchangeably with microchannel and MPT) patent applications and grants increased significantly. Most patent publications were disclosed in the US, Germany and Japan, in the

form of international patent applications. China has seen a strong increase in activity while European countries other than Germany have recently seen little to no new patent activity.

The top ten active patentees in microreaction engineering, in the order of the number of patent filings, have been Battelle plus Velocys, Merck, Forchungszentrum Karlsruhe GmbH, Uhde, Siemens AG, Casio computer Co., Ltd., Evonik, BayerAG, IMM, and Clariant International Ltd. Organic chemistry which includes macromolecules is the dominant field of application. Merck's patents are generally focused on pharmaceutical applications.

Xerox Co. Ltd, Kobe Steel Ltd, National Institute of Advanced Industrial Science and Technology (Japan, "AIST"), Ricoh Company Ltd and Hitachi Plant Technologies Ltd, have acquired or are in the process of acquiring patents for microreactor technology for use in various specialty applications.

IMM, Integrated Chemical Synthesisers Inc, NGK Insulators Ltd, Unilever PLC and Battelle Memorial Institute filed patents on table top systems with general technique approaches. Insititut fur Angewandte, Mitsui Chemicals, Inc., Micro Chemical System Ltd, Konica Minolta Holdings, Inc., Konica Minolta Medical & Graph, Fuji Photo Film Co. Ltd and IMM have filed patents on table top systems used in specific systems.

Nexant's review has been focused on the technical claims of the patents, and we make no opinions about the legal issues with patents or potentially competing patents, but we conclude that, including the IP licensed from Battelle, Velocys' technical patent position is strong and we have not found a significant technical competitor in Velocys' areas of key focus.

2.6 ***Technology applications***

2.6.1 *Key industry issues*

There are a few key technology issues that are very important in the industry and which Velocys' technologies are focused on solving:

- high capital costs for GTL process technology (the combination of SMR or POX and Air Separation Unit ("ASU"), FT, and product treating); this has been a critical factor as to why the great interest in GTL over the last ten years has resulted in so few operating GTL plants;
- high capital costs of conventional SMR processing; this has driven companies to plan larger and larger GTL facilities in order to get economies of scale, since, for example, if the capacity of a new plant is doubled, the capital cost would typically not double, but increase by a lower proportion, perhaps only by 60 per cent. to 75 per cent. (the "exponential scale factor" relationship);
- the inability in the industry to economically build small GTL plants, since with conventional process technology a negative economy of scale is suffered when building a smaller plant; for instance, if a conventional plant is scaled down to 25 per cent. of its typical size, total capital costs would be generally expected to be reduced to only about 40 per cent. of the typical plant size; the result is that the smaller plant will have capital costs per unit of annual capacity that are about 65 per cent. higher than the typical larger plant; the application of MPT to GTL plants is anticipated to greatly improve the economics of scale down without such a large increase in unit capital costs; and
- with the much higher prices for crude oil, natural gas and other chemical feedstocks, there is a renewed drive to increase unit product yields more than ever before; at the same time, the drive to reduce greenhouse gas emissions is also pushing demand for more effective and efficient processes.

Many chemical processes have evolved over a number of decades and have become quite mature, with the result that there are relatively few opportunities to increase efficiencies and

yields without employing new technologies. Better catalysts and more effective chemical reactor approaches, such as Velocys' MPT, are among a handful of fundamentally new approaches that offer high potential.

The presently available conventional technology for synthetic fuels does not scale down efficiently, as has been discussed earlier in this Report. As a result, producing synthetic fuels on a smaller scale using FT processing in GTL and other plants has been expensive compared to the economics that are obtainable with very large facilities. But there are many situations in the global petroleum industry with small gas fields or flared associated gas that are not of a sufficient size for a large GTL plant. Velocys' MPT technology has inherent attributes that are expected to allow cost effective scaling down. As a result, Velocys' technology is expected to facilitate the production of synthetic fuels economically on a small scale in many sites and situations. This will be a good fit with regulatory and industry trends. In Nexant's opinion, as explained in this report, Velocys' technology and MPT reactors for FT applications are considered to be the nearest to commercialization, while its SMR technology most likely will follow on next.

2.6.2 *Fischer-Tropsch*

2.6.2.1 **Reactor design and operation**

The concept behind the Velocys FT reactor for production of liquid fuels is that there are capital cost and operating advantages for the FT reactor as compared to commercially available conventional reactors, in particular when operating with high activity catalysts, such as that from OCL.

Velocys claims the following FT reactor and catalyst attributes, some of which are superior to conventional FT reactor technology:

- higher carbon monoxide conversion; this relates to higher yield, lower raw material consumption (synthesis gas), and lower level of unwanted carbon dioxide production;
- higher catalyst productivity;
- lower reaction temperature and shorter contact time necessary to achieve desired yields;
- catalyst useful life presently estimated at two years, and in-situ catalyst regeneration capability; and
- high chain-growth factor (a).(1)

(1) In general the product distribution of hydrocarbons formed during the FT process follows an Anderson-Schulz-Flory distribution, in which a is the chain growth probability or the probability that a molecule will continue reacting to form a longer chain. A lower á relates to an increase in the production of unwanted methane.

2.6.2.2 **Catalyst productivity**

Nexant agrees that all of these design and operating features are beneficial toward reaction efficiency and lowest cost of production. Nexant also agrees that Velocys' claims of advantage relative to conventional technology are supported, as summarized in Table 2.2. The performance of Velocys' MPT FT technology was recently demonstrated in a nominal 2 gallon per day reactor that has operated for over 3,000 hours. The reactor feature comparison in Table 2.2 compares Velocys' MPT technology at present to the state of the art conventional technology for a tubular reactor using a fixed catalyst bed. As compared in Table 2.2, Nexant agrees that Velocys has a significant advantage in one-pass carbon monoxide conversion, an important determinant of raw material yield and operating costs, but otherwise Velocys' FT

technology compares closely to the conventional technology, except for Velocys' much higher catalyst productivity. (Catalyst productivity is the amount of product made per unit amount a catalyst. A higher catalyst productivity allows a smaller and more economical reactor to achieve the same amount of production.)

Table 2.2 FT Reactor Features

	Velocys' FT Technology	*Nexant's View of Conventional FT Technology*
Reactor type	Microchannel	Tubular
Catalyst, nature of bed	fixed bed	fixed bed
Temperature of the reactor, °C	210-240	210-230
Hydrogen: carbon monoxide ratio	2.1	2.1
Carbon monoxide, % conversion per pass	**>70**	**45-60**
Catalyst productivity, $kg_{prod}/kg_{cat}/hr$	**1.53**	**0.05-0.09**
Selectivity: $\%C_5+$	78-82	81-94
Selectivity: $\%CH_4$	<10	not publicly available
Alpha ratio	0.89-0.92	>0.9
Contact time, msec	<250	not publicly available
Catalyst life, years	to be determined	2

Source: Nexant estimates and Velocys test data.

Regarding catalyst productivity, which is a key factor in designing a superior FT reactor, including using MPT, Velocys has provided Nexant with its own test data, as shown in Figure 2.2, for its MPT ("MC") reactor and OCL's FT catalyst, showing a catalyst productivity of about 1,500 kg product/m^3 catalyst/hr. This contrasts with much lower estimates with which Nexant agrees for the catalyst productivities of the commercial conventional FT technology for fixed bed and slurry bed FT reactor catalysts.

Figure 2.2 FT Catalyst Productivity
(Conventional technology catalyst, compared to Velocys' MPT)

Source: Nexant estimates and Velocys test data.

Thus, Nexant agrees that Velocys and OCL have a decided advantage in catalyst productivity. The catalyst productivity advantage for Velocys' MPT FT technology is very pronounced versus the conventional fixed bed FT design, with a productivity ratio advantage for Velocys of 17:1 based on Velocys' productivity factor ($kg_{prod}/kg_{catalyst}/hr$) data for their design and Nexant's estimated data for a major fixed bed FT design (Shell). Nexant believes this is a significant advantage that will result in lower operating costs and capital costs for Velocys' MPT FT.

Velocys also has a significant productivity advantage compared to the conventional commercial slurry reactor design. Nexant notes that each reactor type is designed with

many factors in mind that are dictated by the type of reactor, such as catalyst activity, heat removal, contact time, particle size, catalyst attrition and filtration (for the slurry reactor), etc. In this case, Velocys has an almost 7:1 productivity advantage versus conventional slurry. Further, for the type of smaller scale FT application that is Velocys' initial high-priority target market, using a slurry type reactor would be problematic (its height and slurry bed would be problematic on floating vessels, and its operational complexity would be a difficulty in remote locations, whether onshore or offshore).

The alpha value, which is an important variable for the production of the desired product range, is similar for both Velocys and conventional technology, with no advantage for either.

Catalyst life is a very important consideration when comparing long-term cost competitiveness (and also issues of catalyst regeneration and plant shutdown, if the catalyst is not regenerated in-situ). Nexant is aware that at least one FT slurry reactor licensor claims a two year catalyst life, and we also understand that a licensor may be claiming a five year life under some conditions. (Although there has been anecdotal information in the industry about issues with catalyst attrition in conventional slurry reactors.) At this time in the technology development, Velocys has no firm estimate of catalyst life in MPT. Velocys does, however, feel confident that it can achieve two years, which would make their MPT generally competitive with conventional technology. This view is supported by the fact that the OCL catalyst in Velocys' MPT has shown more stability than other catalysts. We note that to date Velocys' latest long MPT FT lab pilot run has reached over 3,000 hours and the OCL catalyst has exhibited very little performance decay. This is logical given the superior temperature control with MPT and, in Nexant's experience, the data to date would indicate that Velocys ought to be able to achieve at least a two year catalyst operating life, and also has excellent prospects to achieve catalyst life of up to five years. Velocys has agreed with us that this is an important factor to be addressed in its ongoing development efforts.

2.6.2.3 **Selectivity**

Velocys' MPT FT C_{5+} selectivity is slightly lower than reported for the conventional commercial benchmarks, but in Nexant's judgment this appears to be a function of Velocys' business focus rather than any MPT limitation. Velocys is focusing, in the near term, on smaller volume natural gas reserves for which the goal is to monetize the gas rather than burn it or leave it un-produced. This is an area for which the large-scale FT (and GTL plant) designs aren't as suitable economically because the conventional fixed bed and slurry FT reactors don't scale down in size as cheaply as Velocys' MPT.

Velocys' developmental design philosophy until now has been to minimize capital cost for these applications at the expense of some C_{5+} selectivity. For instance, potential pulp and paper clients that they are dealing with will be able to utilize the tail gas (lighter than C_5) produced in the FT reactor and there would be minimal if any advantage in converting a higher percentage to C_{5+} selectivity at the expense of higher capital cost (the higher capital cost is largely in the form of additional gas compression).

Nexant agrees that the Velocys design philosophy for smaller FT (GTL) applications is sound and valid, utilizing the inherent advantages of the MPT reactor (especially in combination with the OCL high activity catalyst) and that Velocys has a conceptual design and cost advantage compared to the conventional fixed and slurry bed FT reactor designs in that the conventional designs do not scale-down as economically as the Velocys MPT FT reactor. Additionally, Velocys believes that if it operated its MPT FT reactor at similar operating conditions as the conventional fixed tube and slurry reactors, they would likely attain a similar C_{5+} selectivity. This claim appears reasonable to Nexant.

Velocys faces limited competition for its target high-priority offshore and onshore smaller scale niche markets because: (1) the conventional licensors are focusing on the large scale units; and (2) the more complex slurry reactor is somewhat problematic in small scale and especially for offshore applications.

In summary, Nexant agrees with Velocys, based on the data presented by Velocys, that their FT reactor design potentially represents a major improvement versus conventional FT reactor design, whether the latter is for a slurry or fixed bed tubular reactor. The advantages of the Velocys MPT FT reactor will most prominently result in higher synthesis gas yield, the ability to employ higher catalyst activity and excellent (though not necessarily superior) hydrocarbon production range and production of desirable products. Please note that Velocys shared with Nexant a letter of support from MODEC recommending Velocys for the Ohio Third Frontier Alternate Energy Program, and citing their promising partnership for FT development. This letter is provided in the Appendix and indicates that an important energy industry company also has concluded that Velocys has very promising advantages in its FT technology.

2.6.2.4 **Scale-up**

The Velocys design does have several potential scale-up to commercial size challenges, such as repeatable fabrication, design of manifolds for multiple reactor blocks, qualification of catalyst supply vendors, and efficient catalyst loading and regeneration. These issues are important not only for the operation of the reactor within the Gas-to-Liquid (GTL) facility, but also to attain the performance levels indicated from the lab runs. Nexant does not believe that any of these issues are technological barriers, but their successful designs are important to the commercial success of the MPT FT reactor concept. Based on our interviews with key Velocys personnel, Nexant believes that all of the proper and prudent steps are being taken to ensure reasonable and effective design approaches to handle these scale-up issues, which in any event are normal issues for chemical and energy processes.

2.6.2.5 **Proposed applications**

Due to the relative advantages of the MPT FT reactor design, Velocys is, logically at this time at least, targeting smaller volume synthesis gas feed applications. Based on the information presented to us, Nexant agrees with this strategy and that the MPT design and corresponding capital cost advantages will best be served initially in this market application. We conclude that Velocys' MPT FT technology is most dramatically advantageous for smaller scale, of 5,000 bbl/day and below, and that is why Velocys is targeting this very substantial opportunity first.

Velocys discussed three general targets:

- Biomass-based liquid fuels ("BTL")
  - Velocys would likely partner with a biomass gasifier licensor or existing gasifier to provide synthesis gas to the FT reactor;
- Offshore (ship or platform mounted) GTL
  - Velocys plans to combine both its MPT SMR (see below) and FT reactors, to maximize the advantages both would bring in terms of smaller "plot plan" footprint and height;[(2)]
- Onshore GTL
  - Velocys plans to utilize its MPT SMR in conjunction with its FT reactor.[(1)]

(1) The current offshore technology agreement with Toyo Engineering/MODEC delivers a combined MPT FT/SMR technology. However, a backup approach would be to partner with a conventional SMR licensor to provide synthesis gas to the Velocys MPT FT reactor.

While the Velocys MPT FT technology has advantages due to its smaller size and its stability for offshore applications, a much larger advantage will come from the combined SMR/FT microchannel facility. The small footprint, lower height, and lower weight attributes can be highly advantageous on a ship versus conventional technology. Also advantageous for the Velocys SMR will be the absence of an oxygen requirement in the Velocys SMR process design, eliminating the large and hazardous ASU as a required source of oxygen. (It should be noted that any commercial SMR when used with the Velocys FT design eliminates the need for an ASU, but there are size and weight disadvantages attached to conventional SMR design that are more problematic for a ship board application).

Velocys believes that the MPT FT reactor has capital cost advantages relative to the conventional slurry or fixed bed reactors at the targeted capacity envisioned (500 to 5,000 bbl/day) for Velocys' current primary focus (see also reference in Appendix A).

Nexant agrees with these assertions and believes that they will result in cost and operating advantages for the Velocys technology (and increasingly so when combined with the Velocys SMR) as it applies for these smaller capacity target applications.

Velocys also claims that their MPT SMR/FT combination brings an added and significant advantage to offshore applications:

- a layout (footprint and height) advantage that is especially advantageous for offshore applications;
- less susceptible to wave motion;
- improved yield to valuable products; and
- no oxygen plant (as allowed by the Velocys SMR technology).

Nexant agrees that the smaller weight and profile of the MPT reactor, along with its superior performance attributes, lends itself to better applicability on a ship compared to conventional technology.

For a complete classic GTL application, a full shipboard GTL would still have the SMR, post-reaction hydrotreating and utility sections of the complete GTL plant, which themselves may have issues in regard to shipboard motion and stability. On the other hand, the eventual combination of the Velocys MPT SMR and FT will have a distinct advantage for offshore, onboard applications in that both offer the small size, weight and profile advantages, as well as the absence of the ASU requirement.

Further, Velocys' initial high priority market for offshore (shipboard) GTL is for a smaller scale GTL to utilize the associated gas that is co-produced with crude oil. In such an application, it will be most likely possible and preferred to forego the hydrotreating/hydrocracking section (for the FT wax product), but rather merely blend the complete FT liquid product mix (syncrude) into the crude oil stream for shipment as crude oil. In fact, this would be an incremental upgrade to nearly all crude oil streams in quality as well as in volume. Most likely, the GTL project would be able to avoid having its own utility equipment as well, since the small scale GTL plant could piggy-back off the oil field production platform or shipboard utility system.

In addition to opportunities for Velocys' MPT GTL to upgrade associated gas, the large number of smaller natural gas fields, especially those below 0.5 TCF as indicated in Figure 4.4, also represent a large opportunity for GTL technologies such as Velocys'.

2.6.3 *Steam methane reforming*

2.6.3.1 **SMR reactor**

Velocys is developing a MPT production system for SMR to produce synthesis gas. The near term goal is for Velocys' SMR to be used in conjunction with their FT process/reactor with the goal of creating an integrated MPT system for GTL applications. In the longer term, Nexant believes that Velocys' MPT SMR also has potential for application to syngas-based chemicals, such as ammonia, methanol, formaldehyde, hydrogen and oxo-chemicals, among others.

Current GTL projects have capacities in the range of 15,000 to 154,000 bbl/day liquids. As a reference point, we note that a syngas capacity required for a typical 15,000 bbl/day GTL application is estimated at 0.7 million Nm^3/hr.

Nexant agrees that most technologies, including conventional FT and SMR processes, do not scale down in size well as far as capital costs are concerned. This is due to the fundamental nature of conventional reactor equipment, which on scale up enjoy capital cost economies per unit of capacity, but which on scale down suffer significant increases in the unit capital cost. Since most developmental work is geared towards continually larger plants, little effort by the global industry has been focused on smaller applications. Although some competitors are developing "compact" technologies, these still appear to be larger than Velocys is targeting. Velocys' technology addresses these smaller applications and Nexant agrees that the Velocys claims of advantage relative to conventional technology are largely accurate.

Velocys' current designs show that their MPT SMR reactor is 90 per cent. smaller than a traditional reactor for the same capacity. For offshore applications, this is certainly an advantage. It would also be advantageous at any site with space limitations. Velocys estimated that syngas production represents 50 per cent. of the capital cost for a conventional GTL plant. Nexant's own estimates confirm that syngas is the largest component of capital cost for a total conventional GTL plant (inside battery limits). Therefore, since all technologies can produce the required gas composition, capital cost becomes an overriding consideration and the Velocys MPT SMR has a strong advantage. Assuming successful commercialisation, this would put Velocys in a very advantageous position.

Velocys has developed catalysts specifically for MPT reactors, including catalysts for steam methane reforming and fuel combustion. Catalyst development for steam methane reforming is further along than the catalyst for combustion. The data presented to Nexant indicates good progress in the area of catalyst development, but additional optimization work is ongoing.

2.6.3.2 **Syngas technologies**

Conventional syngas production technology is well known and employed at very many facilities worldwide. Thus, the industry situation with regard to SMR is considerably different than with FT. This section provides a brief summary of the existing technology.

The production of syngas from natural gas is well known and is accomplished by a variety of technologies and designs, and all can be used to produce the syngas required for FT synthesis. The most common syngas production processes include SMR, POX, catalytic partial oxidation (CPO) and autothermal reforming (ATR, a combination of SMR and POX).

All of these technologies have been commercially demonstrated and/or utilized in the design of GTL processes, by companies such as BP, Shell, Conoco Phillips,

ExxonMobil, Rentech, Sasol, Statoil/PetroSA, and Syntroleum. Each commercial technology has slightly different process features. For instance, in conventional SMR, the steam reforming reaction occurs over a catalyst packed into tubes (a very large number). The reaction is highly endothermic, needing high temperatures and tubes heated by burners in a furnace type configuration. High steam-to-carbon ratios are needed to improve methane conversion and to inhibit carbon deposition on the catalyst. The other conventional technologies are all fundamentally large-scale type technologies that are designed to accomplish the same purpose as the conventional SMR.

The preferred synthesis gas (syngas) composition for FT synthesis is about 2:1 H_2:CO with a slight excess of hydrogen preferred. Conventional SMR produces hydrogen-rich syngas with an H_2:CO ratio of about 3:1. The conventional process that directly produces the ratio closest to optimum is the POX. POX typically requires a supply of oxygen, usually via an ASU, a rather expensive unit built specially for the POX.

ATR combines steam methane reforming and partial oxidation. While oxygen is still required, the size of the ASU is reduced. The Syntroleum design includes ATR, but uses air instead of oxygen. Although this eliminates the cost of the oxygen plant, it increases the size and cost of the reformer due to the higher volume of gas being handled as a result of the large nitrogen content of air. The relative advantages and disadvantages of the syngas production technologies, especially as related to the production of the syngas required for FT synthesis, are summarized in Table 2.2.

Table 2.2 Syngas Technology Summary

Technology	*Licensor*	*Advantages*	*Disadvantages*	*Efficiency (MMBtu/ MSCF syngas)*
Steam Methane Reforming (SMR)	KBR, Kvaerner, Jacobs, Lurgi, Others	1) no oxygen plant needed 2) mature, well-proven	1) limited single-line size 2) high energy consumption	0.4005
Partial Oxidation (POX)	Chevron Texaco, Shell, Lurgi	1) good control of H2/CO ratio 2) mature technology 3) low complexity	1) large oxygen requirement 2) needs oxygen plant	0.3745-0.3780
Autothermal Reforming (ATR)	KBR, Haldor Topsøe, Lurgi	1) increased thermal efficiency 2) desired SN ratio 3) low energy consumption 4) large line capacity	1) needs oxygen plant 2) high complexity	0.3590
Compact Reformer (CR)	BP/Davy	1) no oxygen plant needed 2) smaller layout 3) lower capital cost	1) reactor life	0.3439
Fluidized Bed (FBSG)	ExxonMobil	1) high thermal efficiency 2) desired SN ratio 3) smaller layout	1) catalyst attrition 2) lower methane conversion	0.3550
Microchannel (MPT)	**Velocys**	1) no oxygen plant needed 2) smallest layout 3) lower capital cost	1) no large scale demo	**0.0388**

(Source: Velocys data and Nexant estimates)

We note that in Table 2.2 the dramatic advantage for the efficiency of Velocys' MPT SMR which is due to the integration of the MPT SMR reaction and heat exchange such that the syngas exits the reactor at a much lower temperature than with conventional technology, and this allows capital cost savings as well.

In addition to the advantages shown for MPT in Table 2.2, economic scale down, will, in Nexant's opinion, prove to be a decisive advantage in smaller scale applications. Velocys' pilot test data for their MPT SMR technology compares very favorably with the conventional process routes on the key parameters of methane conversion percentage, CO selectivity and the effluent composition, and is also consistent with the other important process parameters from conventional technology, as shown in Table 2.3. Based on our review, including the data shown, Nexant believes that Velocys has a highly promising technology application for its MPT in the area of SMR technology, with the only disadvantage at present being that it has not been commercially demonstrated.

Table 2.3 Syngas Technologies Technical Comparison*

	Conventional Steam Methane Reforming		*Conventional Partial Oxidation*	*Velocys Pilot Test Data*	
	Without CO_2	*With CO_2*		*Tokyo*	*Venus*
Methane conversion, %	85.4	80.4	99.3	88.6	79.0
Steam to reformer/reactor, mol/mol CH4	2.8	2.8	0.5	2.64	3.07
Preheat temperature, °C	370	370	371	**301**	**220**
Reformer/reactor exit temperature, °C	886	886	1,427	402	380
Reformer exit pressure, barg	24	24	30	19	22
Effluent composition, dry basis, vol %					
Carbon monoxide	16.4	20.1	34.5	20.0	13.4
Hydrogen	74	68.3	62.4	59.8	73.0
Carbon dioxide	6.2	8.6	2.8	10.9	8.3
Methane	3.4	3.1	0.3	2.6	5.8
Stoichiometric number (SN)	3.00	2.09	1.6	1.28	2.75
H2/CO, mol/mol	4.50	3.40	1.81	2.99	5.45
Approach to equilibrium, °C	22.2	22.2	100	**18**	**9**

* Source: Velocys data and Nexant internal estimates.

Note : Tokyo and Venus are project names for two of Velocys' development partnerships.

The data shown in Table 2.3 indicates how comparable Velocys' SMR process results are to the conventional technology, except for Velocys' advantages in lower reformer exit temperature and closer approach to equilibrium. Combined with the expected economics in capital cost and the other advantages in Table 2.2, this leads Nexant to conclude that Velocys has excellent prospects for success with its MTP SMR process.

2.6.4 *Chemicals*

Velocys has targeted gas phase chemical reactions that involve oxidation and also high heat transfer as the most promising type of chemical process for its MPT, particularly in instances in which catalyst selectivity or life falls as temperature increases. Nexant agrees with those criteria, due to the high reaction rates for oxidation reactions, especially when catalyzed. Nexant concludes from the information that Velocys has shared regarding its work on the production of ethylene oxide (EO), that its MPT technology has advantages for this. EO, an important basic chemical that is used to make both automotive antifreeze and polyester, as well as many surfactants/detergents. The production of EO is an exothermic gas phase oxidation reaction with high heat transfer rate requirements, and is also broadly illustrative of the type of chemical production application for which Velocys logically can use its MPT technology. Velocys shared data with Nexant for Velocys' MPT producing EO, at a lab pilot scale, that is very promising.

With the above mentioned criteria of gas phase oxidation reactions, Nexant believes that the following products should offer good opportunities for Velocys:

- purified terephthalic acid, presently made conventionally via p-xylene oxidation;
- ethylene oxide, presently made conventionally via ethylene catalytic peroxidation;
- hydrogen peroxide, presently made conventionally via the anthraquinone process;
- methyl methacrylate, presently made conventionally via isobutylene oxidation;
- acrylonitrile, presently made conventionally via propylene amoxidation;
- vinyl acetate monomer, presently made conventionally via ethylene oxidation;
- ethylene dichloride, presently made via ethylene oxychlorination or direct chlorination;
- maleic anhydride, presently made via catalytic oxidation of n-butane; and
- additional such products with potential applicability are phenol, acrylic acid, adipic acid, phthalic anhydride, formaldehyde, propylene oxide (via the hydrogen peroxide – propylene oxide route), acetic acid and styrene.

In summary regarding chemicals, in Nexant's opinion the production of chemicals offers Velocys substantial opportunities for successful application of its MPT, due to MPT's inherent advantages for applications involving high heat transfer and high chemical reaction rates in an economical reactor size.

2.6.5 *Emulsification*

Velocys has shared with Nexant information and a descriptive presentation and discussions on the potential applications of their MPT for producing emulsions.

An emulsion is a dispersion of one liquid in another, immiscible liquid, usually in the presence of stabilizer molecules called emulsifiers. Emulsions may be either oil droplets dispersed in water or water droplets dispersed in oil, wherein the droplet diameters are in the 0.05–100-μm range. The droplets are usually formed by high shear mechanical processes and stabilized against coalescence by electrostatic and/or steric barriers around the droplets provided by the emulsifiers. The creation of an emulsion is usually a high power consumption process step. Emulsions are encountered in a very wide range of applications including food (milk and mayonnaise), personal care and household products (cold cream and furniture polish), coatings (latex paint), pharmaceuticals (lipid emulsions), agricultural chemicals (emulsifiable concentrates), and road surfacing (asphalt).

Emulsification is often considered more of an art than a science, but this is not completely true and there are several limitations to conventional emulsification technology:

- difficulty in achieving a uniform droplet size distribution with average small droplet size at a reasonable power consumption (necessary for the emulsion to be stable over time);
- large quantities of hydrophilic surfactants required to effect solubilisation;
- high power consumption; and
- fairly complex equipment (such as "shearmills", mixing valves, mixing pumps).

Velocys has demonstrated that its MPT reactors are uniquely suited for emulsion formation, due to the high shear zones inherent in liquid flow through the MPT configuration. Data presented by Velocys suggests that the MPT technology can produce emulsions over a wide range of droplet size, with good (uniform, as opposed to "spikey") droplet size distribution, at

high shear rates and at lower electric power consumption than conventional emulsification techniques.

There is little quantitative data regarding emulsion formation and subsequent product manufacture for the personal care product area on which Velocys is presently focusing. This information is closely held by the producers who keep it proprietary since it is fundamental to their product formulations, making it difficult to compare conventional approaches to Velocys' MPT emulsification in a quantitative manner.

However, Velocys has applied its emulsification technology to commercial formulations with a personal care product manufacturer. This producer is using a Velocys MPT unit for pilot-scale product development and has expressed the opinion that the MPT is superior to conventional commercially available systems. Velocys has received other inquiries for this pilot-scale MPT system and it appears that there will be a market for this size unit within this industry as the technology becomes more actively marketed.

Velocys also plans to scale the unit up for larger commercial applications and Nexant believes this represents a significant opportunity. Due to Velocys' "number up" design philosophy, MPT emulsification should be as applicable to larger commercial scale as it is to pilot scale.

At this time, Velocys has clearly targeted the personal care industry. Nexant believes there are other industries that rely on emulsion technology that can ultimately be targeted. These include food, household products, coatings, pharmaceuticals, agricultural chemicals, and road surfacing asphalt.

It is difficult to quantify and not practical for Nexant to independently confirm the advantages that Velocys claims regarding droplet size and product stability. Product specification information for personal care products, especially cosmetics, is closely held and the effect of the Velocys emulsion technology applications will, we think, be somewhat different for each product. Velocys does claim, however, that its process allows for better control of emulsification and droplet size characteristics. This has been proven in field tests and is a valuable characteristic in the development of new products and modification and improvement of existing products. Because these are industry field tests and Velocys' explanation of the process of testing it has done makes sense to us, Nexant believes they are valid advantages.

Based on the information presented and reviewed, Nexant also believes that Velocys' MPT emulsification technology has an electric power consumption advantage. Although power is important, we believe that this cost advantage will not be a principal determinant in the selection of the technology in the initial target market. Health and personal care products exhibit large margins and, although cost savings are always important, the processing advantages of the Velocys technology that will allow improved product performance formulations will likely far outweigh the power cost advantage in the decision making process. The power cost savings, however, may be enough to allow companies to give Velocys a try, especially with all types of companies trying to be green considering industry drivers to reduce their "carbon footprint".

Nexant's overall opinion is that Velocys appears to have excellent prospects for a profitable line of business in MPT emulsification equipment.

2.6.6 *MPT reactor block manufacturing*

One core aspect of Velocys' MPT technology is their art, skill and patented technology for various designs and applications of their technology to their MPT reactors, i.e., "reactor blocks". The Velocys MPT reactors provide for performing chemical reactions in vessels that are significantly smaller than those conventionally used. The essential purpose for the small reactor dimensions is that with the reduced distances needed for heat and chemical reactants to travel, MPT can accelerate chemical reaction rates by "orders of magnitude", i.e. by 10-1,000 times. In addition, MPT's higher rate of heat transfer allows significantly greater control over the temperatures inside each reactor, which typically will result in higher efficiencies.

The basic building blocks of the Velocys MPT system are reactors, each with a large number of parallel and/or perpendicular microchannels. These reactor blocks, which individually have somewhat fixed capacities, can be added or removed from a plant design to match the capacity requirements of each total plant project. But, since the physical dimensions of each MPT reactor block designed for a type of application remain constant, commercialising the Velocys technology essentially involves "numbering up" (adding more MPT reactor blocks and connecting to headers), rather than the "scaling up" (increasing reactor dimensions) involved in commercialising conventional reactors and technologies. Due to this inherent attribute of Velocys' MPT technology, Velocys' technology minimizes the time, cost and risk of commercialising reactors and their associated catalysts.

The Velocys modular MPT reactors are in the fourth and final stage of development (commercial demonstration) for both FT and SMR. The prior three stages involved in commercializing the technology are: proof of principle; laboratory scale; and, pilot scale. Each one of the four stages typically takes between one and one and a half years to complete, if successful. One crucial step in the commercial demonstration of the technology is performing the reactor block production in a manufacturing environment, rather than in a customised one-at-a-time way. Although there is a lot of specialised art and science in making the reactor blocks, a critical step is essentially the welding together of all the shims, spacers and inlet and outlet manifolds into a single block with mechanical integrity and the correct flow patterns. Depending on the design operating pressure and temperature, and the resultant metallurgy used in the reactor block, one of the final steps is either brazing or diffusion bonding each block. Velocys presented to us their criteria and experience in using both techniques.

Due to its unique MPT reactor-block approach, as Velocys builds demonstration plants and licenses commercial sized MPT installations, it will involve manufacturing large numbers of reactor blocks of the same proven dimensions ("numbering up"). Since the reactor blocks will be shop-fabricated, this will allow efficient manufacturing techniques. For these reasons, Nexant expects that as Velocys commercialises its MPT and begins to manufacture significant numbers of MPT reactor blocks, it will likely achieve "learning curve" economies that will drive down the unit cost of manufacturing the reactor blocks.

Nexant has reviewed Velocys' test data, its cost estimates to apply its MPT technology on a commercial scale, and the extent to which they have investigated and studied the approach that they would use to manufacture their MPT reactor blocks. The net result of all of these benefits is improved returns on capital employed for a given size/type of plant, which presently appear to be as much 20 to 30 per cent. compared to conventional technology. Due to the modular nature of the Velocys MPT system, these benefits are expected to be achieved with both medium and small production capacities, but especially for smaller sized commercial scale units for both FT and SMR, such as with liquid syncrude production capacities of 5,000 BPD or less.

Thus, Nexant has reviewed the history of Velocys' MPT development and commercialisation to date, and in Nexant's opinion we expect Velocys to successfully and economically conduct the manufacturing of their MPT reactor blocks via carefully selected fabrication partners. The details of this next step are being actively analyzed and planned by Velocys at the present time.

3. Synergies of the Acquisition

OCL has focused on developing innovative high activity catalysts that provide for much more efficient chemical reactions. Such chemical reactions are the key steps in the development of energy resources and in producing energy and chemical products for the growing global market.

Velocys has focused on developing innovative and highly efficient MPT chemical reactor technologies and those technologies have their highest value-added potential in applications in which they use high-activity catalysts.

The global background to these very interesting technical developments at both OCL and Velocys, is that consumption of transportation fuels has grown strongly over the last ten years and is expected to keep rising for the foreseeable future, but especially for the next couple of decades. Production of alternative liquid fuels, including synthetic fuels from FT, is anticipated to grow even faster, reaching nine per cent. or more of global supply by 2030.

Nexant believes that the proposed acquisition would initially provide the following key benefits to the Company and Velocys (the "Enlarged Group"), particularly in the area of FT:

- provide an excellent fit for OCL's high activity catalysts to be accepted by the global industry and used in commercial applications;
- increase the likely speed of development for both firms in commercialising their respective technologies, and especially with regard to small scale FT plants. We conclude that small scale FT using the OCL and Velocys technologies should provide a much faster route to successful commercialisation for both OCL's FT catalysts and Velocys' MPT reactors and processes;
- reduce each company's risks in development and commercialisation. By combining the catalyst and reactor technology within one enlarged group, the Enlarged Group can provide more assurance to project sponsors that they will stand behind their FT reactors and the catalyst performance in them, as well as the integrated SMR and FT combination;
- provide critical mass of both catalyst and reactor technology and expertise that should widen the opportunities for both firms in attracting new partners and project sponsors. These would logically include all the principal firms worldwide involved in energy and chemicals, such as energy companies, engineering firms, process licensors, project integrators, and producers of fuels and commodity chemicals. For instance, by offering a combined catalyst and reactor performance guarantee, the Enlarged Group will be better able to overcome a project sponsor's inherent concern that any problems in bringing a new plant up to full operation could be hampered by disputes among separate firms providing these technologies;
- strengthen competitiveness. The Enlarged Group will benefit from a strengthened IP portfolio with access to over 180 issued patents (including those owned by, and licensed to, it) and a larger global presence appropriate to the global nature of the commercialization opportunities. Operating from both the US and Europe, we believe that the Enlarged Group will be better positioned to target the global market for synthetic fuels; and
- provide the right combination of skills and critical mass to potentially become one of the leading energy and chemical technology firms worldwide. This is due to the extraordinary opportunities that Nexant foresees in chemical process technology innovation over the next few decades as companies worldwide work to adapt to new challenges in both resource supply and environmental challenges, and our expectation that the Enlarged Group will successfully commercialise its technology portfolio. We anticipate that the structure of the global energy and chemical industries will change more quickly in coming years than at any time historically, but at least since the 1950 to 1970 time period, and we conclude that the Enlarged Group will be well configured to take advantage of these opportunities.

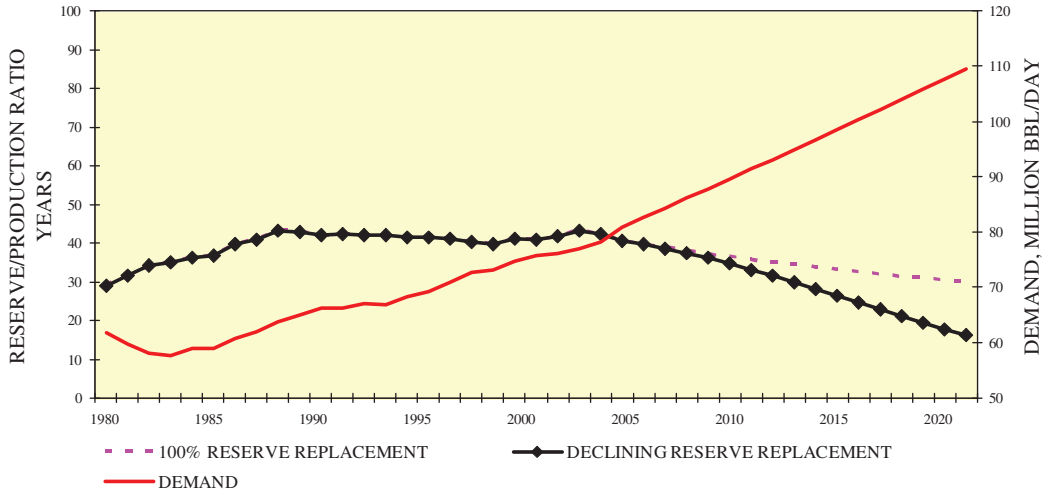
In Nexant's opinion, in addition to the synergy of the Enlarged Group combining high activity catalysts and MPT reactors, the exogenous variables of higher energy prices, short energy supplies, and escalating precious metals prices are other key factors that have made their combination so advantageous at this time.

4. Market opportunities

4.1 *Petroleum demand and reserves*

The fundamental reason for the increase in oil prices since 2002 is the strongly rising global demand for liquid fuels combined with a stagnant-to-falling petroleum reserve replacement in recent years. The situation with global crude oil reserves is illustrated in Figure 4.1.

Figure 4.1 Trends in petroleum demand and reserves



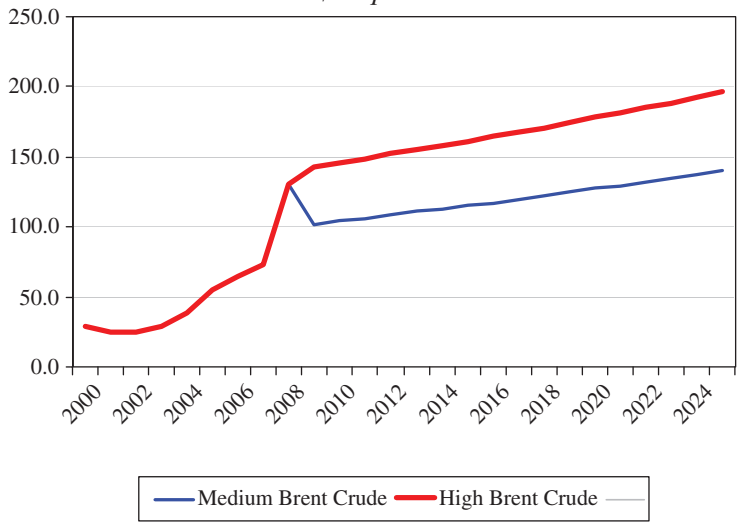
Source data: IEA Annual Statistical Supplement 2007, BP Statistical Review of World Energy.

At the same time that reserves are falling behind demand, there is the tantalizingly apparent opportunity represented by stranded natural gas resources, estimated at between 3,000 and 5,000 TCF worldwide, and the amount of associated natural gas that is flared, at about five TCF per year.

Oil prices and other energy prices have risen dramatically in the last five years and while there is no certainty about the precise future course of hydrocarbon prices, Nexant's expectation is that crude oil prices for the foreseeable future will be substantially higher than the historical average prices over the period of 1985–2005. Figure 4.2 shows Nexant's current "high" and "medium" Brent crude oil planning scenarios.

Figure 4.2 Brent crude oil prices

$US per Barrel



Source: Historical prices from published market prices. Future price scenarios per Nexant's estimates.

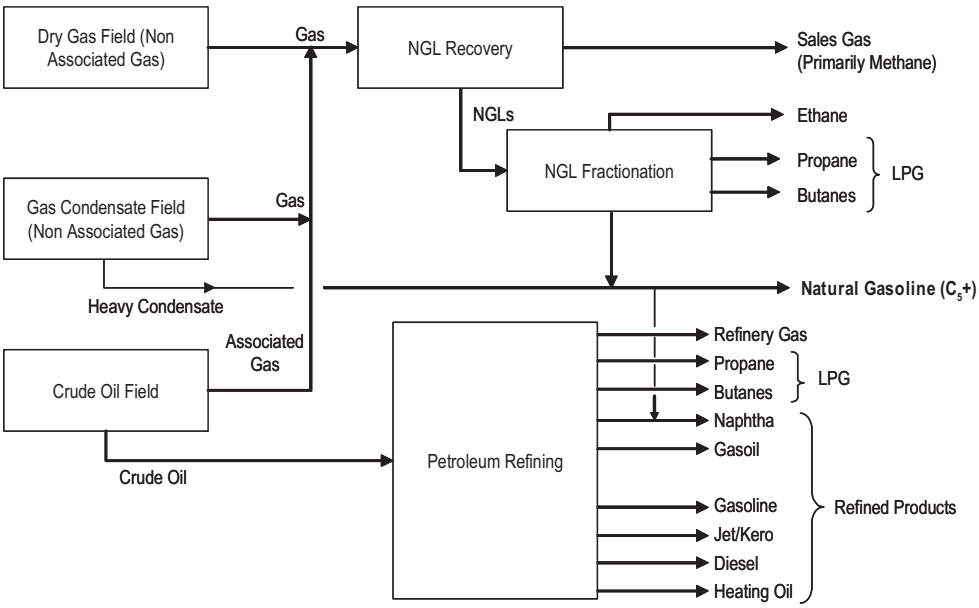
With the prices for oil, other forms of energy and chemical feedstocks having increased by so much in recent years, the benefits of economical small scale GTL have never been greater.

Given the long lead time for petroleum exploration and production efforts, and the low oil and gas prices worldwide until about 2002, it is not surprising that petroleum reserves have fallen behind the strong growth in demand over the last five to ten years. However, the inability of the global industry to replace reserves over recent years strongly suggests that this condition will be long lasting, if not permanent. Thus, market prices have risen to reflect this tight supply and demand situation.

One area that Velocys is targeting for its technologies is the opportunity represented by unexploited natural gas resources, either for flared gas or for stranded or remote small sized gas discoveries. These unexploited resources are untapped hydrocarbon deposits that have been smaller than the size needed to justify development, due to the difficulty in shipping natural gas. To consider how such unexploited natural gas resources fit into the overall global energy supply structure, it is instructive to consider briefly the general interconnection between natural gas and crude oil in the overall petroleum industry structure, shown in Figure 4.3.

Natural gas is normally produced from three categories of petroleum reserves: dry gas fields, gas condensate fields (which also have large amounts of gas liquids) and crude oil fields (in which the main product is crude oil, but which typically may have significant quantities of "associated" gas. (Coal seam gas and gas from landfills or waste treatment processes would be somewhat special cases, of limited potential, for sources of methane and are not shown in Figure 4.3.). Many natural gas fields are considered "stranded gas", lacking viable access to market, due to the difficulty and high cost in transporting gas (mostly methane) to distant markets.

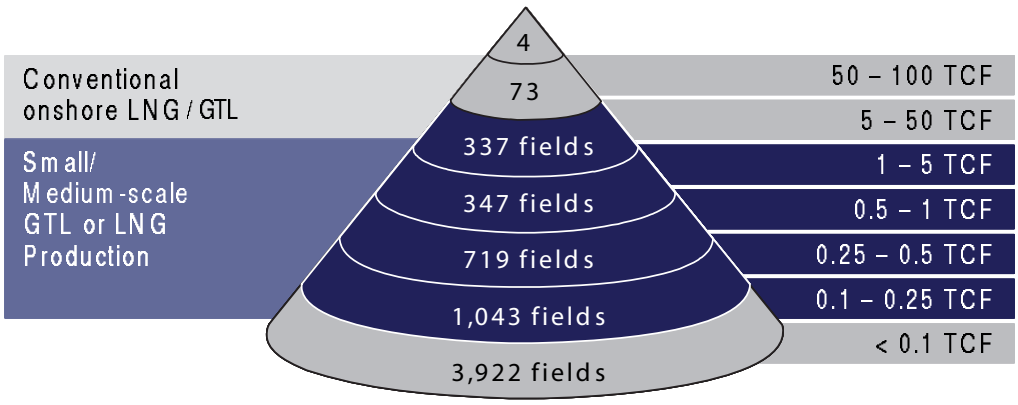
Figure 4.3 Overall petroleum industry structure*



*Source: Nexant internal files and common industry practice. Note: GTL products made from dry gas or associated gas could be shipped to market either as discrete products, such as GTL diesel (gas oil), or as a syncrude.

Figure 4.4 illustrates the size distribution of gas fields that have been discovered outside the United States. The great majority of the world's natural gas fields in number have reserves that are less than 0.5 TCF.

Figure 4.4 Size distribution of worldwide gas fields*



Source: Infield, and Nexant

Nexant anticipates that many of the small to medium gas fields are potential candidates for either offshore LNG production or GTL processing. However, small scale GTL (using SMR/FT) may be a superior choice for most of these fields, especially for associated gas, compared to LNG, since instead of being flared, the gas can be converted via SMR/FT into syncrude that can be mixed with the fields' crude oil production and transported to market without incurring any separate transportation expense or capital charges. Additionally, even for fields with only natural gas, Nexant agrees with the judgment of Velocys that smaller scale GTL represents an advantageous way to produce usable energy from these smaller natural gas resources. Smaller scale GTL would avoid much of the special logistics requirements of LNG, which must be shipped in special-purpose ships specifically designed for only LNG. However, until now LNG and GTL technologies could not be implemented economically on a small scale.

4.2 *Gas-to-Liquid*

From considering only the 5 TCF per year of flared gas, assuming an average smaller scale GTL plant size of 3,000 bbl/day of GTL liquids produced from flared gas, then the 5 TCF per year might support as many as about 450 GTL plants. Of course, not all flared gas might have the logistics and economics to support a GTL plant and therefore 450 plants working on presently-flared gas may not be achievable. But, an available market of merely half the total would constitute 225 individual plants. These plants would require up-front licensing and catalyst, as well as ongoing catalyst replacement from time to time – in other words, a very large business opportunity.

Considering the stranded gas reserves as another potential market for MPT GTL would raise the number of potential plants to an extraordinarily high figure.

Partly as a result of the failure of petroleum reserves to keep up with the growth in demand, companies and countries are investigating numerous energy alternatives, including liquid fuels production by advanced technologies. Figure 4.5 shows the general characteristics of GTL, CTL and BTL as seen presently by Nexant.

Figure 4.5 Comparison of Gas-to-Liquid, Coal-to-Liquid and Biomass-to-Liquid attributes

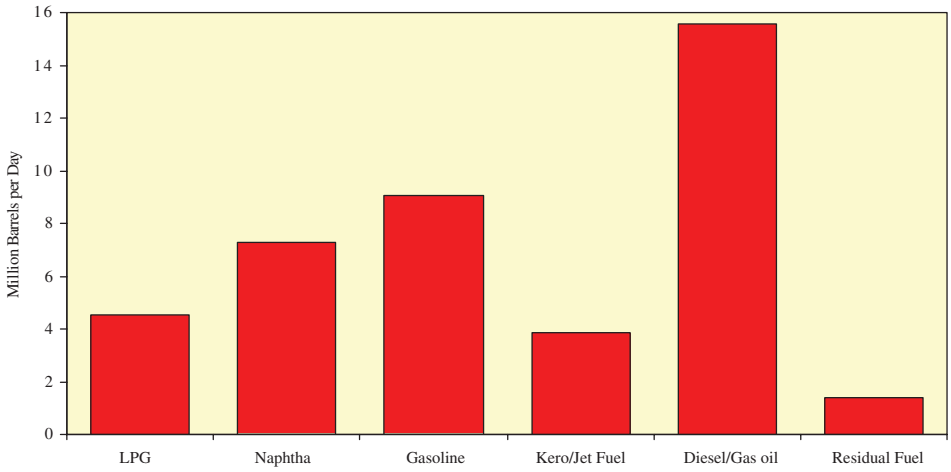
Key Characteristics of GTL, CTL and BTL				
	Characteristics	GTL	CTL	BTL
Feedstock	Global Availability	Moderate	High	Very High
	Price Relative to Petroleum	Low	Low	Low
	Renewability	No	No	Yes
Logistics	Coal	High	Low	Moderate
By-product Credit	Power	Possible	Yes	Yes
	CO_2	No	No	Yes
Capital	Intensity	High	Very High	Very High

Source: Nexant internal studies on Liquid Biofuels and Biogasoline, 2006.

We note that these characteristics apply for conventional technologies that are considered both proven and demonstrated. Velocys' MPT technology is expected to reduce the capital intensity of GTL, CTL and BTL when it has been demonstrated.

These processes make liquid fuel products (naphtha, jet and diesel/gasoil). The goal is ultimately to help satisfy the strongly growing global market demand shown in Figure 4.6. The strong growth in demand primarily reflects the tremendous economic growth in the Asian giants, China and India, along with growth elsewhere in Asia and in Russia. The growth in demand is sufficiently large that virtually any presently imaginable developments in GTL, CTL, and BTL production of syncrude and/or other liquids fuels can be accommodated by the demand growth that is expected in the global market.

Figure 4.6 Incremental global liquid fuels product demand for 2005 – 2030*



*Source: Nexant internal report on *Liquid Biofuels*, December 2006. Thus, the largest increase in demand will be with diesel/gas oil, which is mostly diesel fuel ("gas oil", as the term is used internationally, typically includes diesel oil).

4.3 *Biomass-to-Liquid*

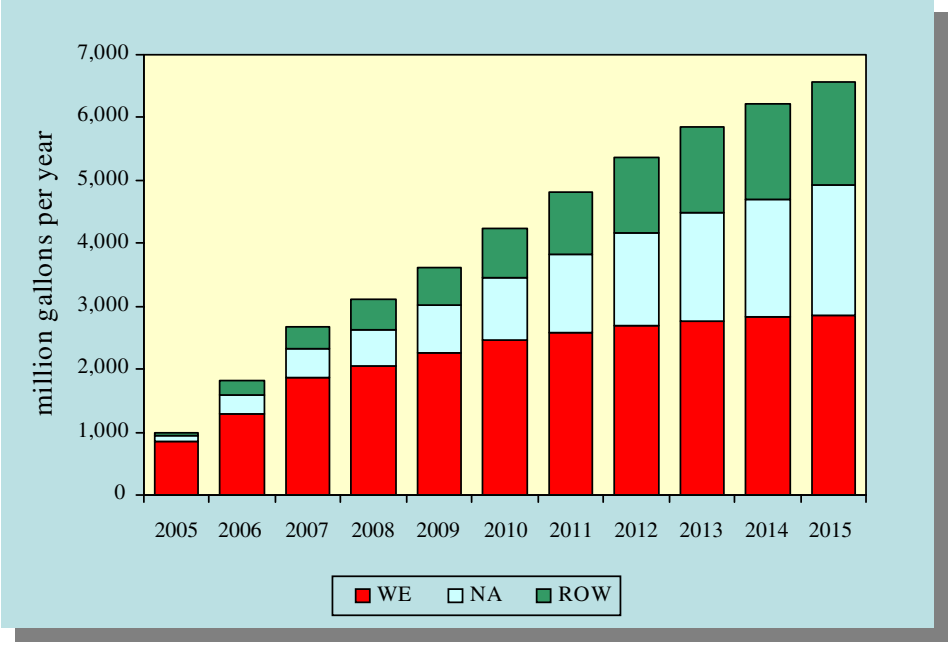
4.3.1 *Demand for biodiesel*

Nexant expects biodiesel production to grow significantly for the foreseeable future, as indicated in Figure 4.7. This is a graph of expected production without any dramatic technical developments. In fact, the demand for biodiesel could be much larger than the production indicated in Figure 4.7, if more economical sources of feedstock or process routes can be developed. Furthermore, biodiesel produced by conventional routes (from natural oils) has a relatively constrained growth future, since oilseed and animal fat supplies are severely limited relative to total global diesel demand. This will require a transition to biomass gasification for BTL;

Therefore, the current version of biodiesel, fatty acid methyl ester ("FAME"), is most likely a "transition" technology, which, though it is attractive given tax incentives currently in place, ultimately cannot substitute significantly for petroleum diesel in the marketplace due to feedstock limitations.

Figure 4.7 The global future for biodiesel

(Western Europe, North American and Rest of World)



Source: Nexant internal report, *Biodiesel*, December 2006.

Nexant foresees the following likely trends for biodiesel:

- as BTL technology is commercialized, current biodiesel production will not likely be shut down; rather, it will probably continue to serve niche markets that value its biodegradability and non-toxicity;
- over the next 10 years Europe will remain the largest biodiesel market due to its high starting basis;
- in the near-term, to make biodiesel more attractive for petroleum refiners' involvement, emerging technologies that hydrogenate natural oils in refineries may be employed;
- synthetic diesel from BTL is likely to be more economic than conventional biodiesel, due to BLT low feedstock costs, substantial by-product credits, and greater economies of scale;
- BTL can be leveraged on developments in CTL and GTL; and
- BTL is expected to perform better than CTL in safety, greenhouse gas emissions and other environmental issues, and is renewable.

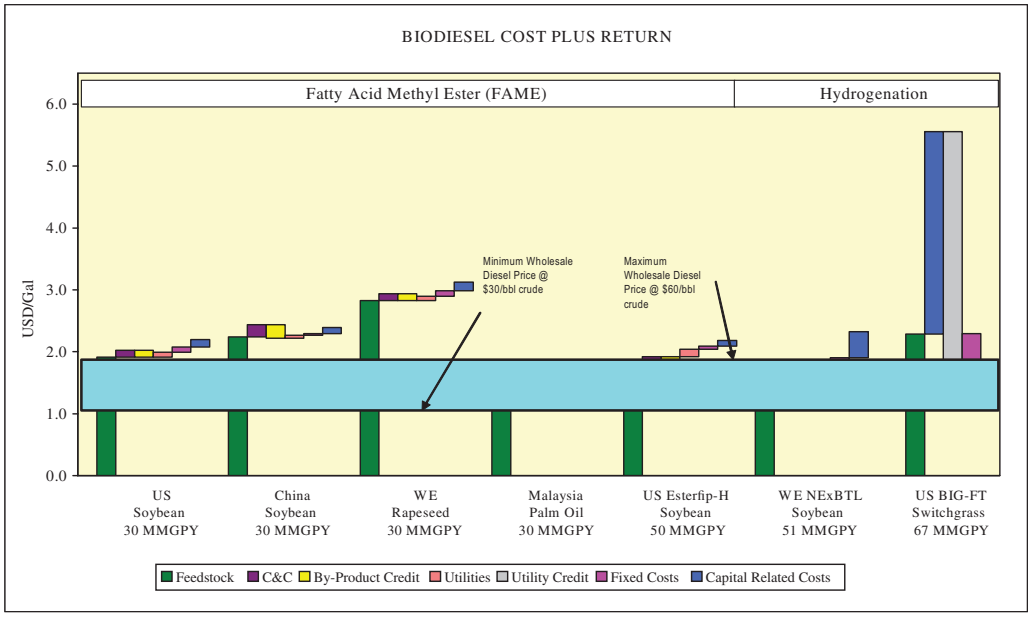
Worldwide, demand for diesel will grow faster than for gasoline and this trend is expected to benefit from the trend toward low sulphur diesel fuel and recent diesel engine technology advances that allow diesel engines to meet stringent emissions regulations

4.3.2 *Routes to biofuels and biodiesel*

Nexant foresees another opportunity for Velocys' MPT technologies and that is a potentially very important role in Biomass-to-Liquid. This would utilize Velocys' FT technology. This opportunity appears to have two primary time routes. One that is actively being considered at the present time in various locations is that of using spent liquors, waste biomass, or other available bio materials as feedstock to gasifiers to make synthesis gas. The synthesis gas would then be used to feed a MPT FT unit based on Velocys' technology. The key market advantage that Velocys has is that such FT plants would likely be typically smaller scale, rather than the large FT plants used in large scale GTL projects. Thus, these BTL opportunities are ideally suited to Velocys' MPT FT technology and its capital cost advantage in smaller scale applications.

Longer term, Nexant foresees opportunities for on-purpose and green-field projects with biomass production feeding gasifiers. For instance, in 2006 Nexant developed an analysis of on-purpose switchgrass production in the US and how competitive that route would be in producing biodiesel, shown in Figure 4.8 (published in Nexant's *Liquid Biofuels*, December 2006).

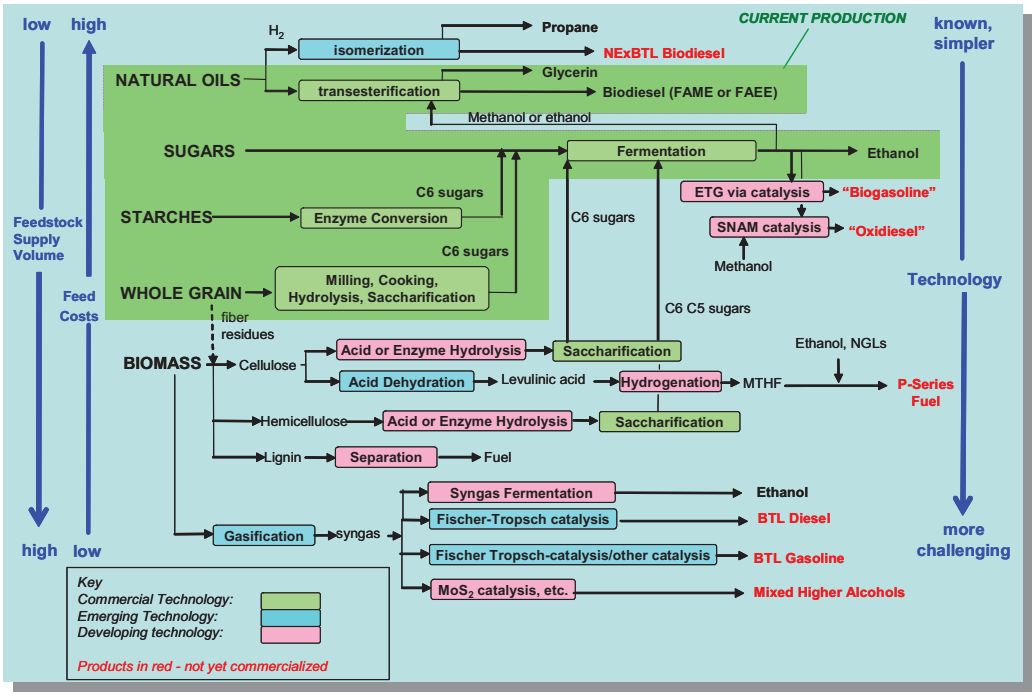
Figure 4.8 Competitive position of routes to biodiesel
($US per gallon, with crude oil prices per market in 2006)



While the energy market prices since this analysis have changed (i.e. crude oil, gas, diesel fuel prices, and other energy prices are now all higher) to the advantage of new technologies such as Velocys', the conclusions remain the same, i.e. that diesel fuel from biomass is expected to be competitive, as indicated in Figure 4.8. Also, considering the problems caused by high commodity prices for natural oils and foodstuffs from which conventional biodiesel is made, there is even a stronger set of drivers now for the biodiesel industry to begin to shift toward biomass feedstocks. Further, depending on the specific nature of such biomass resource used, the BTL routes may merit considerable "credits" for reducing net greenhouse gas emissions. While Figure 4.8 addresses biodiesel, in Nexant's view and as a result of our varied analysis of the energy and chemical industries, similar drivers exist to encourage the production of biogasoline, turbine (jet) fuel, and light fuel oil from renewable biomass resources.

The use of biomass to meet these needs is potentially very complex, given the technical possibilities, both with present technology and the anticipation of future technical developments. Figure 4.9 shows Nexant's summary of the potential possibilities and interaction of the different bioroutes to liquid transportation fuels. Along with other new and developing technologies, we see an important role for new routes to use biomass to produce liquid fuels, i.e. BTL, via FT.

Figure 4.9 The biofuel possibilities



Source: Nexant internal report on *Biodiesel*, December 2006.

The complexity of the overall biofuels industry and possibilities are a challenge to summarise simply in one diagram. That is because some presently employed routes to biodiesel, such as the use of natural oils to make biodiesel by transesterification, are fairly simple and are in use today. On the one hand, BTL, which can use biomass made from presently experimental fast-growing cellulosic materials as a feedstock for gasification to syngas, represents a more difficult technical challenge for industry at present. But, on the other hand, BTL utilizing presently available forest industry wood wastes is within today's technology capability, as long as the FT technology employed can be scaled down economically.

Thus, BTL is an application for which Velocys' MPT FT technology appears very well suited.

Technology development generally is not a precise or efficient process, and can take many routes. However, the history of the process industries, combined with present-day macro

priorities, indicates that the key drivers determining "technology evolution" are predominantly the following:

- investment capital economies;
- production cost minimization;
- environmentally acceptable performance;
- energy/greenhouse gas efficiency; and
- utilisation of advantaged feedstocks (from a cost and yield perspective).

Nexant believes Velocys' MPT has fundamental attributes that are responsive to these drivers.

4.3.3 *Development pathways for biofuels*

The most likely development pathway in liquid fuels and chemicals is expected to result from the combination of the macro drivers with the attributes of the technologies. Due to the rapid development in the bio sector, predicting the long-term industry structure is challenging. However, Figure 4.10 compares the fermentation routes to biofuels with that of the gasification routes, on a high-level technical basis. (The other route, pyrolysis, is shown for completeness, but is not considered viable economically for liquid fuels. The prices shown are from late 2006, conservative by today's pricing.)

Nexant believes that both the fermentation and gasification routes have considerable promise. Velocys, with its MPT FT technology, appears to be in a favorable position for BTL opportunities. This is especially promising since Nexant believes that a local regional approach may be most advantageous, since it can match favorable logistics with local biomass supply and local power and fuel needs.

Figure 4.10 Bio routes – the three fundamental pathways

	Fermentation	Pyrolysis	Gasification
Feasible Substrates	Grain, sugar, biomass, syngas (will require different organisms)	DDGS, biomass, MSW, coal	DDGS, biomass, MSW, coal
Six carbon sugars	Yes	Yes	Yes
Five Carbon Sugars	Limited	Yes	Yes
Lignin	No	Yes	Yes
Pretreatment	Both mechanical and chemical	Mechanical	Mechanical
Conversion rate Rapid< 1 hr., Slow>10 hr.	Slow	Rapid	Rapid
Pure product	Yes	No	No
Temperature/Pressure	Low / low	Moderate / low-moderate	High / low-high
Cost per gallon (assuming $30/ton feedstock)	$1.05 (corn) $0.80 (sugar) $0.61[1] - $1.07[2]		Current $1.85[3] DOE goal $1.19[3]
Notes	Pretreatment of cellulose has the potential to result in numerous inhibitors to the ethanologen. Pretreatment conditions must be carefully matched to the ethanologen. Fermentation of mixed biomass is problematical	Thermal conversion (destruction) of organics in the absence of oxygen Pyrolysis oil can be upgraded to high quality liquid fuel, however not currently financially viable	Thermal conversion at elevated temperature and reducing conditions. Primary categories are partial oxidation and indirect heating. Can handle mixed biomass.

Source: Nexant internal report on *Liquid Biofuels*, December 2006. Note – the footnotes (1), (2) and (3) refer to different estimates by Nexant and NREL – DOE

Nexant foresees substantial opportunities for both broad bio-based routes as the BTL concept develops and finds its place alongside the existing extensive industry infrastructure in the downstream petroleum and natural gas industry. Gasification, however, is the route that can be used to produce syngas for FT synthesis. While gasoline type components can be made via FT, FT is fundamentally more amenable to make a high quality diesel fuel.

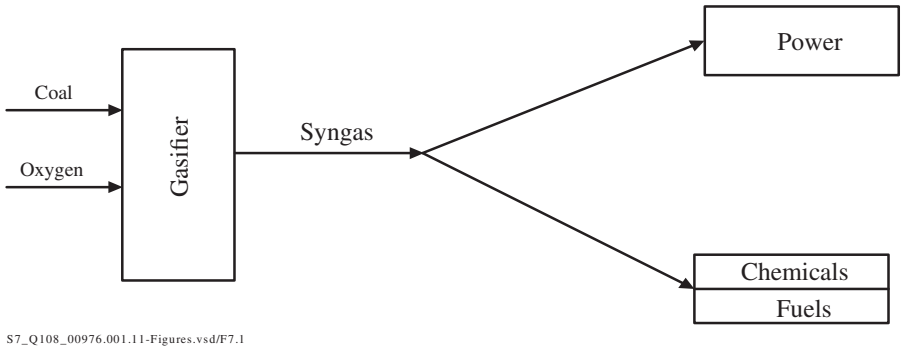
Based on its work regarding biofuels, Nexant concludes that there will be an increasing willingness of energy consumers and biomass producers to consider value-added investments in BTL assets, and we conclude this is favorable to Velocys' MPT commercialisation.

4.4 ***Polygeneration from coal, etc.***

Another route to produce liquid fuels using FT technology is polygeneration from coal, as portrayed in Figure 4.11.

Figure 4.11 Polygeneration from coal

(Overall Concept)



Source: Nexant internal report on *Polygeneration From Coal, 2008.*

This application could provide another promising opportunity for Velocys' MPT. The advantage of FT plants of an economical scale as part of a large integrated coal to power and chemicals/fuel facilities is very promising, and has environmental advantages if the electric power is generated via integrated gasification combined cycle units (IGCC) and the concentrated carbon dioxide is sequestered to reduce greenhouse gas emissions.

5. Time line of planned development

For any new technology, and especially for one with such strong promise as MPT, one cannot forecast with confidence how future development and commercialization will evolve over time, due to both internal developments and exogenous events that can have a strong influence on the prospective development time line. Nevertheless, Nexant concludes from its work on this Experts' Report that Velocys and OCL combined would have excellent prospects for their MPT and catalyst technologies. Thus, given our present view, Nexant would anticipate the following as a reasonable schedule for expected near term development of their technologies by the Enlarged Group:

- during 2009, the Enlarged Group is expected to operate its FT MPT technology at the Air Force Research Laboratory at Wright-Patterson Air Force Base in Ohio, USA;
- during 2009, the Enlarged Group is expected to install and begin operations of one or more MPT FT reactor blocks for which the feedstock synthesis gas will be provided by existing gasifiers running on biomass feedstock. Each of these reactor blocks would be of a demonstration and commercial scale proof of concept nature, with a productive capacity of about 30 to 40 bbl/day of liquid product;
- during 2010, the Enlarged Group is expected to install and begin operations of a demonstration plant containing its MPT SMR process combined with its MPT FT process;
- during 2009 through 2010, the Enlarged Group is expected to achieve considerable progress toward a demonstration on a semi-works scale of one or more processes to produce saleable commodity chemicals; and
- during 2008 through 2010, the Enlarged Group is expected to develop commercial sales of its MPT emulsification technology.

In summary, Nexant believes that the Enlarged Group has a realistically achievable time line for development as outlined above. Further, if the Enlarged Group achieves this, we believe that it will be amongst the earliest significant developers to commercialise practical and economical smaller scale GTL technology.

6. Conclusions

Nexant has expressed numerous opinions and judgments in this Experts' Report regarding Velocys and the merits of the acquisition of Velocys by Oxford Catalysts. In summary, these are the seven primary conclusions that Nexant has reached.

1. Velocys is the recognized world-leader in the design and development of MPT (microchannel process technology) for the production of synthetic fuels and commodity chemicals.

2. The net result of Velocys' technology benefits is improved returns on capital employed for a given size/type of plant, which presently appear to be as much 20 to 30 per cent. compared to conventional technology.

3. Velocys' technical patent position is strong and we have not found a significant technical competitor in Velocys' areas of key focus.

4. Initial indications are that the performance of both the OCL and Velocys technologies together not only meets commercial, technical and economic targets, but is also far superior to the performance either company has been able to attain separately to date.

5. OCL has developed a high activity FT catalyst that can operate at 15 times or better than the productivity of conventional fixed bed FT catalysts that are appropriate for smaller scale FT plants. The catalyst has been demonstrated by Velocys in its MPT FT reactor for over 3,000 hours. The performance of the catalyst was better than any other catalyst Velocys had tested, including catalysts provided by other catalyst companies, as well as those developed independently by Velocys.

6. Velocys appears to have excellent prospects for a profitable line of business in MPT emulsification equipment. In addition to allowing improved product formulation advantages for emulsification customers, Velocys' technology also appears to offer power cost savings.

7. Nexant's opinion is that the production of commodity chemicals offers Velocys substantial opportunities for successful application of its MPT, due to MPT's inherent advantages for applications involving high heat transfer and high chemical reaction rates in an economically sized reactor.

Nexant does not necessarily have knowledge of developments that other firms might be achieving in their proprietary laboratory efforts. However, if other firms were close to Velocys' MPT achievements, we believe that we would have substantial public evidence, either in the form of known patent claims and/or technical papers published, footnotes in annual reports, or press releases about demonstration plants, etc.

Based on the above fundamental judgments, Nexant has a number of additional opinions about Velocys and OCL, including:

- we believe that the acquisition of Velocys by Oxford Catalysts has substantial positive synergy regarding commercialisation efforts for the Enlarged Group's FT, SMR, GTL and BTL technologies;

- we believe that, from a high-level perspective, MPT holds the potential to be a breakthrough technology that would transcend specific applications;

- Velocys' MPT technology has inherent attributes that are expected to allow scaling down with cost effectiveness; as a result, Velocys' technology is expected to facilitate the production of synthetic fuels economically on a small scale in many sites and situations;

- many chemical processes have become quite mature and have evolved over a number of decades, with the result that there are relatively few opportunities to increase efficiencies and yields without employing new technologies. Better catalysts and more effective chemical reactor approaches, such as Velocys' MPT, are among a handful of fundamentally new approaches that offer high potential;

- due to the inherent "number up" attribute of Velocys' MPT technology, Velocys' technology minimizes the time, cost and risk of commercialising reactors and their associated catalysts;
- any new process design or process development has inherent risk and rewards; these risks, however, can be minimized by following prudent development steps, which, in Nexant's opinion, Velocys has done;
- we expect Velocys to successfully and economically conduct the manufacturing of their MPT reactor blocks via carefully selected fabrication partners;
- Nexant agrees with Velocys, based on the data presented by Velocys, that the FT reactor design potentially represents a major improvement versus conventional FT reactor design, whether that design is for a slurry or fixed bed tubular reactor;
- Nexant believes Velocys' and OCL's FT catalyst productivity is a significant advantage that will result in lower operating costs and capital costs for Velocys' MPT FT;
- the dramatic advantage for the efficiency of Velocys' MPT SMR is due to the integration of the MPT SMR reaction and heat exchange, which also allows capital cost savings. Assuming successful commercialization, this would put Velocys in a very advantageous position;
- the application of MPT to GTL plants is anticipated to greatly improve the economics of scale down with regard to unit of capacity capital costs;
- Velocys faces limited competition for its target high-priority offshore and onshore smaller scale niche market for GTL because (1) the conventional licensors are focusing on the large scale units, and (2) the more complex slurry reactor is somewhat problematic in small scale and especially for offshore applications;
- with the prices for oil, other forms of energy and chemical feedstocks having increased by so much in recent years, the benefits of economical small scale GTL have never been greater.
- Velocys, with its MPT FT technology, appears to be in a favorable position for BTL opportunities. This is especially promising since Nexant believes that a local regional approach may be most advantageous, since it can match favorable logistics with local biomass supply and local power and fuel needs;
- currently planned FT plants for BTL would likely be smaller scale, rather than the large FT plants used in large scale GTL projects. Thus, these BTL opportunities are ideally suited to Velocys' MPT technology and its capital cost advantage in smaller scale applications;
- the acquisition of Velocys by Oxford Catalysts will provide the right combination of skills and critical mass to allow the Enlarged Group potentially to become one of the leading energy and chemical technology firms worldwide. This is due to the extraordinary opportunities that Nexant foresees in chemical process technology innovation over the next few decades as companies worldwide work to adapt to new challenges in both resource supply and environmental challenges, and our expectation that the Enlarged Group will successfully commercialise its technology portfolio. We anticipate that the structure of the global energy and chemical industries will change more quickly in coming years than at any time historically, but at least since the 1950 to 1970 era, and we conclude that the Enlarged Group will be well configured to take advantage of these opportunities; and
- the growth in global demand for liquid fuels is sufficiently large that virtually any presently estimated developments in GTL, CTL, and BTL production of syncrude and/or other liquids fuels can likely be accommodated by the demand growth that is expected in the global market.

Appendix A
MODEC support letter

26 February 2008

Our Ref No.: R1230/DT-2239

Dr Wayne W. Simmons
Chief Executive Officer
Velocys, Inc.
7950 Corporate Blvd.
Plain City, OH 43064
USA

Dear Dr Simmons:

Congratulations on being selected as a finalist for the Ohio Third Frontier Alternative Energy Program with your project titled "Microchannel Enabled Process for Synthetic Biofuels and Chemicals (TFAEP 08-11). As one of your industrial alliance partners, MODEC, Tokyo Japan offers this letter of support to assist your efforts in securing this important project.

A few years ago, MODEC began actively exploring options for developing a modular, compact system for converting natural gas into synthetic fuels. The market demand for this Gas-to-Liquids (GTL) technology is high because many oil fields have associated natural gas that is produced with the oil. In the US and some other countries, this gas is processed and sold as a valuable co-product. However, in many locations, the co-produced gas is "stranded" because neither a local use nor viable shipping methods exists. Without local market for this gas, petroleum production is not possible without venting, flaring or re-injection of this gas. Venting is not allowed as the Greenhouse Gas (GHG) potential of methane is 21 times that of CO_2. Flaring is also effectively banned now due to GHG emission and other issues. Finally, re-injection currently cost up to $15 per equivalent barrel of petroleum. GTL technology alleviates these issues by converting the associated gas into a shippable, high value fuel and is thus a very valuable technology.

Early in our search, we realized that ***conventional*** FT technology systems are commercially available from Sasol and Shell for large-scale systems (>10,000 barrels/day) but these systems are massive, capital intensive and require vey large gas reserves. For example, only about 7 per cent. of the world gas fields are large enough to sustain a 10,000 bpd GTL plant. Dropping the FT fuels production rate to 2,000 bpd makes about 50 per cent. of the gas fields viable sources. This "stranded gas" is estimated to be 3,000–6,000 trillion cube feet (TCF) in volume, which is sufficient to supply current level of U.S. distillate fuels demand for 150–300 years.

We also determined that no systems were commercially available that could meet the size and economic requirements for smaller-scale GTL facilities (1,000–5,000 bpd). Based on the results of our global review of GTL technology options, MODEC selected Velocys as the preferred technology alliance partner. We formalized an alliance in late 2007 with Velocys and Toyo Engineering, a global engineering firm.

Your proposed Third Frontier funded project will also provide important support to our alliance efforts by enabling a 25:1 scele-up of the FT microchannel based process and allow for the first intergration with a natural gas reformer to make FT synfuel products. These are two critical steps along the commercialization pathway of this process technology. Toyo Engineering and MODEC have committed over $10 million to support the GTL technology development efforts and are also planning to construct a much larger demonstration facility upon completion of the GTL technical development program now underway with Velocys, and as envisioned in our alliance agreement.

Please let me know if I can offer further assistance. As background for the review committee, I am providing a brief summary of our organization. Founded in 1968, MODEC is a general contractor specializing in engineering, procurement, construction and installation of floating production systems including Floating Production Storage and Offloading (FPSO) vessels, Floating Storage and Offloading (FPSO) vessels, Floating Storage and Offloading (FSO) vessels, Tension Leg Platforms (TLPs), Production Semi-Submersibles, Mobile Offshore Production Units (MOPUs) and other new technologies that will be required to meet the industry's new challenges. MODEC provides operations and maintenance services for floating production systems around the world. MODEC owns and operates 11 FPSO/FSOs worldwide and has four FPSOs and one FSO under construction. MODEC has delivered four TCPs and has a fifth under construction. MODEC has delivered Four. TLPS and has a fifth under construction. MODEC was recently recognized by the Offshore Technology Conference for innovative technology for its MOSES Self Stable Integrated Platform (SSIP) TLP. For more information, visit http://www.modec.com/en/index.html.

Sincerely,

Soichi Ide
Program Manager
Gas Project Development Dept.
FPSO & FSO Division

MODEC

PART V

PATENT ATTORNEYS' REPORT

Oxford Catalysts Group PLC
115e Milton Park
Oxford
OX14 4RZ

KBC Peel Hunt Ltd
111 Old Broad Street
London EC2N 1PH

31 October 2008

Dear Sirs,

Introduction

Carpmaels & Ransford has acted for Oxford Catalysts Limited (hereinafter "Oxford Catalysts") since January 2007. Carpmaels & Ransford has not acted for Velocys.

Carpmaels & Ransford is a long established, London-based partnership of Patent and Trade Mark Attorneys. Carpmaels & Ransford advises on all aspects of intellectual property, including patents, trade marks and designs, and acts for a wide variety of United Kingdom and International clients. All the partners and the fully qualified members of staff are Chartered Patent Attorneys, entitled to appear before the United Kingdom Intellectual Property Office and certain courts in the United Kingdom; European Patent Attorneys, entitled to appear before the European Patent Office, including its Appeal Boards; and/or Registered Trade Mark Attorneys, entitled to appear before the United Kingdom Intellectual Property Office Trade Marks Registry and the Office for Harmonisation in the Internal Market (the European Union Trade Mark Office) in Alicante.

A substantial part of Carpmaels & Ransford's patent practice relates to the field of chemistry, including industrial and process chemistry. The chemical practice group comprises eight partners and ten assistants. All members of the group have academic qualifications in chemistry and/or biochemistry. Oxford Catalysts' matters are predominantly handled by Chris Mercer (Partner). This Report has been prepared by Chris Mercer, Paul Howard (Partner) and Anthony James (Partner).

Carpmaels & Ransford has been asked to report on Oxford Catalysts' and Velocys' patent strategy and portfolio.

This Report has the following sections:

1. Introduction to the patent system;

2. Oxford Catalysts' patent portfolio;

3. Patents licensed to Oxford Catalysts from Isis Innovation Limited (hereinafter "Isis"); and

4. Intellectual Property of Velocys including material patents of Velocys and patents licensed to Velocys from Battelle Memorial Institute (hereinafter "Battelle") and trade marks of Velocys.

Accordingly, the present Report draws together information concerning the subject matter and status of three distinct intellectual property ("IP") portfolios set out in sections 2, 3 and 4 of the Report.

Oxford Catalysts' patent portfolio, as set out in Section 2 of this Report, is handled by Carpmaels & Ransford. Carpmaels & Ransford is therefore able to report first hand with respect to the patents and patent applications in this section of the Report.

Patents and patent applications licensed to Oxford Catalysts from Isis, as set out in Section 3 of this Report, are handled by another United Kingdom-based firm of patent attorneys (hereinafter "the Isis patent attorneys"). Except as specifically indicated, the information presented in Section 3.4 of this Report is therefore based on information provided by the Isis patent attorneys.

Velocys is based in the United States. Accordingly, Section 4 of this Report relating to intellectual property of Velocys or licensed to Velocys focuses primarily on United States patents, patent applications and trade marks. Patents and patent applications of Velocys, patents and patent applications licensed to Velocys from Battelle, and trade mark applications and registrations of Velocys, as set out in Section 4 of this Report, are handled by various firms of patent and trade mark attorneys. Except as specifically indicated, the information presented in Section 4 of this Report is based on an independent report provided by United States patent attorneys from within the Intellectual Property and Technology Practice Group of a US-based, full-service international law firm (hereinafter "the United States patent attorneys").

It is not the purpose of this Report to provide any opinion as to the likely patentability or validity of the patent applications and patents. Nor is any opinion given as to whether any of the subject matter of these patents and patent applications infringes any third party patents or other rights.

Except as specifically indicated, it has not been within the remit of Carpmaels & Ransford to investigate title to the patents and patent applications or to investigate the validity of any licence. We are advised that material licences in respect of intellectual property will be addressed in Section 2.4 of Part II of the Admission Document.

1. An introduction to patents

1.1 *Background to the patent system*

The patent system exists with the intention of promoting innovation by giving to the patent owner a monopoly right for a fixed period of time to allow the patent owner to stop other people from carrying out the invention claimed in the granted patent and to claim damages for any infringing acts. However, a patent does not give the proprietor the right to use an invention. Use of an invention may, for example, require authorisation from a regulatory authority or other form of permission for use or other commercialisation.

In general, a patent can be granted for an invention which is new, is not obvious, is commercially or industrially useful and is not otherwise barred by law from being the subject of a patent. The invention must be sufficiently described in the patent application. The precise criteria for patentability differ in detail from country to country but enjoy a large measure of harmonisation.

In return for the monopoly protection given by the patent and defined in the claims of the granted patent, the invention is disclosed to the public when the patent application is published.

Patents are very important to research-based companies such as Oxford Catalysts and Velocys in order to protect their innovative products and processes.

A patent has a limited territorial effect and so it is desirable to seek patent protection in those territories where any product is to be made or sold or any process used. Various international treaties and conventions exist which facilitate the acquisition of patent protection in many countries.

1.2 *Obtaining patent protection*

The procedure for obtaining a patent is typically started by filing a national patent application, for example a UK or US patent application, in a Patent Office of a territory that is party to the Paris Convention. Almost all major industrialised countries are party to the Paris Convention. This national application can provide a so-called "priority date" for the invention disclosed in this "priority" application such that the patentability of the invention is assessed as of that date against the "prior art", which generally includes any information made available to the public prior to that date and can also include information contained in earlier unpublished patent applications. This priority date can be

made effective for further patent applications filed in other Paris Convention territories, provided that these further patent applications are filed within 12 months of the first priority application.

Although it is possible to file individual national or regional patent applications in those Paris Convention territories in which protection is sought, each claiming the right to priority from the priority application, it is common to file an "international" or "PCT" (Patent Cooperation Treaty) application. This is a single application which can provide a filing date in any of those territories which are party to the PCT and which are specified in the PCT application. Most major industrialised countries are party to the PCT. Thus, a PCT application is, effectively, a bundle of separate territorial applications, each of which has the potential of becoming a national or regional patent application if the appropriate steps are taken. No patent can be granted directly from a PCT application and the right to grant a patent is left to the national or regional laws as implemented by the national or regional patent offices.

Patent applications are generally searched and examined before a patent is granted. The purpose of the search is to identify documents which are relevant in assessing whether the invention claimed in the patent application is new or non-obvious. The purpose of the examination is for a patent office examiner to assess whether the claimed invention meets all the requirements of patentability. The examination process is an interactive procedure between the patent examiner and patent applicant (or more usually the patent applicant's professional representatives) in which the patent applicant may have to put forward arguments and evidence to rebut objections that the patent examiner may raise to the patent application. The patent applicant may have to amend the claims to his invention during this procedure.

A PCT application is searched and it may also be examined during the international phase. If it is examined, the international preliminary examination authority will give a preliminary, non-binding opinion on the patentability of the claimed invention, as assessed under the law to which the acting international preliminary examination authority is bound. In order to continue with the application in the specified territories, the PCT application must be processed into the national or regional patent offices at the latest about two and a half years from the first priority date. These separate national and regional patent applications are typically searched and examined further by the national and regional patent offices, which determine whether a patent should be granted. The request for examination of a patent application in certain countries (for example Japan and Canada) need not be made until several years from the filing date of the application. It is usual to defer requesting examination until this time.

At the date of this document, most Western European and some Eastern European countries (in total, 34 countries) are now party to the European Patent Convention (EPC) which allows the European Patent Office (EPO) to search and examine a European regional patent application. As the EPO is a party to the PCT, it is common to specify the EPO in a PCT application as a regional application. When a European patent is granted it is, effectively, a bundle of national patents which will, if appropriate action is taken, take effect nationally and will be enforceable under the national law.

1.3 ***Rights arising from the publication of a patent application and grant of a patent***

Patent applications (such as PCT applications) are published around 18 months after the first priority date. It may be possible to claim damages back to the date of publication for an infringement of the claimed invention. However, at least in most of Europe and in the USA, it is only possible to commence an action for infringement of a patent (and seek damages or an order to stop an infringing act) once a patent has been granted.

1.4 ***The validity of granted patents may be challenged***

The validity of a granted patent may be challenged by a third party throughout the life of the patent on the grounds that it does not satisfy certain statutory requirements (for example, that it is not new or that it is obvious). Typically, the challenge may take place before the national or regional patent office or before the national courts. For example, a European patent granted through the EPO may be challenged centrally at the EPO in opposition proceedings up to nine months from the grant date and

any national patents derived from the European patent application can be challenged nationally thereafter.

1.5 ***The duration of the monopoly right***

Once a patent is granted, it will remain in force for a specified period upon payment of renewal fees. Typically, the maximum duration of a patent is twenty years from the filing date, although this can vary between jurisdictions, particularly the United States where specific patent term adjustment provisions can apply. In general, the patent monopoly extends until the expiry of the patent.

2. Oxford Catalysts' patent portfolio

This section of the present Report relates to patent applications that have been filed in the name of Oxford Catalysts Limited. These patent applications have been handled by Carpmaels & Ransford.

2.1 ***Oxford Catalysts' approach to seeking patent protection***

In our view, Oxford Catalysts has clearly understood the importance of protecting its technologies through seeking patent protection, where appropriate. Oxford Catalysts has a strategy of considering pursuing patent protection for any novel technologies which it develops. Meetings between Oxford Catalysts and Chris Mercer and his assistants have taken place whenever necessary to discuss developments in the scientists' research that have potential value as patentable inventions. Where a potentially protectable invention is made and referred to us, the patentability of the invention is considered and appropriate points raised with Oxford Catalysts concerning the technology. Where appropriate, a patent application is prepared.

Oxford Catalysts' strategy is to file a first patent application at the UK Patent Office and then, within 12 months, to file a subsequent international (PCT) application which specifies the countries in which patent protection may ultimately be sought, making use of the Paris Convention which provides priority rights for up to a year in all major industrialised countries for such a first application. Oxford Catalysts has always designated all possible designated states that are signatories to the PCT, with a view to filing regional and national applications in those territories in which the invention is most likely to be exploited. At the time of filing the PCT application, Oxford Catalysts also considers other national filings in non-PCT countries which may be beneficial depending on the subject matter of the application.

This approach gives Oxford Catalysts the potential for obtaining protection in major markets whilst deferring and/or keeping down the costs of obtaining patent protection.

PCT patent applications are searched by the European Patent Office in its capacity as an international search authority (ISA) in order to find documents relevant to the patentability of the claimed inventions. The ISA then produces the international search report (ISR) and a written opinion as to the patentability of the subject matter of the application. Of the various ISAs, the EPO is generally considered to provide one of the more thorough searches, often to the extent that a positive written opinion from the EPO acting as the ISA will expedite proceedings before the national patent offices in some PCT contracting states.

2.2 ***Third party rights***

Carpmaels & Ransford has not carried out or commissioned any freedom to operate searches on behalf of Oxford Catalysts and we therefore cannot advise as to the existence or otherwise of any published patents or patent applications that may be of relevance to Oxford Catalysts' commercial activities. Oxford Catalysts intends to conduct freedom to operate searches when there is a commercial need to do so.

As far as we are aware, there are no existing or threatened claims, actions or proceedings pending against or on behalf of Oxford Catalysts in respect of any matter on which we have been consulted.

2.3 ***Oxford Catalysts' patent rights***

The following tables indicate the status of Oxford Catalysts' patent related matters relevant to Oxford Catalysts' current business activities. Patent matters that are not relevant to Oxford Catalysts' current business activities are omitted, although such omission does not imply that they do not have any current or future value. Each table indicates the status of a particular patent matter. Below each table is included additional information including the title, the owner of the invention, the names of the inventors, the application number and the filing date of the priority application. At the date of this Report, none of the patent applications identified in this section of the Report have been published. Accordingly, in order to protect the confidential information of Oxford Catalysts, no further information concerning the subject matter of these applications is provided herein.

In the following tables, the term "pending" has been used to indicate that the patent application has been filed in order to seek patent protection in the indicated country and that examination has not yet commenced. The term "expiry date" refers to the normal 20-year term assuming that the patent is granted and renewal fees are paid.

Maintenance fees (also known as renewal fees or annuities) are due in order to maintain granted patents in force in most jurisdictions, and are also due for pending patent applications in a number of jurisdictions including the European Patent Office. No maintenance fees have yet fallen due for any of the applications identified in this section.

For the purposes of this Report, inventions and the corresponding patent applications have been ordered chronologically.

2.3.1 *Promoted Carbide-based Fischer-Tropsch Catalyst, Method for its Preparation and Uses Thereof*

Country	*Filing date*	*Application No.*	*Status*	*Expiry date*
PCT	29 February 2008	PCT/GB2008/000703	Pending	28 February 2028
Bolivia	29 February 2008	094/2008	Pending	28 February 2028
GCC: States of United Arab Emirates; Kingdom of Bahrain; Kingdom of Saudi Arabia; Sultanate of Oman; State of Qatar; and State of Kuwait	1 March 2008	2008/10250	Pending	29 February 2028
Iraq	4 March 2008	50/2008	Pending	3 March 2028

Title: Promoted Carbide-based Fischer-Tropsch Catalyst, Method for its Preparation and Uses Thereof
Inventors: Tiancun Xiao, Yangdong Qian.
Recorded owner: Oxford Catalysts Limited.
Priority: GB (UK) Patent Application No. GB-0704003.3 (filed 1 March 2007).

2.3.2 *Steam Production*

Country	*Filing date*	*Application No.*	*Status*	*Expiry date*
PCT	25 July 2008	PCT/GB2008/002570	Pending	24 July 2028

Title: Steam Production
Inventors: Tiancun Xiao, David Wardle, Yangdong Qian, Dr Franck Letellier.
Recorded owner: Oxford Catalysts Limited.
Priority: GB (UK) application no. GB-0714529.5 (filed 25 July 2007).

2.4 ***Summary***

Oxford Catalysts has a strategy of seeking patent protection on the inventions of which it is aware. The patent portfolio described in this section is being dealt with diligently so as to provide, as far as possible, benefit for Oxford Catalysts.

3. Patents Licensed to Oxford Catalysts from Isis Innovation Limited

3.1 ***Scope of this section of the report***

This section of the Report concerns certain patents and patent applications licensed to Oxford Catalysts from Isis Innovation Limited ("Isis").

Prior to the preparation of this Report, Carpmaels & Ransford has not acted for Oxford Catalysts in connection with any patent or patent application identified in this section of the Report. Carpmaels & Ransford has not been involved with the filing or prosecution of any patent or patent application identified in this section of the Report.

This Report is based on information provided to us by patent attorneys acting for Isis ("the Isis patent attorneys"). Except to the extent specifically stated in this Report, Carpmaels & Ransford has not checked or carried out independent verification of the information provided by the Isis patent attorneys.

We understand that the patents and patent applications identified in this section of the Report have been licensed to Oxford Catalysts from Isis on an exclusive, worldwide basis in all fields, subject to a licence back to Isis to grant a licence to the University of Oxford for research and academic purposes. It has not been within the remit of Carpmaels & Ransford to investigate Isis' title to the patents and patent applications or to investigate the validity of the licence from Isis to Oxford Catalysts. We are advised that the material agreement in respect of the licence from Isis is addressed elsewhere in the Admission Document (see Part X of the Admission Document).

In respect of the rights identified in this section of the Report, there is included a description of the inventions claimed in the patents and patent applications and details of their filing and prosecution history provided to Carpmaels & Ransford by the Isis patent attorneys. The Isis patent attorneys have advised that all patents and patent applications identified in this section of the Report stand in the name of Isis. Carpmaels & Ransford has verified from the EPO online register that all of the pending European patent applications stand in the name of Isis. Carpmaels & Ransford has not otherwise verified the status or ownership of the patents or patent applications in this section of the Report. Carpmaels & Ransford provides no opinion as to the likely patentability or validity of the patents and patent applications.

3.2 ***Maintenance fees***

Maintenance fees (also known as renewal fees or annuities) are due in order to maintain granted patents in force in most jurisdictions, and are also due for pending patent applications in a number of jurisdictions including the European Patent Office. The Isis patent attorneys are not responsible for paying the maintenance fees on these patents and patent applications and have not carried out an independent check to determine if the maintenance fees have been paid. Oxford Catalysts has been informed by Isis that the annuities on the patents and applications in this section are paid up to date. Carpmaels & Ransford has verified from the EPO online register that the EPO annuities for pending European patent applications in this section are paid up to date, but have not carried out any checks in respect of maintenance fees in other jurisdictions.

3.3 ***Third party rights***

Carpmaels & Ransford has not carried out or commissioned any freedom to operate searches on behalf of Oxford Catalysts in connection with the subject matter of the patents and patent applications identified in this section of the Report. We therefore cannot advise as to the existence or otherwise of any published third party patents or patent applications that may be of relevance to Oxford Catalysts'

commercial activities. No opinion is given as to whether any of the subject matter of these patents and patent applications infringes any third party patents or other rights. Oxford Catalysts intends to conduct freedom to operate searches when there is a commercial need to do so.

3.4 ***Patents and patent applications licensed from Isis Innovation Limited***

The following tables of patents and patent applications and patent application prosecution information are based on information supplied by the Isis patent attorneys. Where possible, Carpmaels & Ransford has calculated expiry dates for each patent and application assuming that the patent or application is granted, and is maintained in force for the normal maximum 20-year term. The entry "N/A" appears in respect of UK priority patent applications and International (PCT) patent applications, which do not themselves give rise directly to granted patents, and in respect of pending US patent applications, which may be the subject of patent term adjustments arising during the prosecution of the applications.

3.4.1 *A Process for the Activation of a Catalyst Comprising a Cobalt Compound and a Support*

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
UK	0115850.0	28 June 2001	N/A	Priority patent application – PCT filed
International (PCT)	PCT/GB2002/02883 WO03/002252	21 June 2002	N/A	Entered the national and regional phases below
Australia	2002304467 AU20022304467A	21 June 2002	21 June 2022	Granted 20 March 2008
China	02812963.6 CN1541139A	21 June 2002	21 June 2022	Response filed to third examination report 7 April 2008
Europe (EPO)	02732977.0 EP1399256A	21 June 2002	21 June 2022	Granted 1 March 2006. Validated in GB, DE, FR, DK and NL
USA	10/481986 US 7,183,329B2	21 June 2002	21 June 2022 plus 101 days patent term adjustment	Granted 27 February 2007. Request for Certificate of Correction filed 15 August 2008.
USA	11/649,655 US2007-0112080A1	21 June 2002	N/A	Response filed to final Office Action 23 June 2008

International prosecution

The PCT application was filed claiming priority from the United Kingdom application which has now lapsed. It was filed with claims directed to a process for the preparation of a catalyst which comprises activating a catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of a hydrocarbon. Further claims were directed to the use of a catalyst obtainable by this process in the partial oxidation of a hydrocarbon or in a Fischer-Tropsch reaction and to a process for the partial oxidation of a hydrocarbon or for the preparation of a mixture of hydrocarbons by a Fischer-Tropsch reaction using the catalyst obtainable by this process.

International preliminary examination was requested. Objections of lack of novelty and lack of inventive step were raised. No response was filed during the International phase.

The International application was then brought into the national and regional phases below.

European prosecution

The European application is the Regional phase of the above International application. All Contracting States were designated. The European Examiner raised objections of lack of novelty and lack of inventive step but these were overcome by amendment of the claims and by argument. The main process claim was amended to a process for the preparation of an activated catalyst comprising 0.02 to 10 weight per cent. (wt per cent.) carbon which comprises activating a catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of a hydrocarbon selected from methane, ethane, acetylene, propane, propene and butane at a temperature of from 300°C to 1000°C, wherein the catalyst precursor is a polyoxometalate (POM), Fischer-Tropsch, hydroisomerisation or hydrogenation catalyst precursor and comprises 0.05 to 30 wt per cent. cobalt. All of the use claims were deleted and the only downstream process claim which remains is a process for the preparation of a mixture of hydrocarbons by a Fischer-Tropsch reaction which comprises passing a mixture of carbon monoxide and hydrogen over a catalyst obtained by the above process.

This application was granted on 1 March 2006. The opposition deadline was 1 December 2006. No oppositions were filed against the patent.

The patent has been validated in the United Kingdom, Germany, France, Denmark and the Netherlands.

United States prosecution

US Patent No. 7,183,329 B2 is derived from the above International application. The patent was granted on 27 February 2007. The main process claim is directed to a process for the preparation of an activated catalyst comprising 0.02 to 10 wt per cent. carbon, which comprises activating the catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of at least one hydrocarbon selected from the group consisting of methane, ethane, acetylene, propane, propane [sic] and butane, at a temperature of at least 300°C, wherein the catalyst precursor is a POM, Fischer-Tropsch, hydroisomerisation or hydrogenation catalyst precursor that comprises 0.05 to 30 wt per cent. cobalt.

The patent also includes an independent process claim to a process for the partial oxidation of a hydrocarbon, which comprises activating a catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of at least one hydrocarbon selected from the group consisting of methane, ethane, acetylene, propane, propene and butane, at a temperature of at least 300°C, wherein the catalyst precursor is a POM catalyst precursor that comprises 0.05 to 30 wt per cent. cobalt to form an activated catalyst comprising 0.02 to 10 wt per cent. carbon; and passing the hydrocarbon and oxygen over the catalyst.

The patent also contains an independent process claim to a process for the preparation of a mixture of hydrocarbons by Fischer-Tropsch reaction, which comprises activating a catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of at least one hydrocarbon selected from the group consisting of methane, ethane, acetylene, propane, propane [sic] and butane, at a temperature of at least 300°C, wherein the catalyst precursor is a Fischer-Tropsch catalyst precursor that comprises 0.05 to 30 wt per cent. cobalt to form an activated catalyst commission [sic] 0.02 to 10 wt per cent. carbon; and passing a mixture of carbon monoxide and H_2 over the catalyst.

As can be seen from the above, there are a few typographical errors in the claims. These were introduced by the US Patent and Trademark Office when printing the specification. A request for a Certificate of Correction to correct these errors was filed on 15 August 2008.

US Patent Application No. 11/649655 was filed as a continuation to the US patent mentioned above. The continuation application contains an independent claim to an activated catalyst comprising 0.02 to 10 wt per cent. carbon which is obtainable by a process comprising

activating a catalyst precursor comprising a cobalt compound and a support with a gas comprising at least 5 mol per cent. of at least one hydrocarbon selected from the group consisting of methane, ethane, acetylene, propane, propene and butane, at a temperature of at least 300°C, wherein the catalyst precursor is a POM, Fischer-Tropsch, hydroisomerisation or hydrogenation catalyst precursor that comprises 0.05 to 30 wt per cent. cobalt.

The application also contains an independent process claim to a process for the partial oxidation of a hydrocarbon which comprises passing the hydrocarbon and oxygen over the catalyst above.

The application also includes an independent claim to a process for the preparation of a mixture of hydrocarbons by a Fischer-Tropsch reaction, which comprises passing a mixture of carbon monoxide and H_2 over the catalyst above.

A final Examination Report issued on this application on 21 April 2008. The only objection raised in the Examination Report was a non-statutory obviousness-type double patenting objection[1] based on US Patent No. 7,183,329 above. A terminal disclaimer[2] was filed to overcome this objection on 23 June 2008. The Isis patent attorneys therefore expect a Notice of Allowance to be issued in due course. However, in view of the terminal disclaimer, any patent issued on this continuation application will expire at the same time as the parent patent US Patent No. 7,183,329 above. Furthermore, any patent issued on this continuation application will only be enforceable as long as both patents are commonly owned.

Chinese prosecution

The Chinese application is also based on the International application. The claims as currently on file are generally in line with the now-granted European patent. However, the main process claim now indicates that the final catalyst (rather than catalyst precursor) is a POM, Fischer-Tropsch, hydroisomerisation or hydrogenation catalyst. This amendment was made to address an objection of added matter raised by the Chinese Examiner in the second Examination Report.

A third Examination Report has now issued on the application raising a lack of clarity objection against the term "catalyst precursor" in a number of the claims. No other objections were raised against the independent claims. A response to the Examination Report was filed in a timely manner on 7 April 2008, replacing the term "catalyst precursor" with "support carrying said cobalt compound".

Australian prosecution

The Australian patent is again based on the International application. The patent was granted on 20 March 2008 with claims that are generally in line with the granted European patent.

1 The non-statutory obviousness-type double patenting objection is a formal objection arising from the existence of the earlier application from which this application is derived and which covers related subject matter. Such objections are not uncommon and are normally addressed by a terminal disclaimer, as explained in the next footnote.

2 A terminal disclaimer is a binding statement made by a patent applicant when more than one patent has been obtained by the inventor on substantially the same invention. The disclaimer causes the later patent to expire at the same time as the earlier patent.

3.4.2 *Catalyst*

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
UK	0214383.0	21 June 2002	N/A	Priority patent application – PCT filed
International (PCT)	PCT/GB2003/002701 WO2004/000456	20 June 2003	N/A	Entered the national and regional phases below
China	03814581.2 CN1662300A	20 June 2003	20 June 2023	Filed response to second examination report 11 October 2007
Japan	2004-515056 JP2005-529744A	20 June 2003	20 June 2023	Examination requested 15 June 2006
Europe	03735825.6 EP1513613A	20 June 2003	20 June 2023	First examination report was issued 10 July 2008
South Africa	2005/0280 ZA2005/0280	20 June 2003	20 June 2023	Granted 29 March 2006
USA	10/519170 US7,304,012B2	20 June 2003	20 June 2023 plus 281 days patent term adjustment	Granted 4 December 2007

International prosecution

The PCT application was filed claiming priority from the United Kingdom application which has now lapsed. It was filed with a claim directed to a process of preparing a supported catalyst or catalyst precursor containing carbon, said process comprising:

(a) preparing a liquid mixture of: (i) at least one catalyst support or catalyst support precursor; (ii) at least one metal-containing compound, wherein said metal is selected from V, Cr, Mn, Fe, Co, Ni, Cu, Mo and W; and (iii) at least one polar organic compound which acts as a solvent for the metal-containing compound, said liquid mixture comprising 0 to 20 wt per cent. of water based on the total weight of the mixture;

(b) converting said mixture to a paste or solid residue; and

(c) combusting the residue in an oxygen-containing atmosphere to at least partially convert the organic compound to carbon and to form said supported catalyst or catalyst precursor.

The application also claims a process for preparing a supported catalyst or catalyst precursor containing carbon, said process comprising:

(a) preparing a mixture of: (i) at least one porous catalyst support and (ii) at least one organic compound in a solvent, said mixture comprising 0 to 20 wt per cent. of water based on the total weight of the mixture;

(b) removing the solvent such that the organic compound is deposited in the pores of the catalyst support;

(c) mixing the catalyst support with a solution of at least one metal-containing compound and removing the solvent to form a solid residue or kneading or mechanical mixing the catalyst support with at least one metal-containing compound, wherein said metal is selected from V, Cr, Mn, Fe, Co, Ni, Cu, Mo and W; and

(d) combusting the resultant solid in an oxygen-containing atmosphere to at least partially convert the organic compound to carbon and to form said supported catalyst or catalyst precursor.

The application additionally claimed a process for carrying out a Fischer-Tropsch synthesis, hydrotreating, hydrocarbon partial oxidation, steam reforming or carbon dioxide reforming reaction using a catalyst prepared by the above process which comprises before activation carbon in an amount of up to 8 wt per cent.

Further claims are directed to a Fischer-Tropsch synthesis catalyst or catalyst precursor comprising, on an inert support,

(i) 10 to 40 wt per cent. cobalt, nickel or a mixture thereof;

(ii) 1 to 10 wt per cent. at least one promoter selected from zirconium, uranium, titanium, thorium, hafnium, cerium, lanthanum, yttrium, magnesium, calcium, strontium, cesium, rubidium, molybdenum, tungsten, chromium, manganese, and rare earth elements; and

(iii) carbon in an amount of up to 8 wt per cent.;

the above percentages being based on the total weight of the supported catalyst;

and to a steam reforming catalyst or catalyst precursor comprising, on an inert support,

(i) 0.1 to 30 wt per cent. cobalt, nickel or a mixture thereof;

(ii) 0 to 10 wt per cent. of at least one promoter selected from sodium, potassium, uranium, titanium, thorium, hafnium, cerium, lanthanum, yttrium, magnesium, calcium, strontium, cesium, rubidium, molybdenum, tungsten, chromium, manganese and rare earth elements; and

(iii) carbon in an amount of up to 4 wt per cent.; the above percentages being based on the total weight of the supported catalyst.

The International Searching Authority raised an objection of disunity of invention[3]. Further search fees were paid to ensure that all of the claims were searched. There was no International examination.

The International application was then brought into the national and regional phases listed below.

European prosecution

The European application is the Regional phase of the above International application. All contracting states were designated. A first Examination Report was issued on 10 July 2008. In the Report, the Examiner has asked the applicant to specify on which of the four inventions he identifies the applicant wishes further prosecution of the application to be based. A four-month term expiring 10 November 2008 has been set for response. No response has yet been filed.

A review was carried out on European Patent Application No. 03735825.6 by the Isis patent attorneys prior to April 2006. The Isis patent attorneys reviewed the claims of the published application to see whether they are likely to be considered patentable by the European Patent Office having regard to the documents cited in the International Search report and in the search report of the United Kingdom priority application. No guarantee can be given as to the likely outcome of the Examination. It is not possible to predict whether or not an application will proceed to grant with any real degree of certainty. However, the Isis patent attorneys were of the opinion that all of the independent claims are likely to be novel and inventive, although it may be necessary to carry out experiments to deal with objections should they arise. The Isis patent attorneys have not updated their review although they note that the United States application proceeded to grant with no real difficulty.

3 An objection of disunity of invention arises when a patent application is perceived by the examining authority to relate to more than one invention. If the objection cannot be overcome by argument, one or more divisional patent applications can normally be filed in order to pursue the second or subsequent inventions.

United States prosecution

The United States patent (no. 7,304,012B2) is the national phase of the above International application. The patent was granted on 4 December 2007 essentially on the basis of the independent claims originally filed in the International application (see above), although the claim dependencies have been changed in accordance with standard United States practice. A request for a Certificate of Correction was filed on 14 August 2008, seeking correction of a typographical error introduced during the printing of the patent specification.

Chinese prosecution

The Chinese application is also based on the above International application. A second Examination Report was issued maintaining lack of inventive step objections against the independent process claims that were previously raised in a first Examination Report. No objections were raised against the independent product claims in the second Examination Report. A response to the Examination Report was filed in a timely manner on 11 October 2007. No substantive amendments were made to the claims. However, arguments were submitted in response to the lack of inventive step objections. The Isis patent attorneys have not yet received any response from the Examiner.

South African prosecution

The South African application is based on the International application. No examination is carried out in South Africa. Grant occurred on 29 March 2006.

Japanese prosecution

The Japanese application is also based on the International application. A request for examination was filed in a timely manner on 15 June 2006. The Isis patent attorneys are waiting for the first examination report to be issued.

3.4.3 *Catalytic Reaction Between Methanol and a Peroxide*

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
UK	0402487.3	4 February 2004	N/A	Priority patent application – PCT filed
International (PCT)	PCT/GB2005/00401 WO2005/075342	4 February 2005	N/A	Entered the national and regional phases below
China	200580004024.3 CN1914116A	4 February 2005	4 February 2025	First examination report was issued on 18 April 2008
Europe (EPO)	05708239.8 EP1711431A	4 February 2005	4 February 2025	Pending
Japan	551921/2006 JP2007-522068A	4 February 2005	4 February 2025	Examination requested 24 January 2008
South Korea	10-2006-7015797	4 February 2005	4 February 2025	Request for Examination due 4 February 2010
USA	10/588156 US2007-01675A	4 February 2005	N/A	First substantive examination report was issued on 10 April 2008

International prosecution

The PCT application was filed claiming priority from the United Kingdom application which has now lapsed. It was filed with claims directed to a process for initiating a reaction between methanol and a peroxide to produce a gas, which comprises contacting methanol and peroxide in the liquid phase and at a pressure equal to, below or above atmospheric pressure in the presence of a catalyst comprising at least one group 7, 8, 9, 10 or 11 transition metal. It also claims an apparatus for carrying out a reforming reaction, said apparatus comprising storage means containing methanol and peroxide, a housing containing a catalyst comprising at least one group 7, 8, 9, 10 or 11 transition metal, and means for introducing the methanol and the peroxide into the housing.

The Search Report was issued and it was accompanied by a Written Opinion of the International Searching Authority indicating that the independent claims lack novelty and inventive step.

No International examination was requested. The 30-month deadline for filing national and regional phases was 4 August 2006 and the application was brought into the national and regional phases below. No substantive amendments were made to the claims upon entry into the national and regional phases.

A review was carried out on International Patent Application No. PCT/GB2005/00401 by the Isis patent attorneys prior to April 2006. The Isis patent attorneys considered the claims of the published application to see whether the eventual European regional phase application will be granted. No guarantee can be given as to the likely outcome of the Examination. It is not possible to predict whether or not an application will proceed to grant with any real degree of certainty. The Isis patent attorneys were of the opinion that claim 1 (directed to a process for initiating a reaction between methanol and a peroxide to produce a gas) is arguably novel and inventive, but that if it is not it should be possible to ensure novelty and inventive step by amendment of the claim. Claim 19 (directed to an apparatus for carrying out a reforming reaction) was likely to lack novelty, but the Isis patent attorneys believe that amendments could be made to it to ensure that it is novel and inventive. The Isis patent attorneys have not updated this review although they note that objections have occurred in the United States and China.

European prosecution

The European application is the Regional phase of the above International application. All contracting states were designated. The Isis patent attorneys are waiting for the first examination report to be issued.

United States prosecution

The United States application is the national phase of the above International application. The independent claims of the US application are the same as the independent claims of the International application as originally filed. A restriction requirement was issued on 16 January 2008, following which method claims 1 to 18 were selected. A substantive examination report was issued on 10 April 2008. Lack of novelty and lack of inventive step objections were raised against the claims on the basis of a new reference, US Patent No. 7,344,789, that was not cited in the International Search Report. The Isis patent attorneys are about to instruct their associates to file a response amending claim 1 to require the peroxide to be hydrogen peroxide, and to delete the possibilities of the pressure being below atmospheric pressure and the catalyst to comprise a Group 7 transitional metal.

Chinese prosecution

The Chinese application is also based on the above International application. A first examination report issued on 18 April 2008 raising objections of lack of novelty and lack of inventive step based on the documents cited in the International Search Report. A response has to be filed by 3 November 2008. The Isis patent attorneys have not yet received instructions on how to proceed.

South Korean prosecution

The South Korean application is also based on the above International application. A request for examination has to be filed by 4 February 2010.

Japanese prosecution

The Japanese application is also based on the above International application. A request for examination was filed on 24 January 2008. The first examination report has yet to be issued.

3.4.4 *Catalytic Process*

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
UK	0515916.5	2 August 2005	N/A	Priority patent application – PCT filed
UK	0516993.3	18 August 2005	N/A	Priority patent application – PCT filed
Republic of China (Taiwan)	95128276 TW200711990	2 August 2006	2 August 2026	Awaiting first Examination Report
International	PCT/GB2006/002822 WO2007/015070	28 July 2006	N/A	Entered the national and regional phases below
China	200680028379.0 CN101233076A	28 July 2006	28 July 2026	Awaiting first Examination Report
Europe (EPO)	06765140.6 EP1910221A	28 July 2006	28 July 2026	Awaiting first Examination Report
Japan	524578/2008	28 July 2006	28 July 2026	Awaiting first Examination Report
South Africa	10-2008-7002820	28 July 2006	28 July 2026	Awaiting first Examination Report
USA	11/989905	28 July 2006	N/A	Awaiting first Examination Report

International prosecution

The PCT application was filed claiming priority from the two United Kingdom applications which have now lapsed. The PCT application was filed with claims directed to a process for initiating a reaction between hydrogen peroxide and an organic compound which comprises contacting the hydrogen peroxide and the organic compound in the liquid phase in the presence of a catalyst; wherein a) the organic compound is an alcohol, carbohydrate, aldehyde, ketone, carboxylic acid or ether; b) the catalyst comprises at least one group 7, 8, 9, 10 or 11 transition metal; c) the ratio of H_2O_2: atomic carbon in the organic compound is from 0.2:1 to 6:1; and d) the ratio of any water present : atomic carbon in the organic compound is from 0:1 to 2:1; with the proviso that the organic compound is not or does not comprise methanol. The application was also filed with claims to an apparatus for carrying out a reforming reaction, said apparatus comprising storage means containing hydrogen peroxide and an organic compound which is an alcohol, carbohydrate, aldehyde, ketone, carboxylic acid or ether with the proviso that the organic compound is not or does not comprise methanol; a housing containing at least one group 7, 8, 9, 10 or 11 transition metal catalyst; and means for introducing the peroxide and organic compound into the housing.

The Search Report was issued on 11 December 2006 and it was accompanied by a Written Opinion of the International Searching Authority. In the Written Opinion, lack of novelty objections were raised against the independent claims. A detailed review of these objections has not been made. An International Preliminary Report on Patentability was issued on 14 February 2008, repeating the objections raised in the Written Opinion of the International Searching Authority.

The Written Opinion considered the subject matter of dependent claim 17 to be novel and inventive. This dependent claim specifies that the initiation is carried out at a temperature of less than 200°C. When the application was filed, this was considered to be an important feature of the overall process. Since the Written Opinion was provided by the European Patent Office acting as International Searching Authority, in Europe at least, the Isis patent attorneys believe it likely that it will be possible to obtain a granted patent limited to this feature when incorporated into claim 1.

No International examination was requested. The 30-month deadline for filing national and regional phases was 2 February 2008 and the application was brought into the national and regional phases in China, Europe, Japan, South Korea and the United States. No substantive amendments were made to the claims upon entry into the national and regional phases.

European prosecution

The European application is the regional phase of the above International application. All contracting states were designated and the examination fee has been paid. The Isis patent attorneys are waiting for the first examination report to be issued.

United States prosecution

The United States application is the national phase of the above International application. The Isis patent attorneys have not yet received notification of the publication number. The first examination report has yet to be issued.

Chinese prosecution

The Chinese application is also based on the above International application. A request for examination of this case was filed on 1 February 2008 and the Isis patent attorneys are waiting for the first examination report to be issued. The application was published on 30 July 2008 under Publication No. CN101233076A.

South Korean prosecution

The South Korean application is also based on the above International application. A request for examination was filed on 1 February 2008 and the Isis patent attorneys are waiting for the first examination report to be issued. The Isis patent attorneys have not yet received notification of the publication number.

Japanese prosecution

The Japanese application is also based on the above International application. A request for examination was filed on 2 April 2008. The first examination report has yet to be issued. The Isis patent attorneys have not yet received notification of the publication number.

Republic of China (Taiwanese) prosecution

A Taiwanese application was filed claiming priority from the two United Kingdom applications which have now lapsed. The text of the application is substantially the same as the text of the corresponding PCT application. A request for examination of this application was filed on 31 March 2008 and the Isis patent attorneys are waiting for the first examination report to be issued.

4. Intellectual property of Velocys

4.1 *Summary*

This section of the Report explains the composition of Velocys' intellectual property ("IP") portfolio, including its patent and trade mark protection. Velocys is based in the United States. This section of the Report therefore focuses on factual information relating to Velocys' United States patent rights, both as owner and as licensee, including (a) the identification of those patent rights that are "material" (defined in Section 4.5.2 as "patents and patent applications to which Velocys has rights as either owner or licensee, which cover inventions relating to Fischer-Tropsch reactions (FT), steam methane reforming (SMR), emulsions, ethylene, or ethylene oxide that are likely to be commercialized, by Velocys or a third party, within three (3) years of this Report"), (b) Velocys' ownership rights in those patents and patent applications owned by Velocys (as explained in section 4.5.5), (c) the validity of such patent rights, and (d) any infringement issues regarding either infringement by third parties of Velocys' patent rights or asserted infringement by Velocys of third party patent rights.

This section of the Report is organised as follows:

4.2 *Scope of this section of the Report*

This Report includes a factual analysis of Velocys' United States patents and patent applications, registered trade marks and trade mark registration applications.

Velocys has stated that it understands the benefits to its business of obtaining intellectual property protection. In this regard, Velocys patents, patent applications, and trade secrets comprise the bulk of

Velocys' intellectual property portfolio. In addition, however, Velocys owns certain United States trade mark registrations and applications focused generally on the "VELOCYS" name and logo.

Prior to the preparation of this Report, Carpmaels & Ransford has not acted for Oxford Catalysts, Velocys, Battelle Memorial Institute or any other third party in connection with any intellectual property identified in this section of the Report. Carpmaels & Ransford has not been involved with the filing or prosecution of any intellectual property identified in this section of the Report.

This Report is based on information provided to Carpmaels & Ransford by United States patent attorneys from within the Intellectual Property and Technology Practice Group of a US-based, full-service international law firm (hereinafter "the United States patent attorneys"). The Intellectual Property and Technology Practice Group of the US law firm comprises approximately 150 members and devotes significant time to transactional, including due diligence, matters. The United States patent attorneys have not been involved with the filing or prosecution of any intellectual property identified in this section of the Report. Except to the extent specifically stated herein, Carpmaels & Ransford has not carried out independent verification of the information provided by the United States patent attorneys.

Except where specifically indicated, it has not been within the remit of Carpmaels & Ransford or the United States patent attorneys to investigate title to the patents and patent applications identified in this section of the Report, or to investigate the validity of any licence relating to any patents and patent applications identified in this section of the Report. Accordingly, no opinion is given in this regard except where specifically indicated.

In respect of the rights identified in this section of the Report, the Report includes a description of the inventions claimed in the United States patents and patent applications and details of their filing and prosecution history, provided to us by the United States patent attorneys. The status of corresponding patents and patent applications in other jurisdictions has been verified only to the extent of verifying the publication of such patents and patent applications on the "FamPat" or "WPIL" patents databases, which are commercially available via Questel. The status of national patents derived from European patent applications has not been determined. No verification as to the current status of such patents and patent applications has been carried out. Carpmaels & Ransford has not verified the subject matter or claim scope of patents and patent applications identified in this section of the Report. In particular, Carpmaels & Ransford has not verified that the scope of the claims of the non-US patents or pending applications corresponds to the scope of the claims of any of the US patents or pending applications in the same family.

No opinion as to the likely patentability or validity of the patents and patent applications identified in this section of the Report is given. No opinion is given as to whether any of the subject matter of the patents and patent applications identified in this section of the Report infringes any third party patents or other rights.

4.3 ***Sources of factual information***

Information gathered by the United States patent attorneys and provided to Carpmaels & Ransford was limited to factual information drawn primarily from three sources: (1) interviews and discussions with Laura Silva, Manager, Business Development of Velocys, (2) a review of prosecution and related files made available by Velocys, and (3) certain searches of publicly available information identified below. If any other source is relied upon, this Report specifically notes such source and the extent to which it was relied upon.

Laura Silva

Laura Silva has been employed by Velocys since February 2002, before which she was employed by Battelle from 1990 to 2002. Ms Silva's responsibilities at Velocys include working with senior management to develop and implement Velocys' intellectual property strategy and licensing agreements. Additionally, her responsibilities include assisting in the development and implementation of Velocys' business strategy by building and maintaining commercial relationships with industry and government partners and for positioning Velocys as a leader in microchannel

technology. Her responsibilities also include conducting research and analysis of business opportunities and assessing potential markets to make recommendations for new projects for microchannel processes.

As part of her IP-specific duties, Ms Silva provides intellectual asset management, including the development and maintenance of a comprehensive portfolio of patents, trade marks, and trade secrets. She analyzes new invention proposals and meets with inventors. After such analysis, she works with senior management to decide whether invention proposals should be pursued, either by way of patent or trade secret protection. If Velocys decides to pursue a patent, she works with technical staff and attorneys to file and prosecute patent applications. In addition, Ms Silva leads or participates in agreement negotiations, including IP licences and other contractual vehicles, to meet client needs and appropriately protect the organization.

Velocys' prosecution files

Velocys allowed review of its files for Velocys owned patents and applications designated "material" to ascertain whether each file contains executed assignments giving ownership rights to Velocys. The review revealed proper and sufficient assignment documentation for those patents with respect to which any and all inventors were or are Velocys employees.

For inventions involving third party inventors, Velocys' files contain complete assignments from third parties to Velocys, but do not contain complete assignments from the third party employees to the third party. Therefore, review of these files cannot confirm whether third party employees, including Battelle employees, executed assignments to such third party. Velocys has stated that it does not consider this to represent a material risk.

Publicly available information

Publicly available information, including the United States Patent & Trademark Office's ("USPTO") website and the Lexis database, was reviewed to investigate Velocys' intellectual property portfolio. Of course, the accuracy of those databases is outside of the United States patent attorneys' control, and any information contained in this Report derived from those databases is only as accurate as the databases themselves.

To the extent that information has been verified by Carpmaels & Ransford, such verification has been carried out using publicly available databases such as commercial patents databases (for example, FPAT or WPIL) or, where available, patent or trade mark office databases. Information concerning European patent applications has been checked against the European Patent Office's Register of European Patents. It will be appreciated that the accuracy of those databases is outside of the control of Carpmaels & Ransford, and any information contained in this Report derived from those databases is only as accurate as the databases themselves.

4.4 ***Overview of Velocys' business and technology***

Velocys provided the following technology description.

Velocys develops microchannel process technology to enhance chemical processes. Velocys' chemical processors have parallel arrays of microchannels, with typical dimensions in the 100 micron-5mm range. Processes are intensified by decreasing transfer resistance between process fluids and channel walls. This structure allows use of more active catalysts than conventional systems, greatly increasing the throughput per unit volume. Overall system volumes can be reduced by ten to one hundred fold compared to conventional hardware. While Velocys' technology relates to a range of areas, five important technology areas of interest covered in this Report are Steam Methane Reforming, Fischer-Tropsch, emulsification, ethylene, and ethylene oxide.

Velocys' Steam Methane Reforming (SMR) technology consists of a process and apparatus, with an integrated catalyst that combines catalytic SMR with catalytic combustion in a single microchannel reactor. The technology uses chemical processing in microchannels to significantly enhance the

reactor productivity, driving down the cost and footprint of the process system. Natural gas, or other methane-containing mixture, is combined with steam and fed to the SMR reactor assembly, where this combined feed stream is manifolded to thousands of process-side microchannels with a wall-coated SMR catalyst. The SMR operates at close to equilibrium conversion with a contact time of less than 10 milliseconds.

Fuel and air are each separately manifolded to the SMR reactor assembly for manifolding to thousands of parallel combustion-side microchannels with a wall-coated combustion catalyst. Air from air microchannels is fed to fuel channels in a distributed fashion to control the temperature profile as the combustion proceeds. The heat from combustion reaction is transmitted to the SMR catalyst through the walls of the microchannels separating the process and combustion sides. The combustion and SMR microchannels are oriented in an interleaved fashion, with many microchannel "repeating units", each performing the same function in parallel. The reactor is constructed from thousands of thin sheets of metal which have had material removed from the sheet in order to form three-dimensional flow channels. The sheets are stacked in the desired orientation and diffusion bonded together to form a reactor. Multiple reactors are manifolded together in a pressure vessel, the combination of reactors and pressure vessel being termed a reactor assembly.

Velocys' Fischer-Tropsch (FT) Technology consists of a process and apparatus, with an integrated catalyst that combines catalytic Fischer-Tropsch reaction with partial boiling of water in a single microchannel reactor. Like the SMR process, the microchannel technology enables significant improvements in mass and heat transfer, which are used to reduce the cost and footprint of the process. The process feed to the FT reactor assembly consists of a syngas-containing stream, and is manifolded to many process-side microchannels containing a particulate catalyst. Treated water is fed to many cooling microchannels interleaved with the FT reaction channels. The water removes the heat from the FT reaction, which results in partial vaporization of the water to steam. At a high level, the construction of the FT reactor is similar to the SMR reactor, consisting of many thin sheets of metal, passageways for flow, stacking, bonding, and incorporation into assemblies.

Velocys' emulsification technology consists of a process and apparatus to mix immiscible liquids to form an emulsion or dispersion. The mixing in this case occurs by droplet-shearing, similar to membrane emulsification, where the discontinuous phase is introduced to the continuous phase through one or more apertured substrates. The microchannel geometry is selected to control and optimize the exposure during mixing to shear and, optionally, temperature. The mixture can be rapidly heated and/or cooled immediately upstream, downstream, or at the point of mixing in order to optimize formulation. This mixing environment can be used for effecting phase changes and/or conducting reactions.

Velocys' ethylene technology consists of a process and apparatus to convert ethane to ethylene via oxidative dehydrogenation (ODH). ODH is a more thermally-neutral chemistry than traditional steam cracking, which requires a significant amount of energy. Conventional reactor technology has not been able to achieve sufficient control of the ODH route in order to achieve attractive yields of ethylene. Velocys has developed an ODH microreactor and catalyst to achieve economically-attractive yields, which can enable significant feedstock/energy savings compared to conventional steam cracking. The ODH reaction is conducted at high temperature (> 900°C), close to atmospheric pressure, using a proprietary wall-coated catalyst.

Velocys' ethylene oxide technology consists of a process and apparatus to convert ethylene to ethylene oxide via selective oxidation. The process uses process microchannels filled with a solid particulate catalyst, with interleaved heat removal channels. The reactor and heat exchange channels enable tight control over the exotherm, such that the catalyst can operate with a higher selectivity, higher productivity, and a longer life.

Complementing the above technology areas, the Velocys technology is also focused on achieving the advantages of enhanced mass and heat transfer for commercial-scale production of chemicals, at a so-called "Large Scale." Velocys' intellectual property provides cross-cutting technical solutions for scale-up problems that are expected to benefit multiple process flowsheets. Therefore, a number of

Velocys patents and patent applications address broad technical themes to scale up the technology, although specific applications are disclosed in the patent cases. Example themes include, but are not limited to, manifolding, mixing, catalyst supports, reactor assemblies, process control, partial boiling, and fabrication.

4.5 ***Velocys' patent portfolio***

4.5.1 *Overview*

Velocys has a large patent portfolio. Velocys exclusively owns 20 United States issued patents and 64 United States patent applications, and co-owns an additional United States Patent application with a third party. In addition, Velocys has a partly exclusive and partly non-exclusive licence for certain fields of use from Battelle in 63 United States issued patents and 22 United States patent applications.

Velocys understands the importance of protecting its technologies through seeking patent protection, where appropriate. Velocys has a strategy of considering pursuing patent protection for novel technologies it develops. To harvest potential inventions and trade secrets, Velocys encourages its employees liberally to complete "invention" reports, which reports can broadly cover tools, inventions, and know-how. Relevant Velocys employees, including Laura Silva, review and discuss the invention reports periodically (approximately every 2-3 months) and determine whether the disclosed idea warrants patent protection, trade secret protection, or further development. In addition to reports, Velocys occasionally informally gathers ideas that are discussed in the office. If Velocys decides to pursue patent protection, Velocys' outside counsel considers the patentability of the invention and, if it appears that commercially valuable protection can be obtained, Velocys, through its counsel, works with the inventors to develop claims and then files an application.

Velocys' strategy is to file a first patent application at the United States Patent & Trade Mark Office (USPTO) and then, within 12 months, to file a subsequent international (PCT) application which specifies the countries in which patent protection may ultimately be sought, making use of the Paris Convention which provides priority rights for up to a year in all major industrialized countries for such a first application. Velocys generally designates all possible designated states that are signatories to the PCT, with a view to filing regional and national applications in those territories in which the invention is most likely to be exploited. At the time of filing the PCT application, Velocys also considers other national filings in non-PCT countries which may be beneficial depending on the subject matter of the application. This approach gives Velocys the potential for obtaining protection in major markets while deferring and/or keeping down the costs of obtaining patent protection.

Based on materials provided by Laura Silva, Velocys' Patent Portfolio can be subdivided into three categories:

(1) Patents and applications owned by Velocys ("Velocys owned patents and applications,");

(2) Patents and applications owned by Battelle, which licenses the patents and applications to Velocys ("Battelle owned patents and applications,"); and

(3) Patents and/or applications owned by a third party, other than Battelle, that licenses the patents and/or applications to Velocys.

As explained in more detail above and in the following subsection regarding "material" patents and applications, only the subset of the patent portfolio deemed "material" was investigated and included in this Report and, except as detailed below, the other patents and patent applications have not been investigated.

4.5.2 *Materiality*

For the purposes of this analysis, Velocys designated certain United States patents and patent applications as "material." Velocys and Oxford Catalysts agreed to define "material" patents and applications as "patents and patent applications to which Velocys has rights as either owner

or licensee, which cover inventions relating to Fischer-Tropsch reactions (FT), steam methane reforming (SMR), emulsions, ethylene, or ethylene oxide that are likely to be commercialized, by Velocys or a third party, within three years of this Report." Velocys and Oxford Catalysts have made this designation to allow a factual analysis of patents that Velocys views as relatively more important for its current operations, but by this designation neither Velocys nor Oxford Catalysts states or implies that other patents do not have current or future value.

In the remaining sections relating to Velocys' patent portfolio, this Report relates to the United States Velocys owned material patents and applications and the United States Battelle owned material patents and applications. This information is supplemented by details of related patents and patent applications outside the United States. The review does not include any non-material patents or applications. Except as indicated, this Report lists but does not include a review of related patents or applications outside of the United States.

4.5.3 *Review of material patents and applications*

This section of the Report summarizes each of the material patents and applications. For convenience, the material patents and applications have been divided into Velocys owned and Battelle owned groups.

4.5.3.1 **Velocys owned material patents and applications**

The Velocys owned material patents and applications can be further subdivided based on target product applications designated by Velocys as representative of the technology areas to which the patents primarily relate, and these designations have been adopted for the purposes of this analysis. By organizing the patents and applications based on the first-listed target product application, this Report is not meant to imply any relative level of importance of that target product application.

The following tables of patents and patent applications are based on data supplied by Velocys and verified on public databases to the extent discussed in Section 4.3 above.

The publication of certain patents and patent applications in the following list could not be verified from public databases. This does not necessarily mean that the application does not exist. It can happen, for example, if the filing is recent and has not yet been made public by the national office. It can also happen if the database coverage does not (or did not) extend to that country at the date of publication. For these applications, marked with a plus sign (+), documentary evidence of filing has been supplied by Velocys to the US patent attorneys and has been seen by Carpmaels & Ransford.

The expiry dates for the US patents are those provided by the United States patent attorneys. As discussed, certain patents may be subject to patent term adjustments under US law. Where possible, Carpmaels & Ransford has calculated expiry dates for the patents and applications in jurisdictions other than the USA, assuming that the patent or application is granted and is maintained in force for the normal maximum 20-year term. The entry "N/A" appears in respect of International (PCT) patent applications, which do not themselves give rise directly to granted patents, and in respect of pending US patent applications, which may be the subject of patent term adjustments arising during the prosecution of the applications.

Fischer-Tropsch ("FT")

Microchannel Apparatus, Methods of Making Microchannel Apparatus, and Processes of Conducting Unit Operations

US patent number 6,989,134 was granted on 24 January 2006, from an application filed on 27 November 2002. Consistent with patent term adjustment calculations, the patent expires on 9 June 2023. The patent is titled "Microchannel Apparatus, Methods of

Making Microchannel Apparatus, and Processes of Conducting Unit Operations" and generally relates to a process of conducting a unit operation in device comprising a step of passing a process stream into a device comprising a substrate having a surface, the surface having a first section and a second section, a first support on the first section of the surface of the substrate and a first thin sheet over the support and a microchannel between the substrate and the thin sheet, wherein the microchannel has a thickness defined by the surface of the support and a first surface of the thin sheet, wherein the first support has a thickness that is substantially equal to the thickness of the microchannel, a second support on the second section of the surface of the substrate and a second thin sheet over the second support and a first channel between a second surface of the first thin sheet and a surface of the second thin sheet, and a second channel between the substrate and the surface of the second thin sheet, and wherein the second support has a thickness that is greater than the thickness of the first support, and channel walls on the surface of the substrate and adjacent to the microchannel such that there is a continuous flow path between the microchannel and the second channel, and wherein the thickness of the second channel is greater than the thickness of the microchannel, and wherein the process stream passes through the continuous flow path formed by the microchannel and the second channel.

US patent application number 11/255,633 was filed on 20 October 2005, and claims priority to U.S. patent number 6,989,134, filed on 27 November 2002 (discussed above). The available records indicate that the USPTO has not yet issued any action on this application. The application is titled "Microchannel Apparatus, Methods of Making Microchannel Apparatus, and Processes of Conducting Unit Operations" and generally relates to a method of making, and an apparatus made from the method of making a laminated device, comprising providing a first strip having a thin portion and a first mating feature disposed in the thin portion, providing a second strip or a sheet comprising a second mating feature disposed in the second strip or sheet, wherein the first mating feature and the second mating feature fit together in a lock and key fashion, and connecting the first mating feature on the first strip to the second mating feature on the second sheet or sheet.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/306,722 US6,989,134B	27 November 2002	9 June 2023	Granted
US	11/255,633	27 October 2005	N/A	Filed
International (PCT)	PCT/US2003/037936 WO2005032708	26 November 2003	N/A	National/ regional phase
Europe (EPO)	03 818 061.8 EP1572349	26 November 2003	26 November 2023	Filed
Australia	2003304489	26 November 2003	26 November 2023	Filed
Canada	2507650	26 November 2003	26 November 2023	Filed
China	200380108125.6	26 November 2003	26 November 2023	Filed
Japan	PCT/US2003/037936	26 November 2003	26 November 2023	Filed
South Africa	2005/05194	26 November 2003	26 November 2023	Filed

Fischer-Tropsch Synthesis Using Microchannel Technology and Novel Catalyst and Microchannel Reactor

US patent number 7,084,180 was granted on 1 August 2006, from an application filed on 28 January 2004. Consistent with patent term adjustment calculations, the patent expires on 24 April 2024. The patent is titled "Fischer-Tropsch Synthesis Using Microchannel Technology and Novel Catalyst and Microchannel Reactor" and generally relates to a process for converting a reactant composition comprising H_2 and CO to a product comprising at least one aliphatic hydrocarbon having at least about 5 carbon atoms, the process comprising flowing the reactant composition through a microchannel reactor in contact with a Fischer-Tropsch catalyst to convert the reactant composition to the product, the catalyst comprising Co supported on a support, the Co loading being at least about 25 per cent. by weight, the microchannel reactor comprising a plurality of process microchannels containing the catalyst, transferring heat from the process microchannels to a heat exchanger, and removing the product from the microchannel reactor, the process producing at least about 0.5 gram of aliphatic hydrocarbon having at least about 5 carbon atoms per gram of catalyst per hour, and the selectivity to methane in the product being less than about 25 per cent.

US patent application number 11/484,069 was filed on 11 July 2006, and is a divisional of U.S. patent number 7,084,180, filed on 28 January 2004 (discussed above). The available records indicate that the USPTO has not yet issued any action on this application. The patent is titled "Fischer-Tropsch Synthesis Using Microchannel Technology and Novel Catalyst and Microchannel Reactor" and generally relates to a microchannel reactor comprising at least one microchannel, the at least one microchannel comprising at least one catalyst, the catalyst comprising a composition represented by the formula $CoM_a^1M_b^2O_x$ wherein M^1 is Fe, Ni, Ru, Re, Os, or a mixture of two or more thereof, M^2 is Li, B, Na, K, Rb, Cs, Mg, Ca, Sr, Ba, Sc, Y, La, Ac, Ti, Zr, La, Ac, Ce or Th, or a mixture of two or more thereof, a is a number in the range of zero to about 0.5, b is a number in the range of zero to about 0.5, and x is the number of oxygens needed to fulfill the valency requirements of the elements present.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/766,297 US-7,084,180	28 January 2004	24 April 2024	Granted
US	11/484,069	11 July 2006	N/A	Filed
International (PCT)	PCT/US04/42065 WO2005075606	15 December 2004	N/A	National/ regional phase
Europe (EPO)	04 814 270.7 EP1713883	15 December 2004	15 December 2024	Filed
Australia	2004315214	15 December 2004	15 December 2024	Filed
Brazil	PI 0418465-3	15 December 2004	15 December 2024	Filed
Canada	2552283	15 December 2004	15 December 2024	Filed
China	200480041082	15 December 2004	15 December 2024	Filed
Japan	2006-551076	15 December 2004	15 December 2024	Filed
Russia	2006130871	15 December 2004	15 December 2024	Filed
South Africa	2006/05939 ZA-2006/05939	15 December 2004	15 December 2024	Granted

Partial Boiling in Mini and Micro-channels

U.S. patent application number 11/266,582 was filed on November 3, 2005, and claims priority to U.S. Provisional Application No. 60/624,860 filed on November 3, 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Partial Boiling in Mini and Micro-Channels" and generally relates to a process of removing heat from an exothermic process, comprising conducting an exothermic process in a process channel, removing heat from the exothermic process in the process channel to an adjacent minichannel or adjacent microchannel, passing a coolant fluid through the adjacent minichannel or adjacent microchannel that undergoes partial boiling for a length of at least 15 cm as it passes through the adjacent minichannel or adjacent microchannel, wherein the adjacent minichannel or adjacent microchannel comprises an interior wall surface that is a surface on a channel wall that separates the adjacent minichannel or adjacent microchannel from the process channel, and wherein the average shear stress of the fluid at the wall in the adjacent minichannel or adjacent microchannel for a length of at least 1 cm, either measured or calculated, is at least 1 Pascals (Pa).

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/266,582	3 November 2005	N/A	Filed
International (PCT)	PCT/US2005/039917 WO2006065387	3 November 2005	N/A	National/ regional phase
Europe (EPO)	05851354.0 EP1819436	3 November 2005	3 November 2025	Filed
Australia	2005317042	3 November 2005	3 November 2025	Filed
Brazil+	PI 0515824-9	3 November 2005	3 November 2025	Filed+
Canada	2585772	3 November 2005	3 November 2025	Filed
China	200580037825	3 November 2005	3 November 2025	Filed
GCC+	GCC/P/2005/5336	3 November 2005	3 November 2025	Filed+
Japan	2007-540057	3 November 2005	3 November 2025	Filed
Russia	2007114453	3 November 2005	3 November 2025	Filed
South Africa	2007/03548	3 November 2005	3 November 2025	Filed

Catalytic Reaction Process Using Microchannel Technology

U.S. patent application number 11/480,348 was filed on 30 June 2006. The patent application is titled "Catalytic Reaction Process Using Microchannel Technology." This patent application has not yet been published and thus is not publicly available.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	11/480,348	30 June 2006	N/A	Filed
International (PCT)	PCT/US06/26028 WO2007008495	30 June 2006	N/A	National/ regional phase
Europe (EPO)	06774485.4 EP1904223	30 June 2006	30 June 2026	Filed
Japan +	2008-520342	30 June 2006	30 June 2026	Filed +

Microchannel with Internal Fin Support for Catalyst or Sorption Medium

U.S. patent number 7,220,390 was granted on 2 May 2007, from an application filed on 16 May 2003. Consistent with patent term adjustment calculations, the patent expires on 23 September 2024. The patent is titled "Microchannel with Internal Fin Support for Catalyst or Sorption Medium" and generally relates to an apparatus, comprising at least one process microchannel having a height, width and length, the process microchannel having a base wall extending in one direction along the width of the process microchannel and in another direction along the length of the process microchannel, a fin assembly comprising a plurality of parallel spaced fins, the fins extending along at least part of the length of the process microchannel, the fin assembly being made separately from the microchannel and inserted into the microchannel the fin assembly providing additional support for the microchannel, and a catalyst or a sorption medium supported by the fins.

U.S. patent application number 11/617,158 was filed on 28 December 2006, and is a continuation of U.S. patent number 7,220,390, filed on 16 May 2003. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Microchannel with Internal Fin Support for Catalyst or Sorption Medium" and generally relates to a process for conducting a catalytic reaction or a fluid separation in an apparatus comprising at least one process microchannel, the process microchannel having a height, width and length, the height being up to about 10 mm, the process microchannel having a base wall extending in one direction along the width of the process microchannel and in another direction along the length of the process microchannel, at least one fin projecting into the process microchannel from the base wall and extending along at least part of the length of the process microchannel, and a catalyst or a sorption medium supported by the fin, the process comprising flowing one or more reactants in the process microchannel in contact with the catalyst, and reacting the one or more reactants to form a product, or flowing a fluid in the process microchannel in contact with the sorption medium, and sorbing one or more components of the fluid on the sorption medium.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/440,053 US-7,220,390	16 May 2003	23 September 2024	Granted
US	11/617,158	28 December 2006	N/A	Filed
International (PCT)	PCT/US04/10945 WO2004103550	8 April 2004	N/A	National/ regional phase
Europe (EPO)	04 749 913.2 EP1631376	8 April 2004	8 April 2024	Filed
Australia	2004241943	8 April 2004	8 April 2024	Filed
Canada	2525733	8 April 2004	8 April 2024	Filed
China	200480020337	8 April 2004	8 April 2024	Filed
Japan	2006-532390	8 April 2004	8 April 2024	Filed

Novel Catalyst and Fischer-Tropsch Synthesis Process Using Same

U.S. patent application number 11/170,907 was filed on 30 June 2005. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Novel Catalyst and Fischer-Tropsch Synthesis Process Using Same" and generally relates to a catalyst and a process for making a catalyst comprising cobalt and optionally a co-catalyst and/or promoter on a support, the catalyst being made by the process comprising (A) contacting the support with the cobalt and optionally the co-catalyst and/or promoter to form a supported catalyst, (C) oxidizing the supported catalyst, and (D) reducing the supported catalyst.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/170,907	30 June 2005	N/A	Filed

Flow Distribution Channels to Control Flow in Process Channels

U.S. patent application number 11/738,456 was filed on 20 April 2007, and claims priority to U.S. Provisional Application No. 60/745,614 filed on 25 April 2006. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Flow Distribution Channels To Control Flow in Process Channels" and generally relates to a microchannel device and a method of fluid processing, comprising passing a process stream into a manifold, wherein the manifold is connected to at least a first flow distribution channel (FDC) and a second FDC, wherein each FDC comprises a series of turns, comprising at least four turns that are 90° or less, or comprising at least two turns that are greater than 90°, and wherein the first FDC channel connects the manifold to a first process channel, wherein the second FDC channel connects the manifold to a second process channel, and wherein the portion of the process stream that flows through the first FDC connects with only one process channel and does not connect with any other FDC so that all of the portion of the process stream that enters the first FDC flows into the first process channel, and conducting a unit operation in the first and second process channels.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/738,456	20 April 2007	N/A	Filed
International (PCT)	PCT/EP2004/014509 WO2005063372	20 April 2007	N/A	Filed

Process and Apparatus for Converting Natural Gas to Higher Molecular Weight Hydrocarbons Using Microchannel Process Technology

U.S. patent application number 12/016,250 was filed on 18 January 2008. The patent application is titled "Process and Apparatus for Converting Natural Gas to Higher Molecular Weight Hydrocarbons Using Microchannel Process Technology." This patent application has not yet been published and thus is not publicly available.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	12/016,250	18 January 2008	N/A	Filed
International (PCT)	PCT/US08/51382 WO2008089376	18 January 2008	N/A	Filed

Loading/Unloading Particulates Into/Out of Microchannels

U.S. provisional patent application number 60/985,628 was filed on 5 November 2007. The provisional patent application is titled "Loading/Unloading Particulates Into/Out of Microchannels." This patent application has not yet been published and thus is not publicly available.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	60/985,628	5 November 2007	N/A	Filed

Process for Upgrading a Carbonaceous Material Using Microchannel Process Technology

U.S. provisional patent application number 61/043,465 was filed on 9 April 2008. The provisional patent application is titled "Process for Upgrading a Carbonaceous Material Using Microchannel Process Technology." This patent application has not yet been published and thus is not publicly available.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	61/043,465	9 April 2008	N/A	Filed

Integrated Microchannel Synthesis and Separation

International (PCT) patent application PCT/US07/19352 was filed on 5 September 2007 and claims priority from US patent application No. 11/516,027 filed on 5 September 2006. The patent application is entitled "Integrated Microchannel synthesis and separation" and generally relates to a process for carrying out at least two unit operations

in series, the process comprising the step of: directing a feed stream into an integrated assembly which comprises a first microchannel unit operation upon at least one chemical of the feed stream to generate a distributed output stream that exits the first microchannel unit operation in a first set of discrete microchannels isolating flow through the discrete microchannels; and directing the distributed output stream of the first microchannel unit operation into a second microchannel unit operation as a distributed input stream, to continue isolating flow between the first set of discrete microchannels, and conducting at least one operation upon at least one chemical of the input stream to generate a product stream that exits the second microchannel unit operation; wherein the first microchannel unit operation and the second unit operation share a housing. The PCT application is currently in its international phase

Details of the International (PCT) patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
International (PCT)	PCT/US07/19352 WO2008030467	5 September 2007	N/A	Filed – International phase

Steam Methane Reforming ("SMR")

Multi-stream Microchannel Device

U.S. patent number 7,014,835 was granted on 21 March 2006, and filed on 15 August 2002. Consistent with patent term adjustment calculations, the patent expires on May 20, 2023. The patent is titled "Multi-Stream Microchannel Device" and generally relates to a microchannel device or apparatus comprising a heat exchanger and reactor in combination, the heat exchanger comprising a first, and a second microchannel, the reactor comprising a first reactor microchannel in fluid communication with the first heat exchanger microchannel, a second reactor microchannel in fluid communication with the second heat exchanger microchannel, and a third reactor microchannel in fluid communication with the second reactor microchannel.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/222,604 US-7,014,835	15 August 2002	20 May 2023	Granted
International (PCT)	PCT/US03/24241 WO2004016347	5 August 2003	N/A	National/regional phase
Europe (EPO)	03788315.4 EP1539341	5 August 2003	5 August 2023	Filed
China	03818978	5 August 2003	5 August 2023	Filed

Integrated Combustion Reactors and Methods of Conducting Simultaneous Endothermic and Exothermic Reactions

U.S. patent number 7,250,151 was granted on 31 July 2007, from an application filed on 15 August 2002. Consistent with patent term adjustment calculations, the patent expires on 17 November 2023. The patent is titled "Methods of Conducting Simultaneous Endothermic and Exothermic Reactions" and generally relates to a method of conducting simultaneous exothermic and endothermic reactions, comprising flowing a fuel into a microchannel combustion chamber, adding an oxidant to the combustion

chamber such that the oxidant oxidizes the fuel and temperature in the combustion chamber increases from the front of the combustion chamber to the back, providing an endothermic reaction composition in an endothermic reaction chamber that is disposed adjacent to the combustion chamber, wherein the endothermic reaction chamber and the combustion chamber are separated by a thermally conductive wall, wherein the endothermic reaction composition endothermically reacts to form products, and wherein the temperature in the combustion chamber increases substantially monotonically from the front of the combustion chamber to the back.

U.S. patent application number 11/825,286 was filed on 2 July 2007, and claims priority to U.S. patent number 7,250,151, filed on 15 August 2002 (discussed above). The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Methods of Conducting Simultaneous Endothermic and Exothermic Reactions" and generally relates to an integrated reactor, comprising an exothermic microchannel comprising an exothermic reaction catalyst, an endothermic reaction microchannel adjacent the exothermic microchannel and comprising an endothermic reaction catalyst, the endothermic reaction catalyst having a length, in the direction of flow, of at least 10 cm, and a wall separating the exothermic reaction catalyst and the endothermic reaction catalyst. The application also relates to an integrated reactor, comprising a stack of at least two microchannels wherein at least one of the at least two microchannels comprises a removable catalyst insert and a catalyst door. The application also relates to a method of forming a laminated device, comprising forming a stack of shims that includes void-containing sacrificial shims, and applying heat and pressure to the stack and deforming the shims.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/222,196 US-7,250,151	15 August 2002	17 November 2023	Granted
US	11/825,286	2 July 2007	N/A	Filed
International (PCT)	PCT/US03/22490 WO2004028685	4 August 2003	N/A	National/ regional phase
Europe (EPO)	03789688.3 EP1531928	4 August 2003	4 August 2023	Filed
Canada	2495335	4 August 2003	4 August 2023	Filed
China	03823737	4 August 2003	4 August 2023	Filed
Japan	2004-539806	4 August 2003	4 August 2023	Filed

Catalysts, Methods of Making Catalysts, and Methods of Combustion

U.S. patent number 7,326,394 was granted on 5 February 2008, from an application filed on 7 March 2003. It is subject to a terminal disclaimer (defined in Section 3.4.1 of this Report) to U.S. patent numbers 7,250,151; 7,220,390; and 7,226,574; and thus expires on 17 November 2023. The patent is titled "Catalysts, Methods of Making Catalysts, and Methods of Combustion" and generally relates to a method of combusting a carbon-containing compound, comprising providing a gas mixture comprising CO or a hydrocarbon and an oxidant, and passing the gas mixture through a reaction chamber at a GHSV of at least 100,000 h^{-1} and a temperature of 400 to 1100°C., wherein the reaction chamber has an internal dimension of 1 cm or less, wherein a combustion catalyst is disposed in the reaction chamber, and wherein at least 20 per cent. of the CO or the hydrocarbon in the gas mixture is converted to CO_2, and wherein the combustion

catalyst comprises a metal substrate, a chromium-containing oxide layer in direct contact with the metal substrate, an active catalyst on the chromium-containing oxide layer, wherein the combination of the metal substrate, the active catalyst and the chromium-containing oxide layer define a catalyst, and wherein the catalyst has a low surface area of no more than 0.5 m^2/g and no more than 1 $m^2/inch^2$.

U.S. patent application number 11/959,459 was filed on 18 December 2007, and claims priority to U.S. patent number 7,326,394, filed on 7 March 2003. The available records indicate that the USPTO has not yet issued any action on this application. The application is titled "Catalysts, Methods of Making Catalysts, and Methods of Combustion" and generally relates to a catalyst system, comprising a metal substrate comprising chromium and cobalt; a chromium-containing oxide layer in direct contact with the metal substrate; wherein the chromium-containing oxide layer has a surface that is not adjacent to the metal substrate and wherein this surface has a Co:Cr ratio that is at least 50 per cent. less than the metal substrate; an active catalyst material on the chromium-containing oxide layer; wherein the combination of the metal substrate, the active catalyst material and the chromium-containing oxide layer define a catalyst, and wherein the catalyst has a low surface area of no more than 0.5 m^2/g or no more than 1 $m^2/inch^2$ of geometric surface area.

Details of the United States patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/384,169 US-7,326,394	7 March 2003	17 November 2023	Granted
US	11/959,459	18 December 2007	N/A	Filed

Manifold Designs, and Flow Control in Mutichannel Microchannel Devices

U.S. patent application number 10/695,400 was filed on 27 October 2003. The claims have been allowed and the issue fee has been paid, and the patent should be issued shortly. The patent application is titled "Manifold Designs, and Flow Control in Multichannel Microchannel Devices" and generally relates to a laminated device, and a method of using a laminated device comprising a first layer comprising microchannels that end in a first crossbar, and a second layer comprising microchannels that end in a second crossbar, wherein the first crossbar defines at least a portion of one edge of an M2M manifold, wherein the second crossbar projects into the M2M manifold, wherein an interface between the microchannels in the second layer and the manifold is formed by an open gap between the first and second crossbars.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/695,400	27 October 2003	N/A	Filed
International (PCT)	PCT/US2004/ 035601 WO2005044442	26 October 2004	N/A	National/ regional phase
Europe (EPO)	04796519.9 EP1682260	26 October 2004	26 October 2024	Filed
Canada	2547968	26 October 2004	26 October 2024	Filed
China	200480038093	26 October 2004	26 October 2024	Filed

Catalysts, Systems and Methods of Steam Reforming, and Methods of Making Steam Reforming Catalysts

U.S. patent application number 10/778,904 was filed on 13 February 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Steam Reforming Methods and Catalysts" and generally relates to a method of methane steam reforming, comprising conducting a reaction in which methane and steam contact a catalyst at a temperature of at least 800°C. for at least 1,000 hours (without regenerating the catalyst), wherein the catalyst comprises a stabilized alumina support and a catalytically active material, and further characterized by one or more of the following sets of conditions and process characteristics: (a) a contact time of 15 ms or less while achieving an average approach to equilibrium conversion of greater than 80 per cent., (b) a contact time of 10 ms or less while achieving an average approach to equilibrium conversion of greater than 70 per cent., or (c) a contact time of 5 ms or less while achieving an average approach to equilibrium conversion of greater than 65 per cent.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/778,904	13 February 2004	N/A	Filed
International (PCT)	PCT/US04/020221 WO2005003025	24 June 2004	N/A	National/regional phase
Europe (EPO)	04 756 005.7 EP1651562	24 June 2004	24 June 2024	Filed
Canada	2536462	24 June 2004	24 June 2024	Filed
China	200480018063	24 June 2004	24 June 2024	Filed

Oxidation Processes Using Microchannel Technology and Novel Catalyst Useful in Same

U.S. patent number 7,226,574 was granted on 5 June 2007, and is a continuation in part of U.S. patent number 7,220,390, filed on 16 May 2003. Consistent with patent term adjustment calculations, the patent expires on 4 July 2024. The patent is titled "Oxidation Processes Using Microchannel Technology and Novel Catalyst Useful in Same" and generally relates to a process for converting a hydrocarbon reactant to a partial oxidation reaction product comprising CO and H_2 in a microchannel reactor, the

microchannel reactor comprising at least one process microchannel and at least one partial oxidation reaction catalyst in the at least one process microchannel, the process comprising (A) mixing a reactant composition comprising the hydrocarbon reactant and oxygen or a source of oxygen in the at least one process microchannel and flowing the resulting mixture in the at least one process microchannel in contact with the at least one partial oxidation reaction catalyst under partial oxidation reaction conditions to form the product, the hydrocarbon reactant comprising methane, the contact time for the reactant composition within the at least one process microchannel being up to about 500 milliseconds, the temperature of the reactant composition and product within the at least one process microchannel being up to about 1500°C., the conversion of the hydrocarbon reactant being at least about 50 per cent.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/449,913 US-7,226,574	30 May 2003	4 July 2024	Granted
International (PCT)	PCT/US04/010611 WO2004103549	8 April 2004	N/A	National/regional phase
Europe (EPO)	04785469.0 EP1628755	8 April 2004	8 April 2024	Filed
Australia	2004241941	8 April 2004	8 April 2024	Filed
Canada	2525256	8 April 2004	8 April 2024	Filed
China	200480019997	8 April 2004	8 April 2024	Filed
Japan	2006-532382	8 April 2004	8 April 2024	Filed

Protected Alloy Surfaces in Microchannel Apparatus and Catalysts, Alumina Supported Catalysts, Catalyst Intermediates, and Methods of Forming Catalysts and Microchannel Apparatus

U.S. patent application number 11/088,685 was filed on 23 March 2005, and claims priority to U.S. Provisional Application No. 60/556,014, filed on 23 March 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Protected Alloy Surfaces in Microchannel Apparatus and Catalysts, Alumina Supported Catalysts, Catalyst Intermediates, and Methods of Forming Catalysts and Microchannel Apparatus" and generally relates to a microchannel reactor or separator and a method of using the same, comprising a complex microchannel defined by at least one microchannel wall, and a layer of aluminide disposed over the at least one microchannel wall.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/088,685	23 March 2005	N/A	Filed
International (PCT)	PCT/US2005/009815 WO2005094983	23 March 2005	N/A	National/regional phase
Europe (EPO)	05729334.2 EP1740303	23 March 2005	23 March 2025	Filed
Australia	2005229044	23 March 2005	23 March 2025	Filed
Brazil	PI 0508002-9	23 March 2005	23 March 2025	Filed
Canada	2560831	23 March 2005	23 March 2025	Filed
China	200580016096	23 March 2005	23 March 2025	Filed
Japan	2007-505171	23 March 2005	23 March 2025	Filed
Russia	2007133516	23 March 2005	23 March 2025	Filed

Microchannel Apparatus and Methods of Conducting Unit Operations with Disrupted Flow

U.S. patent application number 11/763,336 was filed on 14 June 2007. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Microchannel Apparatus and Methods of Conducting Unit Operations with Disrupted Flow" and generally relates to a microchannel apparatus and system and a method of conducting a unit operation in an integrated microchannel apparatus, comprising passing a fluid in an apparatus, wherein the apparatus comprises a manifold connected to plural connecting microchannels, wherein the manifold's volume is less than the volume of the plural connecting microchannels, wherein the manifold's length is at least 15 cm or wherein there are at least 100 connecting channels connected to the manifold, controlling conditions such that the fluid is in disrupted flow through at least a portion of the connecting microchannels, and conducting a unit operation on the fluid in the connecting microchannels.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Expiry Filing Date*	*Date*	*Status*
US	11/763,336	14 June 2007	N/A	Filed
International (PCT)	PCT/US2007/071409 WO2007149793	15 June 2007	N/A	Filed

Stable, Catalyzed, High Temperature Combustion in Microchannel, Integrated Combustion Reactors

U.S. patent application number 10/966,162 was filed on 15 October 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Stable, Catalyzed, High Temperature Combustion in Microchannel, Integrated Combustion Reactors" and generally relates to an integrated combustion reactor and a method of providing heat to an endothermic reaction in an integrated combustion reactor, comprising passing a composition comprising a hydrocarbon fuel and oxygen into a microchannel reaction chamber, wherein the microchannel reaction

chamber comprises a combustion catalyst, wherein the combustion catalyst comprises a support and catalyst metal, wherein the support comprises alumina and wherein the catalyst metal comprises Pt, wherein the catalyst comprises at least 30 weight per cent. Pt, wherein the hydrocarbon fuel is at least partially oxidized in the combustion chamber and heat is generated, wherein a thermally conductive wall separates the microchannel reaction chamber from an endothermic reaction chamber, and wherein at least a portion of the heat generated passes through the thermally conductive wall to drive an endothermic reaction occurring in the endothermic reaction chamber.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/966,162	15 October 2004	N/A	Filed

Method of Conducting Catalytic Combustion in a Multizone Reactor, and a Method of Making a Thermally Stable Catalyst Support

U.S. patent application number 10/966,158 was filed on 15 October 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Method of Conducting Catalytic Combustion in a Multizone Reactor, and a Method of Making a Thermally Stable Catalyst Support" and generally relates to a method of reacting a fuel composition, comprising in a reactor with three zones positioned such that a gas can travel from a first zone to a second zone and then to a third zone, passing a first gas composition comprising 60-90 parts (by mole) hydrocarbon, 35-60 parts CO, 100-160 parts H_2 and 90-140 parts O_2, reacting the first gas composition in the first zone over a first solid catalyst in the first zone to form a first product gas comprising H_2O and CO, wherein oxygen conversion in the first zone is greater than 90 per cent., wherein oxygen selectivity for the conversion of H_2 to H_2O is less than 80 per cent. and wherein, in the first zone, oxygen selectivity for the conversion of hydrocarbon to CO is the same as or greater than the oxygen selectivity for the conversion of CO to CO_2, passing the first product gas into the second zone, reacting a second gas composition in the second zone over a second solid catalyst in the second zone to form a second product gas comprising H_2O and CO, wherein the second gas composition comprises 10-70 parts (by mole) hydrocarbon, 40-80 parts CO, 20-100 parts H_2 and 30-90 parts O_2, wherein the hydrocarbon conversion at the end of the second zone is 50 per cent. or greater, the CO conversion is 30 per cent. or less, wherein oxygen selectivity for oxidation of hydrocarbon is 40 per cent. or greater, passing the second product gas into the third zone, reacting a third gas composition in the third zone over a third solid catalyst in the third zone to form a third product gas comprising H_2O and CO_2, wherein the third gas composition comprises 2-30 parts (by mole) hydrocarbon, 10-40 parts CO, and 20-70 parts O_2, and wherein the hydrocarbon conversion at the end of the third zone is 95 per cent. or greater, the CO conversion is 95 per cent. or greater.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/966,158	15 October 2004	N/A	Filed

Tailored and Uniform Coatings in Microchannel Apparatus

U.S. patent application number 11/089,440 was filed on 23 March 2005, and claims priority to U.S. Provisional Application No. 60/556,014, filed on 23 March 2004. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Tailored and Uniform Coatings in

Microchannel Apparatus" and generally relates to a microchannel apparatus, comprising an interior microchannel comprising a microchannel wall, a contiguous post-assembly coating along a contiguous length of at least 1 cm of the microchannel wall, wherein the contiguous post-assembly coating has a contiguous length of at least 1 cm that has an average thickness (measured perpendicular to the microchannel length and in the direction in which a coating grows away from the wall) of at least 5 μm and wherein at least 90 per cent. of the contiguous length of coating is within +/-20 per cent. of the average thickness.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/089,440	23 March 2005	N/A	Filed
International (PCT)	PCT/US05/010045 WO2005094982	23 March 2005	N/A	National/regional phase
Europe (EPO)	05730206.9 EP1740304	23 March 2005	23 March 2025	Filed
Canada	2560834	23 March 2005	23 March 2025	Filed
China	200580016106	23 March 2005	23 March 2025	Filed
Japan	2007-505225	23 March 2005	23 March 2025	Filed

Microchannel Apparatus Comprising a Platinum Aluminide Layer and Chemical Processes Using the Apparatus

U.S. patent application number 11/549,612 was filed on 13 October 2006, and claims priority to U.S. Provisional Application No. 60/785,131 filed on 23 March 2006. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Microchannel Apparatus Comprising a Platinum Aluminide Layer and Chemical Processes Using the Apparatus" and generally relates to a process for converting ethylbenzene to styrene, comprising flowing a feed composition comprising ethylbenzene in at least one process microchannel in contact with at least one catalyst to dehydrogenate the ethylbenzene and form a product comprising styrene, exchanging heat between the process microchannel and at least one heat exchange channel in thermal contact with the process microchannel, and removing product from the process microchannel. The application also relates to an apparatus, comprising a process microchannel, a heat exchange channel, and a heat transfer wall positioned between the process microchannel and the heat exchange channel, the heat transfer wall comprising at least one thermal resistance layer.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/549,612	13 October 2006	N/A	Filed

Support for Use in Microchannel Processing

U.S. patent application number 11/443,851 was filed on 25 May 2006. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Support for use in microchannel processing." This patent application has not yet been published and thus is not publicly available.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/443,851	25 May 2006	N/A	Filed
International (PCT)	PCT/US06/20220 WO2006127889	25 May 2006	N/A	National/regional phase
Europe (EPO)	06760374.6 EP1890802	25 May 2006	25 May 2026	Filed
Canada	2608400	25 May 2006	25 May 2026	Filed

Surface Features in Microprocess Technology

U.S. patent application number 11/388,792 was filed on 23 March 2006, and is a continuation-in-part of U.S. patent application No. 11/089,440 filed on 23 March 2005. This application also claims priority to U.S. provisional application nos. 60/697,900 filed on 8 July 2005; 60/727,126 filed on 13 October 2005; and 60/731,596 filed on 27 October 2005. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Surface Features in Microprocess Technology" and generally relates to a microchannel apparatus, comprising a microchannel comprising surface features, at least a segment of the microchannel characterized by a feature entrance length of more than 10, wherein the segment is at least 1 cm long, wherein the segment comprises plural similar, repeating surface features, and wherein the similar, repeating surface features comprise at least 1 angle in each similar surface feature. The application also generally relates to a method of fluid processing in a microchannel, comprising flowing fluid through a microchannel at a Reynold's number Re of more than 100, wherein the microchannel comprises surface features, performing a unit operation on the fluid in the surface features, wherein the unit operation comprises one or more unit operation selected from the group consisting of chemical reaction, vaporization, compression, chemical separation, distillation, condensation, heating, and cooling.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/388,792	23 March 2006	N/A	Filed
International (PCT)	PCT/US2006/01 1198 WO2006102675	23 March 2006	N/A	National/regional phase
Europe (EPO)	06739785.1 EP1868714	23 March 2006	23 March 2026	Filed
Australia	2006226744	23 March 2006	23 March 2026	Filed
Brazil+	PI 0606355-7	23 March 2006	23 March 2026	Filed+
Canada	2602493	23 March 2006	23 March 2026	Filed
China+	200680017580.9	23 March 2006	23 March 2026	Filed+
Japan+	2008-503289	23 March 2006	23 March 2026	Filed+
Russia+	2007134415	23 March 2006	23 March 2026	Filed+
South Africa+	2007/08237	23 March 2006	23 March 2026	Filed+

Emulsions

Process for Forming an Emulsion using Microchannel Process Technology

U.S. patent application number 10/440,056 was filed on 16 May 2003. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Process for forming an emulsion using microchannel process technology" and generally relates to a process for making an emulsion, comprising flowing a first liquid through a process microchannel having a wall with an apertured section, flowing a second liquid through the apertured section into the process microchannel in contact with the first liquid, the second liquid being immiscible with the first liquid, the first liquid forming a continuous phase, and the second liquid forming a discontinuous phase dispersed in the first liquid.

U.S. patent number 7,307,104 was granted on 11 December 2007, and is a continuation in part of U.S. patent application number 10/440,056, filed on 16 May 2003 (discussed above). This application also claims priority to U.S. Provisional Application number 60/548,152, filed on 25 February 2004. Consistent with patent term adjustment calculations, the patent expires on 18 April 2024. The patent is titled "Process for forming an emulsion using microchannel process technology" and generally relates to a process for making an emulsion, comprising flowing a first liquid through at least one first liquid manifold into a plurality of process microchannels, each process microchannel having at least one wall with at least one apertured section, flowing a second liquid through at least one second liquid manifold into a plurality of liquid channels adjacent to the process microchannels and through the apertured sections into the process microchannels in contact with the first liquid to form the emulsion, the process microchannels and liquid channels being aligned side by side or stacked one above another, the first liquid forming a continuous phase, the second liquid forming a discontinuous phase dispersed in the continuous phase.

U.S. patent application number 11/876,850 was filed on 23 October 2007, and is a continuation of U.S. patent number 7,307,104 was granted on 11 December 2007, which is a continuation in part of U.S. patent application number 10/440,056, filed on 16 May 2003 and also claims priority to U.S. Provisional Application number 60/548,152, filed on 25 February 2004 (discussed above). The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Process for forming an emulsion using microchannel process technology" and generally relates to a process for making an emulsion, comprising flowing a first liquid in a process microchannel, the process microchannel having a wall with an apertured section, flowing a second liquid through the apertured section into the process microchannel in contact with the first liquid to form the emulsion, the first liquid forming a continuous phase, the second liquid forming a discontinuous phase dispersed in the continuous phase, and exchanging heat between the liquid in the process microchannel and a heat exchanger.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/440,056	16 May 2003	N/A	Filed
US	10/844,061 US-7,307,104	12 May 2004	18 April 2024	Granted
US	11/876,850	23 October 2007	N/A	Filed
International (PCT)	PCT/US04/014736 WO2004103539	12 May 2004	N/A	National/regional phase
Europe (EPO)	04751902.0 EP1633463	12 May 2004	12 May 2024	Granted
Europe (EPO)	07020713.9 (divisional)	12 May 2004	12 May 2024	Filed
Austria	04751902.0	12 May 2004	12 May 2024	Granted
Belgium	04751902.0	12 May 2004	12 May 2024	Granted
France	04751902.0	12 May 2004	12 May 2024	Granted
Germany	04751902.0	12 May 2004	12 May 2024	Granted
GB	04751902.0	12 May 2004	12 May 2024	Granted
Switzerland	04751902.0	12 May 2004	12 May 2024	Granted
Canada	2526965	12 May 2004	12 May 2024	Filed
China	200480019998.4	12 May 2004	12 May 2024	Filed

Process for Forming an Emulsion using Microchannel Process Technology

U.S. patent application number 11/283,525 was filed on 17 November 2005. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Process for Forming an Emulsion using Microchannel Process Technology" and generally relates to a process, comprising flowing an emulsion in a process microchannel, the emulsion comprising a continuous phase and a dispersed phase, the continuous phase comprising a first liquid, the dispersed phase comprising a second liquid, and exchanging heat between the process microchannel and a heat source and/or heat sink to increase or decrease the temperature of the emulsion by at least about 10°C. within a period of up to about 750 milliseconds.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/283,525	17 November 2005	N/A	Filed
International (PCT)	PCT/US05/41789 WO2006057895	17 November 2005	N/A	National/regional phase
Europe (EPO)	05851792.1 EP1830952	17 November 2005	17 November 2025	Filed
Canada	2587412	17 November 2005	17 November 2025	Filed
China	200580045508	17 November 2005	17 November 2025	Filed

Process for Treating and/or Forming a Non-Newtonian Fluid using Microchannel Process Technology

U.S. patent application number 11/737,955 was filed on 20 April 2007. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Process for treating and/or forming a non-Newtonian fluid using microchannel process technology" and generally relates to a process, comprising conducting unit operations in at least two process zones in a process microchannel to treat and/or form a non-Newtonian fluid, a different unit operation being conducted in each process zone, and applying an effective amount of shear stress to the non-Newtonian fluid to reduce the viscosity of the non-Newtonian fluid in each process zone, the average shear rate in one process zone differing from the average shear rate in another process zone by a factor of at least about 1.2.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/737,955	20 April 2007	N/A	Filed
International (PCT)	PCT/US2007/067060 WO2007124409	20 April 2007	N/A	Filed

Ethylene and Ethylene Oxide

Catalytic Oxidative Dehydrogenation, and Microchannel Reactors for Catalytic Oxidative Dehydrogenation

U.S. patent number 7,402,719 was granted on 22 July 2008, and claims priority to U.S. Provisional Application No. 60/388,635, filed on 13 June 2002. Consistent with patent term adjustment calculations, the patent expires on 12 February 2024. The patent is titled "Catalytic Oxidative Dehydrogenation" and generally relates to a method for catalytic oxidative dehydrogenation of a gaseous hydrocarbon, comprising flowing a hydrocarbon-containing fluid and a source of oxygen into a microchannel, wherein a catalyst is present in the microchannel, reacting the hydrocarbon-containing fluid and the source of oxygen, in the microchannel, in a temperature range of 335 to 1,000°C, to form water and at least one alkene and/or aralkene, and wherein the method is characterized by superior conversion, selectivity and/or yield, such that, as compared to a reaction conducted under the same conditions (reactant feed composition, oxidant, diluent, ratios of feed/oxidant/diluent (with diluent level as close as practicable), contact time, pressure, catalyst bed temperature, catalyst composition and form) in a 1.0 cm inner diameter quartz tube with no active cooling and pre-mixed hydrocarbon and oxidant, the results of the method exhibits one or more of the following: (a) an at least 20 per cent. relative higher ratio of selectivities of CO/CO_2, or (b) an at least 10 per cent. relative higher conversion of hydrocarbon, or (c) an at least 10 per cent. relative higher yield of olefins, or (d) an at least 10 per cent. relative higher selectivity to olefins, or (e) an at least 10 per cent. relative lower selectivity of carbon dioxide.

U.S. patent application number 12/135,167 was filed on 7 June 2008, and is a divisional of U.S. patent 7,402,719, filed on 19 May 2003 (discussed above), which claims priority to U.S. Provisional Application No. 60/388,635, filed on 13 June 2002. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Catalytic Oxidative Dehydrogenation, and Microchannel Reactors for Catalytic Oxidative Dehydrogenation" and generally relates to an apparatus for oxidatively dehydrogenating a hydrocarbon, comprising a microchannel reaction chamber; and an oxidative dehydrogenation catalyst disposed in the microchannel reaction chamber; and comprising an oxygen channel adjacent to said microchannel

reaction chamber and separated by an oxygen channel wall, wherein apertures through said oxygen channel wall form passageways between the oxygen channel and the reaction chamber.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/441,921	19 May 2003	12 February 2024	Granted
US	12/135,167	7 June 2008	N/A	Filed
Europe (EPO)	03760222.4 EP1546072	12 June 2003	12 June 2023	Filed
Canada	2494849	12 June 2003	12 June 2023	Filed
China	03819332	12 June 2003	12 June 2023	Filed
Japan	2004-513222	12 June 2003	12 June 2023	Filed
Singapore	200407239-8 SG-108538	12 June 2003	12 June 2023	Granted
Trinidad and Tobago +	TT/A/2004/00189	12 June 2003	12 June 2023	Filed +

Process for Converting a Hydrocarbon to an Oxygenate or a Nitrile

U.S. patent number 7,294,734 was granted on 13 November 2007, from an application filed on 2 May 2003. This patent is subject to a terminal disclaimer to U.S. patent number 7,402,719. Consistent with patent term adjustment calculations, the patent expires on 6 February 2024. The patent is titled "Process for Converting a Hydrocarbon to an Oxygenate or a Nitrile" and generally relates to a process for converting a hydrocarbon reactant to a product, the process comprising (A) flowing a reactant composition comprising the hydrocarbon reactant, and oxygen or a source of oxygen, and optionally ammonia, in a microchannel reactor in contact with a catalyst to convert the hydrocarbon reactant to the product, the product comprising an oxygenate or a nitrile, the oxygen or source of oxygen being added to the hydrocarbon reactant, and optionally ammonia, using staged addition wherein oxygen or a source of oxygen is added to the hydrocarbon reactant, and optionally ammonia, at various points in the microchannel reactor, the hydrocarbon reactant undergoing an exothermic reaction in the microchannel reactor, (B) transferring heat from the microchannel reactor to a heat exchanger during step (A), and (C) quenching the product from step (A).

U.S. patent application number 11/836,811 was filed on 10 August 2007, and claims priority to U.S. patent number 7,294,734, filed on 2 May 2003 (discussed above). The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Process for Converting a Hydrocarbon to an Oxygenate or a Nitrile" and generally relates to an apparatus, comprising a microchannel reactor, the microchannel reactor comprising a plurality of process microchannels, and a quenching apparatus. The application also relates to a process for making an epoxide, comprising reacting a reactant composition comprising an unsaturated aliphatic hydrocarbon reactant and oxygen or a source of oxygen in the presence of an oxidation catalyst in one or more process microchannels of a microchannel reactor to form the epoxide, and quenching the epoxide.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/429,286 US-7,294,734	2 May 2003	6 February 2024	Granted
US	11/836,811	10 August 2007	N/A	Filed
International (PCT)	PCT/US04/12870 WO2004099113	27 April 2004	N/A	National/ regional phase
Europe (EPO)	04 760 584.5 EP1626948	27 April 2004	27 April 2024	Filed
Brazil	PI 0410039-5	27 April 2004	27 April 2024	Filed
Canada	2523704	27 April 2004	27 April 2024	Filed
China	200480016689	27 April 2004	27 April 2024	Filed
India+	4956/DELNP/2005	27 April 2004	27 April 2024	Filed+
Japan	PCT/US04/12870	27 April 2004	27 April 2024	Filed
Korea	(PCT)2005-7020851	27 April 2004	27 April 2024	Filed
Mexico+	MX/a/2008/005671	27 April 2004	27 April 2024	Filed+

In-situ Mixing in Microchannels

U.S. patent application number 10/848,559 was filed on 17 May 2004, and claims priority to U.S. Provisional Application No. 60/531,006, filed on 18 December 2003. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "In-situ Mixing in Microchannels" and generally relates to a microchannel apparatus and reaction system and method of using the same, comprising a microchannel comprising a first reactant fluid, wherein the microchannel comprises a solid catalyst disposed in at least one section of the microchannel, wherein the microchannel is defined by a microchannel wall or walls and wherein at least one orifice is present in the microchannel wall or walls, and wherein the at least one orifice is disposed at a mixing section of the microchannel that does not contain catalyst, wherein a second reactant fluid flows through the at least one orifice and wherein substantially no reaction occurs in the mixing section.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	10/848,559	17 May 2004	N/A	Filed
International (PCT)	PCT/US2004/042206 WO2005060658	16 December 2004	N/A	National/ regional phase
Europe (EPO)	04 814 396.0 EP1700075	16 December 2004	16 December 2024	Filed
Canada	2550079	16 December 2004	16 December 2024	Filed
China	200480041671	16 December 2004	16 December 2024	Filed
Japan	2006-545413	16 December 2004	16 December 2024	Filed

Catalysts having Catalytic Material Applied Directly to Thermally-grown Alumina and Catalytic Methods using Same; Improved Methods of Oxidataive Dehydrogenation

U.S. patent application number 11/088,692 was filed on 23 March 2005, and claims priority to U.S. Provisional Application No. 60/556,014, filed on 23 March 2004. Also, this application is a continuation-in-part of U.S. patent application serial number 10/966,162, filed on 21 October 2004. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Catalysts having catalytic material applied directly to thermally-grown alumina and catalytic methods using same, improved methods of oxidative dehydrogenation" and generally relates to a microchannel reactor, comprising a reaction microchannel, the reaction microchannel comprising a metal substrate, a dense and substantially defect-free alumina layer disposed on the metal substrate, and catalyst metal particles directly disposed on the alumina layer. The application also relates to a catalyst and process of making a catalyst in a microchannel reactor, comprising forming an aluminide layer in an interior microchannel, thermally growing an alumina layer from the aluminide layer, and depositing a catalyst material directly onto the thermally-grown alumina. The application also relates to a process for converting ethane to ethylene, comprising contacting ethane and oxygen in a reaction microchannel, wherein the reaction microchannel comprises a catalyst coated on a substrate, wherein (a) at least 50 per cent. of the ethane entering the reaction microchannel is converted to products and the selectivity to ethene is at least 85 per cent., or (b) at least 70 per cent. of the ethane entering the reaction microchannel is converted to products and the selectivity to ethene is at least 80 per cent., and wherein the levels of selectivity and conversion are based on a single pass through the reaction microchannel.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/088,692	23 March 2005	N/A	Filed
International (PCT)	PCT/US2005/009814 WO2006036193	23 March 2005	N/A	National/ regional phase
Europe (EPO)	05813296.0 EP1755777	23 March 2005	23 March 2025	Filed
Canada	2560879	23 March 2005	23 March 2025	Filed
China	200580016489	23 March 2005	23 March 2025	Filed
Japan	2007-505170	23 March 2005	23 March 2025	Filed

Electroless Plating in Microchannels

U.S. patent application number 11/549,625 was filed on 13 October 2006. The patent application is titled "Electroless Plating in Microchannels." This patent application has not yet been published and thus is not publicly available.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/549,625	13 October 2006	N/A	Filed
International (PCT)	PCT/US2006/039897 WO2007047374	13 October 2006	N/A	National/ regional phase
Europe (EPO)	06825832.6 EP1934383	13 October 2006	13 October 2026	Filed
Canada+	not known	13 October 2006	13 October 2026	Filed+
China+	200680038248.0	13 October 2006	13 October 2026	Filed+
Japan+	not known	13 October 2006	13 October 2026	Filed+

U.S. patent application number 11/469,847 was filed on 1 September 2006. The available records indicate that the USPTO has not yet issued any action on this application. The patent application is titled "Microchannel Apparatus and Methods of Conducting Catalyzed Oxidative Dehydrogenation" and generally relates to a method for oxidatively dehydrogenating a hydrocarbon, comprising passing a process stream comprising an oxygen source and a hydrocarbon into a microchannel in a first section of a microchannel reactor, wherein, in the first section, the oxygen reacts with a fuel to generate heat flowing the process stream through a u-bend and into a second section wherein the process stream in the first section and a process stream in a second section are separated by a thermally conductive wall wherein heat from the reaction with oxygen in the first section passes through the thermally conductive wall and into the process stream in the second section and removing hydrogen from the hydrocarbon to form a product and hydrogen and wherein more of the product is formed in the second section than in the first section.

Large Scale

Microchannel Compression Reactor Assembly

U.S. patent application number 10/774,298 was filed on 6 February 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Microchannel Compression Reactor" and generally relates to a chemical process system comprising a first unit operation adapted to be in fluid communication with an inlet stream and an outlet stream, a pressure vessel at least partially containing the first unit operation therein, the pressure vessel concurrently adapted to be occupied by an inert medium to compress the first unit operation, and a purge stream adapted to be in fluid communication with an inert medium source for selectively conveying the inert medium from the inert medium source and into fluid communication with the first unit operation.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	10/774,298	6 February 2004	N/A	Filed
International (PCT)	PCT/US05/03904 WO2005077516	7 February 2005	N/A	National/ regional phase
Europe (EPO)	05713077.5 EP1732677	7 February 2005	7 February 2025	Filed
Canada	2555977	7 February 2005	7 February 2025	Filed
China	200580006293	7 February 2005	7 February 2025	Filed

Control of Pressurized Microchannel Processes

U.S. patent application number 11/077,849 was filed on 11 March 2005, and is a Continuation-in-Part of, application Ser. No. 10/774,298, filed on 6 February 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Control of Pressurized Microchannel Processes" and generally relates to a method of starting up a microchannel process, comprising the steps of (a) providing a first multi-planar microchannel process unit adapted to process a unit operation, (b) providing a containment vessel, the containment vessel at least partially containing the process unit, (c) establishing a first containment vessel pressure within the containment vessel, (d) sensing for leaks from the containment vessel, (e) establishing a first process unit pressure within the first process unit, and (f) sensing for leaks from the first process unit. The application also generally relates to a method of shutting down a microchannel process, comprising the steps of (a) providing a first microchannel process unit, the first process unit processing a first unit operation, (b) discontinuing the flow of a second reactant to the first process unit, (c) discontinuing the flow of a first reactant to the first process unit, and (d) introducing a fluid to the first process unit, the fluid selected from the group consisting of: steam, inert, non-combustible, non-oxidizing, and mixtures thereof.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/077,849	11 March 2005	N/A	Filed

Microchannel Compression Reactor Assembly

U.S. patent application number 11/052,455 was filed on 7 February 2005, and claims priority to U.S. patent application serial number 10/774,298, filed on 6 February 2004. The prosecution of this application is discussed below in Section 4.5.7.2.1. The patent application is titled "Microchannel Compression Reactor Assembly" and generally relates to a microchannel unit assembly comprising a removable microchannel unit including an inlet orifice and an outlet orifice in fluid communication with a plurality of microchannels distributed throughout the removable microchannel unit, and a pressurized vessel adapted to have the removable microchannel unit mounted thereto, the pressurized vessel adapted to contain a pressurized fluid exerting a positive gauge pressure upon at least a portion of the exterior of the removable microchannel unit.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/052,455	7 February 2005	N/A	Filed

Pressure Vessel Testing

U.S. patent application number 11/855,999 was filed on 14 September 2007. The patent application is titled "Pressure Vessel Testing." This patent application has not yet published and thus is not publicly available.

Details of the United States patent application are summarised in the following table.

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	11/855,999	14 September 2007	N/A	Filed

4.5.3.2 **Battelle owned material patents and applications**

The Battelle owned material patents and applications can be further subdivided based on target product applications designated by Velocys as representative of the technology areas to which the patents primarily relate, and these designations have been adopted for the purposes of this analysis. By organizing the patents and applications based on the first-listed target product application, this Report is not meant to imply any relative level of importance of that target product application.

The following section, tables of patents and patent applications are based on data supplied by Velocys and verified on public databases to the extent discussed above.

For a small number of patents and patent applications in this section filing could not be verified from public databases or otherwise in the time available for this study. This does not necessarily mean that the applications do not exist. It can happen, for example, if the filing is recent and has not yet been made public by the national office. It can also happen if the database coverage does not (or did not) extend to that country at the date of publication. For some cases (marked with a "†" sign) documents were provided to Carpmaels & Ransford from Battelle via the United States patent attorneys evidencing the filing and/or status of the case. Cases that could not be verified are indicated in the table. Where it has not been possible to verify specific information, the tables include blank spaces.

The expiry dates for the US patents are those provided by the United States Patent Attorneys. As discussed, certain patents may be subject to patent term adjustments under US law. Where possible, Carpmaels & Ransford has calculated expiry dates for the patents and applications in jurisdictions other than the USA, assuming that the patent or application is granted and is maintained in force for the normal maximum 20-year term. The entry "N/A" appears in respect of International (PCT) patent applications, which do not themselves give rise directly to granted patents, and in respect of pending US patent applications, which may be the subject of patent term adjustments arising during the prosecution of the applications.

Fischer-Tropsch ("FT")

Catalyst Structure and Method of a Fischer-Tropsch Synthesis

U.S. patent number 6,451,864 was granted on 17 September 2002, from an application filed on 17 August 1999. The patent expires on 17 August 2019. The patent is titled "Catalyst Structure and Method of a Fischer-Tropsch Synthesis" and generally relates to a method of Fischer-Tropsch reaction, comprising the steps of (a) providing a catalyst

structure having a first porous structure with a first pore surface area and a first pore size of at least about 0.1 μm, a porous interfacial layer with a second pore surface area and a second pore size less than said first pore size, said porous interfacial layer placed upon said first pore surface area, a Fischer-Tropsch catalyst selected from the group consisting of cobalt, ruthenium, iron, rhenium, osmium and combinations thereof placed upon said second pore surface area, and (b) passing a feed stream having a mixture of hydrogen gas with carbon monoxide gas through said catalyst structure and heating said catalyst structure to at least 200°C. at an operating pressure, said feed stream having a residence time within said catalyst structure less than 5 seconds, thereby obtaining a product stream of at least 25 per cent. conversion of carbon monoxide, and at most 25 per cent. selectivity toward methane.

U.S. patent number 6,660,237 was granted on 9 December 2003, from an application filed on 3 January 2002. It is a divisional of U.S. patent number 6,451,864, filed on 17 August 1999. Consistent with a terminal disclaimer to U.S. patent number 6,491,880, the patent expires on 17 August 2019. The patent is titled "Catalyst Structure and Method of a Fischer-Tropsch Synthesis" and generally relates to a reactor comprising a catalyst structure comprising a porous structure and a porous interfacial layer disposed on the porous structure, wherein the porous structure has a first pore size of at least 0.1 μm, wherein the porous interfacial layer has a second pore size less than the first pore size, and a microchannel, wherein the catalyst structure is disposed in the microchannel.

U.S. patent number 7,045,486 was granted on 16 May 2006, from an application filed on 19 September 2003. It is a divisional of U.S. patent number 6,660,237, which is a divisional U.S. patent number 6,451,864, filed on 17 August 1999. The patent expires on 17 August 2019. The patent is titled "Catalyst Structure and Method of a Fischer-Tropsch Synthesis" and generally relates to a catalyst structure comprising a porous structure and a porous interfacial layer disposed on the porous structure, wherein the porous structure has a first pore size of at least 0.1 μm, wherein the porous interfacial layer has a second pore size less than the first pore size, wherein the catalyst structure has a porosity of greater than 30 per cent., wherein the porous structure comprises a foam, felt, wad or combinations thereof, wherein the catalyst structure has performance such that when the catalyst structure is heated to at least 200°C. while a feed stream comprising CO and H_2 is passed through the catalyst structure with a residence time of less than five seconds, a product stream is obtained that exhibits the properties of at least a 25 per cent. conversion of carbon monoxide and at most 25 per cent. selectivity toward methane.

U.S. patent application number 11/364,595 was filed on 27 February 2006. It is a continuation of U.S. patent number 7,045,486, which is a divisional of U.S. patent number 6,660,237, which is a divisional U.S. patent number 6,451,864, filed on 17 August 1999. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Catalyst Structure and Method of a Fischer-Tropsch Synthesis" and generally relates to a method of conducting Fischer-Tropsch synthesis, comprising providing a microchannel reaction chamber comprising a catalyst for Fischer-Tropsch synthesis, wherein the microchannel reaction chamber has at least one dimension of 8 mm or less, passing a feed stream comprising a mixture of hydrogen and carbon monoxide gas through the microchannel reaction chamber with a residence time of about 1 second or less and at a temperature of 275°C. or less, wherein the mixture comprises hydrogen and carbon monoxide in a ratio of from about 2:1 to about 3.5:1, and converting at least 50 per cent. of the carbon monoxide in the mixture to hydrocarbons.

U.S. patent number 6,558,634 was granted on 6 May 2003, from an application filed on 27 January 2000. It is a continuation-in-part of U.S. patent number 6,451,864, filed on 17 August 1999. Consistent with a terminal disclaimer to U.S. patent number, 6,540,975,

the patent expires on 27 July 2018. The patent is titled "Catalyst Structure and Method of Fischer-Tropsch Synthesis" and generally relates to a reactor for hydrogenating carbon monoxide comprising a reaction chamber having chamber walls, a catalyst comprising a supported Fischer-Tropsch catalytic metal in said reaction chamber, wherein said catalyst comprises a monolith which comprises a continuous piece of porous material having contiguous porosity such that reactants and products of a Fischer-Tropsch reaction are able to diffuse through the contiguous porosity of the catalyst, at least one cooling chamber in thermal contact with at least one chamber wall of said reaction chamber wherein the at least one chamber wall of said reaction chamber separates the reaction chamber from the at least one cooling chamber, wherein said catalyst has a thickness of about 1.5 cm or less, and wherein said catalyst is within 0.5 cm of at least one reaction chamber wall.

U.S. patent number 6,982,287 was granted on 3 January 2006, from an application filed on 18 March 2003. It is a divisional of U.S. patent number 6,558,634, filed on 27 January 2000, which was continuation-in-part of U.S. patent number 6,451,864, filed on 17 August 1999. Consistent with patent term adjustment calculations, the patent expires 9 June 2020. The patent is titled "Catalyst Structure and Method of Fischer-Tropsch Synthesis" and generally relates to a process for hydrogenating carbon monoxide comprising passing H_2 and CO into a reaction chamber comprising a catalyst comprising a porous support, an interfacial layer, and a Fischer-Tropsch catalytic metal, wherein the catalyst possesses catalytic activity defined by a test in which the catalyst is placed in a tube inside an isothermal furnace and exposed to a feed stream consisting of a 3 to 1 ratio of hydrogen gas to carbon monoxide, at 250°C. and a average residence time of 12.5 seconds, the selectivity to methane is greater and the conversion of carbon monoxide is lower at 24 atmospheres than it is at 6 atmospheres of pressure.

U.S. patent application number 11/231,708 was filed on 20 September 2005. It is a divisional of U.S. patent number 6,982,287, which was a divisional of U.S. patent number 6,558,634, which was a continuation-in-part of U.S. patent number 6,451,864, filed on 17 August 1999. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Catalyst Structure and Method of Fischer-Tropsch Synthesis" and generally relates to a catalyst comprising a porous support, an interfacial layer, and a Fischer-Tropsch catalytic metal, wherein the catalyst possesses catalytic activity such that, if the catalyst is placed in a tube inside an isothermal furnace and exposed to a feed stream consisting of a 3 to 1 ratio of hydrogen gas to carbon monoxide, at 250°C. and an average residence time of 12.5 seconds, the selectivity to methane is greater, and the conversion of carbon monoxide is lower at 24 atmospheres than it is at 6 atmospheres of pressure.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table:

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	09/375,610 US6,451,864	17 August 1999	17 August 2019	Granted
USA	10/038,228 US6,660,237	3 January 2002	17 August 2019	Granted
USA	10/666,430 US7,045,486	19 September 2003	17 August 2019	Granted
USA	11/364,595	27 February 2006	N/A	Filed
USA	09/492,254 US6,558,634	27 January 2000	17 August 2019	Granted

Country	*Application No. Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	10/392,479 US6,982,287	18 March 2003	9 June 2020	Granted
USA	11/231,708	20 September 2005	N/A	Filed
PCT	PCT/US00/22422 WO0112323	15 August 2000	N/A	Regional/ National Phase
PCT	PCT/US00/22423 WO0112753	15 August 2000	N/A	Regional/ National Phase
Canada	2381221	15 August 2000	15 August 2020	Filed
Canada	2381156	15 August 2000	15 August 2020	Filed
Mexico†	2002PA01643	15 August 2000	15 August 2020	Filed
Japan	2001-517640	15 August 2000	15 August 2020	Filed
Japan	2001-0516660	15 August 2000	15 August 2020	Filed
South Korea†	10-2002-7002029	15 August 2000	15 August 2020	Filed
Europe	00954095.6 EP1206509	15 August 2000	15 August 2020	Granted
Europe	00954094.9 EP1206508	15 August 2000	15 August 2020	Granted
Europe	05021595.3 EP1637219	15 August 2000	15 August 2020	Filed (divisional)
Australia	200066435 AU778040	15 August 2000	15 August 2020	Granted
Australia	200066436 AU2005200564	15 August 2000	15 August 2020	Granted
Norway	200200586	6 February 2002	15 August 2020	Filed
Brazil	PI0013344	15 August 2000	15 August 2020	Filed
Trinidad and Tobago	Not verified			
South Africa	2002-0000853	30 January 2002	15 August 2020	Granted

Reactors having Varying Cross-section, Methods of Making Same, and Methods of Conducting Reactions with Varying Local Contact Time (Trapezoid)

U.S. patent application number 12/023,936 was filed on 31 January 2008. The patent is titled "Tailored Fischer-Tropsch Synthesis Product Distribution." This application has not yet been published and thus is not publicly available.

Details of the United States patent application are summarised in the following table.

Country	*Application No.*	*Application Date*	*Expiry Date*	*Status*
USA	12/023,936	31 January 2008	N/A	Filed

SMR

Long Life Hydrocarbon Conversion Catalyst and Method of Making

U.S. patent number 6,479,428 was granted on 12 November 2002, from an application filed on 27 July 1998. The patent expires on 27 July 2018. The patent is titled "Long Life Hydrocarbon Conversion Catalyst and Method of Making" and generally relates to a catalyst comprising a porous metal foam support, an interfacial layer, and a buffer layer between the porous support and the interfacial layer, wherein the buffer layer comprises

a polycrystalline metal oxide layer that has been deposited by chemical vapour deposition, and wherein said interfacial layer comprises a metal oxide.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	09/123,781 US6,479,428B	27 July 1998	27 July 2018	Granted
PCT	PCT/US99/17083 WO0006301	27 July 1999	N/A	National/ regional phase
Canada	2338815 CA2338815	27 July 1999	27 July 2019	Granted
Mexico†	PA/2001/000942 218,981	27 July 1999	27 July 2019	Granted
Japan	2000-562143	27 July 1999	27 July 2019	Filed
Europe	99938837.4 EP1100618B	27 July 1999	27 July 2019	Granted

Catalyst, Method of Making, and Reactions using the Catalyst

U.S. patent number 6,440,895 was granted on 27 August 2002, from an application filed on 27 January 2000. It is a continuation-in-part of U.S. patent number 6,479,428, filed on 27 August 1998. The patent expires on 27 August 2018. The patent is titled "Catalyst, Method of Making, and Reactions using the Catalyst" and generally relates to a catalyst comprising a porous metal support, a buffer layer, an interfacial layer, and a catalytically active layer on the surface, wherein the porous metal support has an average pore size of from 1 μm to 1000 μm, wherein the porous metal support is selected from the group consisting of honeycomb, foam, felt, and wad, wherein the buffer layer is disposed between the porous support and the interfacial layer, and the interfacial layer is disposed between the catalytically active layer and the buffer layer, and wherein the interfacial layer comprises a material selected from the group consisting of nitrides, carbides, sulfides, halides and carbon.

U.S. patent number 6,762,149 was granted on 13 July 2004, from an application filed on 6 June 2002. It is a continuation of U.S. patent number 6,440,895, which is a continuation-in-part of U.S. patent number 6,479,428, filed on 27 July 1998. Taking into account a terminal disclaimer to U.S. patent number 6,440,895, the '149 patent would expire earlier than the '895, and thus expires on 27 July 2018. The patent is titled "Catalyst, Method of Making, and Reactions using the Catalyst" and generally relates to a method of making a catalyst and a catalyst comprising a porous metal support, a buffer layer, an interfacial layer, and a catalytically active layer on the surface, wherein the porous metal support has an average pore size of from 1 μm to 1000 μm, wherein the porous metal support is selected from the group consisting of foam, felt, and wad, wherein the buffer layer is disposed between the porous support and the interfacial layer, and the interfacial layer is disposed between the catalytically active layer and the buffer layer, and wherein the buffer layer comprises a metal oxide.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	09/492,950 US6,440,895B	27 January 2000	27 August 2018	Granted
USA	10/162,850 US6,762,149B	6 June 2002	27 July 2018	Granted
PCT	PCT/US01/03045 WO0154812	26 January 2001	N/A	National/ regional phase
Canada	2396144	26 January 2001	26 January 2021	Filed
Japan	2001-554787	26 January 2001	26 January 2021	Filed
South Korea†	2002-7009491 0670954	26 January 2001	26 January 2021	Granted
China	01804202 CN1211162	26 January 2001	26 January 2021	Granted
Europe	1906799.0 EP1257362	26 January 2001	26 January 2021	Filed
Australia	2001034666 AU778052	26 January 2001	26 January 2021	Granted
Trinidad and Tobago†				Abandoned
Australia	2005200598 AU2005200598	10 February 2005	26 January 2021	Granted (divisional)

Method and Apparatus for Obtaining Enhanced Production Rate of Thermal Chemical Reactions

U.S. patent number 6,616,909 was granted on 9 September 2003, from an application filed on 27 January 2000. It is a continuation-in-part of U.S. patent number 6,540,975, filed on 27 July 1998. The patent expires on 27 July 2018. The patent is titled "Method and Apparatus for Obtaining Enhanced Production Rate of Thermal Chemical Reactions" and generally relates to a process for the catalytic conversion of at least one reactant in a thermal chemical reaction, excluding deep oxidation, comprising passing at least one reactant into at least one reaction chamber, said reaction chamber comprising a catalyst that catalyzes the reaction of said at least one reactant, transferring heat to or from said at least one reaction chamber into at least one heat exchanger, and obtaining at least one product from said reaction chamber, wherein said step of transferring heat, at steady state, transfers at least 0.6 W/cc of total reactor volume, where total reactor volume is defined as the sum of the volume of the reaction chamber(s) and heat exchanger chamber(s) including the volume of chamber walls, wherein a contact time of the reactant with the catalyst is less than about 0.3 seconds, and wherein a pressure drop through the reaction chamber is less than about 15 psig.

U.S. patent number 7,045,114 was granted on 16 May 2006, from an application filed on 1 July 2003. It is a divisional of U.S. patent number 6,616,909, which was a continuation-in-part of U.S. patent number 6,540,975, filed on 27 July 1998. Taking into account a terminal disclaimer to U.S. patent number 6,488,838, the '114 patent would expire earlier that the '838, and thus expires on 27 July 2018. The patent is titled "Method and Apparatus for Obtaining Enhanced Production Rate of Thermal Chemical Reactions" and generally relates to a reactor for the catalytic conversion of at least one reactant in a thermal chemical reaction and a process for using a reactor, comprising at least one reaction chamber, wherein said reaction chamber comprises a porous catalyst

insert, at least one heat exchanger in thermal contact with said reaction chamber, wherein said heat exchanger comprises an inlet and an outlet and an open space for flow of a heat exchange fluid, wherein said reaction chamber has a length less than or equal to 6 inches and a height less than or equal to 2 inches, and wherein said porous catalyst insert comprises a porous metal foam having open cells ranging from about 20 ppi to about 3000 ppi.

U.S. patent application number 11/236,125 was filed on 26 September 2005. It is a division of 7,045,114, which is a divisional of U.S. patent number 6,616,909, which was a continuation-in-part of U.S. patent number 6,540,975, filed on 27 July 1998. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Method and Apparatus for Obtaining Enhanced Production Rate of Thermal Chemical Reactions" and generally relates to a process for the steam reforming of a hydrocarbon comprising passing a feed stream comprising hydrocarbon gas and steam into a reaction chamber, said reaction chamber comprising a catalyst that catalyzes the reaction of said hydrocarbon gas and water gas to produce a gaseous mixture comprising at least carbon monoxide and hydrogen gas, wherein said process produces more than 0.01 SLPM of hydrogen gas per cubic centimeter of reactor volume, where reactor volume is defined as the sum of the volume of the reaction chamber(s) and heat exchanger chamber(s) including the volume of chamber walls.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
US	09/492,246 US6,616,909B	27 January 2000	27 July 2018	Granted
US	10/610,282 US7,045,114B	1 July 2003	27 July 2018	Granted as
US	11/236,125	26 September 2005	N/A	Filed
PCT	PCT/US01/02509 WO0154807	24 January 2001	N/A	National/ regional phase
Canada	2396083	24 January 2001	23 January 2021	Filed
Japan	2001-554783	24 January 2001	23 January 2021	Filed
Europe	01906687.7 EP1251949	24 January 2001	23 January 2021	Filed
Europe	05077433.0	24 January 2001	23 January 2021	Filed (divisional)
Norway	20023081	24 January 2001	23 January 2021	Filed

A Chemical Reactor and Method for Gas Phase Reactant Catalytic Reactions

U.S. patent number 6,488,838 was granted on 3 December 2002, from an application filed on 17 August 1999. The patent expires on 17 August 2019. The patent is titled "A Chemical Reactor and Method for Gas Phase Reactant Catalytic Reactions" and generally relates to a method of conducting a catalytic chemical reaction in a reactor, with at least one gas phase reactant, said method having the steps of flowing said at least one gas phase reactant past a catalyst material and reacting said at least one gas phase reactant to form at least one product, wherein the improvement comprises (a) providing said catalyst material as a porous structure having a porosity that permits molecular diffusion therein, said porous structure further having a length, a width and a thickness, said porous structure defining at least a portion of at least one wall of a microchannel

defining a bulk flow path through which said at least one reactant passes, (b) flowing said at least one gas phase reactant through said microchannel, past and in contact with said porous structure containing said catalyst material, a portion of said at least one gas phase reactant molecularly diffusing transversely into said porous structure and reacting therein wherefrom said at least one product molecularly diffuses transversely into said bulk flow path, and transporting said at least one product from a reactor.

U.S. patent number 6,984,363 was granted on 10 January 2006, from an application filed on 4 October 2002. Consistent with a terminal disclaimer to U.S. patent number 6,660,237, which is subject to a terminal disclaimer to U.S. patent number 6,491,880, the patent expires on 17 August 2019. The patent is titled "A Chemical Reactor and Method for Gas Phase Reactant Catalytic Reactions" and generally relates to a chemical reactor for a catalytic chemical reaction with at least one gas phase reactant, said chemical reactor comprising (a) at least one reactor microchannel having at least one wall defining a bulk flow path through which said at least one gas phase reactant can pass, (b) a catalyst structure wherein said at least one gas phase reactant can contact said catalyst structure and react to form at least one product, wherein said catalyst structure comprises, (c) a porous material having a first porosity that permits molecular diffusion therein, said porous material having a length, a width and a thickness, and a porous surface area, said porous material defining at least a portion of said at least one wall of said at least one reactor microchannel, wherein said porous material has a porosity such that when at least one reactant enters said bulk flow path in said at least one reactor microchannel and flows past and in contact with said porous material, a portion of said at least one reactant molecularly diffuses transversely into the catalyst structure and said at least one product molecularly diffuses transversely out of the catalyst structure into the bulk flow path and passes from said reactor.

U.S. patent number 6,680,044 was granted on 20 January 2004, from an application filed on 16 August 2000. It is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999. Consistent with a terminal disclaimer to U.S. patent number 6,488,838, the patent expires on 17 August 2019. The patent is titled "A Chemical Reactor and Method for Gas Phase Reactant Catalytic Reactions" and generally relates to a method of hydrocarbon steam reforming comprising passing a reactant stream comprising steam and hydrocarbon into at least one reaction chamber, said reaction chamber having an internal volume wherein said internal volume has dimensions of chamber height, chamber width and chamber length, wherein said at least one reaction chamber comprises a chamber height or chamber width that is 2 mm or less, wherein said at least one reaction chamber has a beginning and an end and wherein said chamber length is the distance from the beginning to the end of the reaction chamber, wherein said reactant stream entering the beginning of the reaction chamber is converted to a product stream exiting the reaction chamber, said product stream comprising hydrogen, carbon dioxide and carbon monoxide, wherein the hydrocarbon in the hydrocarbon steam reforming has an equilibrium conversion, wherein at least 70 per cent. of said equilibrium conversion of the hydrocarbon entering the beginning of said at least one reaction chamber is converted to hydrogen, carbon monoxide and/or carbon dioxide, and wherein said hydrocarbon has a contact time of less than 300 milliseconds.

U.S. patent number 6,969,506 was granted on 29 November 2005, from an application filed on 14 February 2002. It is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999 and U.S. patent number 6,680,044, filed on 16 August 2000. This application also claims priority to U.S. Provisional Application No. 60/269,628, filed on 16 February 2001. Consistent with patent term adjustment calculations, the patent expires on 3 September 2020. The patent is titled "A Chemical Reactor And Method For Gas Phase Reactant Catalytic Reactions" and generally relates to a method of conducting an endothermic reaction in an integrated combustion reaction, comprising passing an exothermically reacting composition into at least one exothermic reaction

chamber, wherein the exothermic reaction chamber comprises at least one exothermic reaction chamber wall that is adjacent at least one endothermic reaction chamber, wherein the exothermic reaction chamber comprises an exothermic reaction catalyst in contact with at least one exothermic reaction chamber wall that is adjacent at least one endothermic reaction chamber, wherein the exothermic reaction catalyst has an exposed surface within the exothermic reaction chamber, and wherein the exposed surface of the exothermic reaction catalyst and a second surface within the exothermic reaction chamber define an open channel within the exothermic reaction chamber, wherein the gap has a thickness, in a direction perpendicular to net flow where the direction of net flow is the direction that gas would travel through the exothermic reaction chamber during operation, of 2 mm or less, wherein the exothermic reaction composition reacts in the exothermic reaction chamber and generates heat, and passing an endothermic reaction mixture into the at least one endothermic reaction chamber, and wherein the method has a volumetric heat flux of at least 1 W/cc.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	09/375,614 US6,488,838B	17 August 1999	17 August 2019	Granted
USA	10/264,792 US6,984,363B	4 October 2002	17 August 2019	Granted
USA	09/640,903 US6,680,044B	16 August 2000	17 August 2019	Granted
USA	09/640,903 S6,969,506	14 February 2002	3 September 2020	Granted
PCT	PCT/US00/22817 WO0112312	17 August 2000	N/A	Regional/ National Phase
Canada	2381154	17 August 2000	17 August 2020	Filed
Mexico	2002PA01644	15 February 2002	17 August 2020	Filed
Japan	2001-516650	17 August 2000	17 August 2020	Filed
South Korea†	2002-7002074 0716461	17 August 2000	17 August 2020	Granted
Europe	00955739.8 EP1206316B	17 August 2000	17 August 2020	Granted
Europe	05007860.9 EP 1568412	17 August 2000	17 August 2020	Filed (divisional)
Australia	200067891 AU779487	17 August 2000	17 August 2020	Granted
Australia	2005201074 AU2005201074	10 March 2005	17 August 2020	Granted (divisional)
Norway	20020587	6 February 2002	N/A	Filed
Brazil	PI0013342	17 August 2000	17 August 2020	Filed
Trinidad and Tobago	Not verified			
South Africa	20020000864 ZA200200864	30 January 2002	N/A	Granted

A Method for Steam Reforming of a Hydrocarbon

U.S. patent number 6,284,217 was granted on 4 September 2001, from an application filed on 17 August 1999. The patent expires on 17 August 2019. The patent is titled "A Method for Steam Reforming of a Hydrocarbon" and generally relates to a method for steam reforming of a hydrocarbon comprising reacting a mixture of steam and a hydrocarbon over a supported catalyst at a temperature from about 650°C. to about 900°C., wherein said supported catalyst comprises a spinel support and a catalyst metal, wherein said step of reacting a mixture of steam and a hydrocarbon is conducted at a residence time of less than about 0.1 second, and wherein said step of reacting results in at least about 50 per cent. of hydrocarbon conversion and a CO selectivity of less than about 70 per cent.

U.S. patent number 6,734,137 was granted on 11 May 2004, from an application filed on 14 August 2001. The patent expires on 14 August 2021. The patent is titled "A Method for Steam Reforming of a Hydrocarbon" and generally relates to a catalyst structure, comprising (a) a first porous structure comprising a first pore surface area and a first pore size of at least 0.1 μm, (b) a buffer layer upon the first pore surface area, (c) a porous interfacial layer comprising spinel with a second pore surface area and a second pore size less than the first pore size, the porous interfacial layer having a thickness less than 4 mm, disposed on the buffer layer, (d) a steam reforming catalyst selected from the group consisting of rhodium, iridium, nickel, palladium, platinum, carbide of group VIb and combinations thereof.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	09/375,615 US6,284,217B	17 August 1999	17 August 2019	Granted
USA	09/930,040 US6,734,137B	14 August 2001	14 August 2021	Granted
PCT	PCT/US00/22421 WO0112540	15 August 2001	N/A	Regional/National Phase
Canada	2380869	14 August 2000	15 August 2020	Filed
Mexico†	2002PA01642 225,718	15 August 2000	15 August 2020	Granted
Japan	2001-516845	15 August 2000	15 August 2020	Filed
South Korea†	10-2002-7002028	15 August 2000	15 August 2020	Filed
Europe	00954093.1 EP1204587	15 August 2000	15 August 2020	Filed
Australia	2000 0066434 AU779528	15 August 2000	15 August 2020	Granted

A Catalyst and Method of Steam Reforming

U.S. patent number 6,607,678 was granted on 19 August 2003, from an application filed on 16 February 2001. It is a continuation-in-part of U.S. patent number 6,284,217, filed on 17 August 1999, and is a continuation-in-part of U.S. patent number 6,680,044, filed on 16 August 2000, which is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999. Consistent with a terminal disclaimer (defined in Section 3.4.1 of this Report) to U.S. patent number 6,284,217, the patent expires on 17 August 2019. The patent is titled "A Catalyst and Method of Steam Reforming" and generally relates

to a method of steam reforming, comprising passing steam and hydrocarbon through a reaction chamber, wherein the reaction chamber comprises a spinel-containing catalyst that has surface active sites comprising a material selected from the group consisting of rhodium, iridium, nickel, palladium, platinum, ruthenium, carbide of group VIb and combinations thereof, wherein the rate of said passing steam and hydrocarbon is controlled such that residence time in the reaction chamber is less than 0.1 seconds, wherein the temperature in the reaction chamber is in the range of 500°C. to 1,000°C., and wherein, at least 60 per cent. of said hydrocarbon is converted to products.

U.S. patent number 6,958,310 was granted on 25 October 2005, from an application filed on 24 March 2003. It is a divisional of U.S. patent number 6,607,678, filed on 16 February 2001, which is a continuation-in-part of U.S. patent number 6,284,217, filed on 17 August 1999, and which is a continuation-in-part of U.S. patent number 6,680,044, filed on 16 August 2000, which is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999. Consistent with a terminal disclaimer to U.S. patent number 6,607,678, which is subject to a terminal disclaimer to U.S. patent number 6,284,217, the patent expires at the latest on 17 August 2019. The patent is titled "A Catalyst and Method of Steam Reforming" and generally relates to a catalyst, comprising (a) a first porous structure comprising a first pore surface area and a first pore size of at least about 0.1 μm (b) a porous interfacial layer that comprises a spinel comprising a second pore surface area and a second pore size less than said first pore size, wherein said porous interfacial layer has a thickness less than 4 mm disposed upon said porous structure (c) a steam reforming catalyst selected from the group consisting of rhodium, iridium, nickel, palladium, platinum, ruthenium, carbide of group VIb and combinations thereof disposed upon the second pore surface area.

U.S. patent number 7,335,346 was granted on 26 February 2008, from an application filed on 13 February 2002. It is a continuation-in-part of U.S. patent number 6,607,678, which is a continuation-in-part of U.S. patent number 6,284,217, filed on 17 August 1999, and which is a continuation-in-part of U.S. patent number 6,680,044, filed on 16 August 2000, which is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999. This application is also a continuation-in-part of U.S. patent number 6,734,137 which is a divisional of U.S. patent number 6,284,217 (discussed previously). Consistent with a terminal disclaimer to U.S. patent number 6,284,217, the patent expires on 17 August 2019. The patent is titled "A Catalyst and Method of Steam Reforming" and generally relates to a method of steam reforming, comprising passing steam and hydrocarbon through a reaction chamber, wherein the reaction chamber comprises a catalyst that has surface active sites comprising a material selected from the group consisting of rhodium, iridium, nickel, palladium, platinum, ruthenium, carbide of group VIb and combinations thereof, wherein the rate of said passing steam and hydrocarbon is controlled such that contact time in the reaction chamber is less than 0.1 seconds, wherein, after passing through the reaction chamber, the hydrocarbon conversion has reached at least 50 per cent. of equilibrium conversion.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	09/788,293 US6,607,678	16 February 2001	17 August 2019	Granted
USA	10/394,866 US6,958,310	24 March 2003	17 August 2019	Granted
USA	10/076,881 US7,335,346	13 February 2002	17 August 2019	Granted

Country	*Application No. Publication No.*	*Application Date*	*Expiry Date*	*Status*
PCT	PCT/US02/04479 WO02066371	15 February 2002	N/A	Regional/National Phase
Taiwan	20020102702 TW592805	15 February 2002	15 February 2022	Granted
Canada	2438714	15 February 2002	15 February 2022	Filed
China	02808313	15 February 2002	15 February 2022	Filed
Europe	02717432.5 EP1360145	15 February 2002	15 February 2022	Filed

Methods of Contacting Substances and Microsystem Conductors

U.S. patent number 7,125,540 was granted on 24 October 2006, from an application filed on 6 June 2000. Consistent with patent term adjustment calculations, the patent expires on 29 July 2023. The patent is titled "Microsystem Process Networks" and generally relates to a microcomponent apparatus for conducting unit operations comprising a microcomponent device comprising a first inlet, first exit, a first array of microchannels, and a second array of microchannels, wherein, during operation, a stream enters the first inlet of the microcomponent device and is distributed among said first array of microchannels and a first unit operation is performed on said stream, said stream exiting through the first exit and exiting the microcomponent device, a processing device connected to the first exit of the microcomponent device, said processing device being capable of modifying said stream by a second unit operation, an outlet of the processing device connected to a second inlet of said microcomponent device through a second inlet, and the second array of microchannels connected to said second inlet and a second exit connected to said second array of microchannels, wherein, during operation, said stream re-enters said microcomponent device and is distributed among the second array of microchannels where said first unit operation can again be performed on the stream, and said stream exits through the second exit and exits the microcomponent device, and comprising plural pairs of microcomponent devices and processing devices, wherein each pair comprises a microcomponent device and a processing device connected in the manner described above. This patent also relates to a method of exchanging heat in a microchannel device, comprising providing a first stream in a microchannel that exchanges heat with a second stream, wherein the first stream remains in the microchannel and, subsequently, the first stream exchanges heat with a third stream without leaving the microchannel.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No. Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	10/422,367 US7,051,540	23 April 2003	N/A	Granted
PCT	PCT/US04/02254 WO2004067138	26 January 2004	N/A	Regional/National Phase
Canada	2514069	26 January 2004	26 January 2024	Filed
Japan	2006-503074	26 January 2004	26 January 2024	Filed
Europe	04705324.4 EP1587596	26 January 2004	26 January 2024	Filed

A Chemical Reactor and Method for Gas Phase Reactant Catalytic Reactions

U.S. patent application number 11/232,485 was filed on 21 September 2005. It is a division of U.S. patent number 6,969,506, which claims priority to provisional application number 60/269,628, filed on 16 February 2001, and is a continuation-in-part of U.S. patent number 6,680,044, filed on 16 August 2000, which is a continuation-in-part of U.S. patent number 6,488,838, filed on 17 August 1999. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Integrated reactors, methods of making same, and methods of conducting simultaneous exothermic and endothermic reactions" and generally relates to an integrated reactor, comprising a first reaction chamber having a width of 2 mm or less, wherein there is an open path through the first reaction chamber, wherein the first reaction chamber has an internal volume comprising 5 to 95 vol. per cent. of porous catalyst and 5 to 95 vol. per cent. of open space and a second reaction chamber having a width of 2 mm or less, wherein there is an open path through the second reaction chamber, wherein the second reaction chamber has an internal volume comprising a catalyst and at least 5 vol. per cent. of open space and a reaction chamber wall separating the first chamber and the second chamber and wherein the integrated reactor possesses a heat flux characteristic of at least 1 W/cc as measured according to the Heat Flux Measurement Test.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	11/232,485	21 September 2005	N/A	Filed
PCT	PCT/US02/04477 WO02064248	15 February 2002	N/A	Regional/National Phase
Canada	2438733	15 February 2002	15 February 2022	Filed
Mexico	PA03007346 MX03007346	15 August 2003	15 February 2022	Granted
Japan	2002-564036	15 February 2002	15 February 2022	Filed
South Korea†	2003-7010803 0835046	15 February 2002	15 February 2022	Granted
Europe	02723159.6 EP1360001	15 February 2002	15 February 2022	Filed
Russia	20030126181 RU2290257	15 February 2002	15 February 2022	Granted
Brazil	PI0007276	15 February 2002	15 February 2022	Filed
South Africa†	2003/6075	15 February 2002	15 February 2022	Granted
Norway	20030003481	6 August 2003	N/A	Filed
Australia	2002253957 AU2002253957	15 February 2002	15 February 2022	Granted

Reactors having Varying Cross-section, Methods of Making Same, and Methods of Conducting Reactions with Varying Local Contact Time (Trapezoid)

U.S. patent application number 10/153,577 was filed on 21 May 2002. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Reactors having varying cross-section, methods of making same, and methods of conducting reactions with varying local contact time" and generally relates to a method of conducting an exothermic or endothermic reaction, comprising passing a composition

into an inlet of a reaction microchannel and through the reaction microchannel and out through an outlet, wherein local contact time changes as the composition passes through the reaction microchannel, the reaction microchannel comprising an inlet side and an outlet side, and wherein the reaction microchannel is adjacent at least one heat exchanger, and wherein the heat transfer distance from the reaction microchannel to the at least one heat exchanger is different on the inlet side than on the outlet side, and wherein the heat transfer distance is measured in a direction perpendicular to a direction of flow through the reaction microchannel. The application also relates to a catalytic chemical reactor comprising a reaction microchannel having an inlet and an outlet, the reaction microchannel containing a catalyst, wherein a cross-section of the reaction microchannel changes continuously along a flow path in a section of the microchannel containing the reaction catalyst.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	10/153,577	21 May 2002	N/A	Filed
PCT	PCT/US2003/16189 WO03099429	21 May 2003	N/A	Regional/National Phase
Canada	2486379	21 May 2003	21 May 2023	Filed
Japan	2004-506947	21 May 2003	21 May 2023	Filed
Europe	03755442.5 EP1511561	21 May 2003	21 May 2023	Filed

All (i.e relevant to more than technology area)

Microcomponent Chemical Process Sheet Architecture

U.S. patent number 5,811,062 was granted on 11 September 1998, from an application filed on 23 February 1996. It is a continuation-in-part of U.S. application number 08/546,329, filed on 20 October 1995, abandoned, which is a continuation-in-part of U.S. patent number 5,611,214, filed on 29 July 1994. The patent expires at the latest on 29 July 2014, taking into account a terminal disclaimer to U.S. patent number 5,611,214, which expires on the same date as the '062 patent. The patent is titled "Microcomponent Chemical Process Sheet Architecture" and generally relates to a microcomponent sheet architecture, comprising (a) a first laminate having a first plurality of microcomponents for performing at least one chemical process unit operation, attached to (b) a second laminate having a second plurality of microcomponents for performing at least one additional unit operation, (c) wherein the chemical process unit operation is combined with the additional unit operation and produces a system operation.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	08/606,155 US 5,811,062	23 February 1996	29 July 2014	Granted
PCT	PCT/US96/16546 WO9714497	15 October 1996	N/A	Regional/National Phase
Canada	2234831 CA2234831	15 October 1996	15 October 2016	Granted
Mexico†	PA/1998/003092 220,718	15 October 1996	15 October 2016	Granted
Japan	1996-515952 JP3710485B	15 October 1996	15 October 2016	Granted
South Korea†	2006-7000384 0660601	15 October 1996	15 October 2016	Granted
South Korea†	1998-0702861 0546072	15 October 1996	15 October 2016	Granted
South Korea†	2004-7018434 06600559	15 October 1996	15 October 2016	Granted
Europe	02025176.5 EP1281922	15 October 1996	15 October 2016	Granted[1]
Europe	96940755.0 EP0862493	15 October 1996	15 October 2016	Filed
Europe	05076971.0 EP1632276	15 October 1996	15 October 2016	Filed

[1] European Patent 1281922 in the name of Battelle Memorial Institute has been opposed in the European Patent Office by Institut Fur Mikrotechnik Mainz GmbH. In the European Patent Office, Institut Fur Mikrotechnik Mainz GmbH has asserted certain prior art (see Section 1.2, first paragraph) against the patent application and Velocys has filed a written response to the opposition. The opposition is currently pending in the EPO, awaiting the summons to oral proceedings. The decision of the Opposition division will be subject to appeal to a Technical Board of Appeal of the EPO by any party adversely affected. The duration of the opposition and possible appeal proceedings is hard to predict, but is likely to be several years if an appeal is filed. It is noted that even if the patent were to be revoked, the revocation of the patent would not have a direct bearing on Velocys' freedom to operate. Further comments regarding the opposition are set out in Section 4.5.7.1 below.

Microchannel Laminated Mass Exchanger and Method of Making

U.S. patent number 6,129,973 was granted on 10 October 2000, from an application filed on 26 September 1997. It is a continuation-in-part of U.S. patent number 5,811,062, which was a continuation-in-part of U.S. application number 08/546,329, filed on 20 October 1995, abandoned, which is a continuation-in-part of U.S. patent number 5,611,214, filed on 29 July 1994. The patent expires on 29 July 2014. The patent is titled "Microchannel Laminated Mass Exchanger and Method of Making" and generally relates to a microchannel mass exchanger and a method of making a microchannel mass exchanger, the method comprising the steps of (a) forming at least one inner sheet having a solid margin around a circumference, said solid margin defining a slot through the entire thickness of the inner sheet, (b) forming at least one outer thin sheet having at least two header holes positioned within said solid margin and positioned at opposite ends of a slot length, wherein said at least one inner sheet is placed adjacent said at least one outer sheet, said solid margin sealably spacing said at least one outer

sheet, said at least one outer sheet defining at least one longitudinal wall of a flow channel having a length parallel to a sheet length, wherein a fluid enters through one of said header holes into said slot to flow in a direction parallel or longitudinal to the length of said flow channel and exits through another of said header holes, wherein said at least one outer sheet comprises a mass transfer medium within the solid margin, (c) stacking said at least one inner thin sheet in contact with said at least one outer sheet into a stack and placing an end block or outer sheet on said at least one inner sheet as a pre-bonded assembly, and (d) bonding the pre-bonded assembly.

U.S. patent number 6,352,577 was granted on 5 March 2002, from an application filed on 3 May 2000. It is a divisional of U.S. patent number 6,129,973, which was a continuation-in-part of U.S. patent number 5,811,062, which was a continuation-in-part of U.S. application number 08/546,329, filed on 20 October 1995, abandoned, which was a continuation-in-part of U.S. patent number 5,611,214, filed on 29 July 1994. The patent expires on 29 July 2014. The patent is titled "Microchannel Laminated Mass Exchanger and Method of Making" and generally relates to a microchannel mass exchanger, comprising a laminate bonded from sheets comprising (a) a first cover sheet comprising a microplenum or at least one microcomponent and further comprising an inlet and an outlet, (b) a contactor sheet comprising a porous or perforated material, and (c) a second cover sheet comprising a microplenum or at least one microcomponent and further comprising an inlet and an outlet, wherein the contactor sheet is disposed between the first and second cover sheets, and wherein, during operation, an element or compound disposed between the contactor sheet and first cover sheet can flow across the contactor into a space between the contactor and the second cover sheet.

U.S. patent number 6,533,840 was granted on 18 March 2003, from an application filed on 13 November 2001. It is a continuation of U.S. patent number 6,352,577, which is a divisional of U.S. patent number 6,129,973, which was a continuation-in-part of U.S. patent number 5,811,062, which was a continuation-in-part of U.S. patent application number 08/564,329, filed on 20 October 1995, abandoned, which was a continuation-in-part of U.S. patent number 5,611,214, filed on 29 July 1994. The patent expires on 29 July 2014. The patent is titled "Microchannel Laminated Mass Exchanger and Method of Making" and generally relates to a microchannel mass exchanger, comprising a laminate bonded from sheets comprising (a) an inner sheet having a solid margin around a circumference, said solid margin defining a slot through a thickness of said inner sheet, (b) at least one outer sheet having at least two header holes positioned within said solid margin and positioned at opposite ends of a slot length, wherein the inner sheet is adjacent to the at least one outer sheet, wherein the solid margin sealably spaces the at least one outer sheet, wherein the at least one outer sheet defines at least one longitudinal wall of a flow channel having a length parallel to a sheet length, such that a fluid can enter through one of said header holes into said slot to flow in a direction parallel or longitudinal to the length of said flow channel, (c) a fluid within the flow channel, (d) a mass transfer medium within the solid margin and on or integral with at least one of said outer sheet or an end block, wherein said microchannel mass exchanger has an outer surface defined by a plurality of edge thicknesses of inner and outer sheets, said outer surface proximate a thermal load so that said thermal load is transmitted via conduction through said outer surface and also transmitted via convection between said inner sheet and said at least one outer sheet and said fluid.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Filing Date*	*Expiry Date*	*Status*
USA	09/564,476 US6,352,577B	3 May 2000	29 July 2014	Granted
USA	10/008,578 US6,533,840B	13 November 2001	29 July 2014	Granted
USA	08/938,228 US6,129,973B	26 September 1997	29 July 2014	Granted
PCT	PCT/US98/19567 WO9916542	17 September 1998	N/A	Regional/National Phase
Canada	2303371 CA2303371	17 September 1998	17 September 2018	Granted
Mexico†	PA/2000/002922 217,959	17 September 1998	17 September 2018	Granted
Japan	2000-513667	17 September 1998	17 September 2018	Filed
Europe	98948349.0 EP1017489	17 September 1998	17 September 2018	Filed
Austria	19980948349	17 September 1998	17 September 2018	Granted AU737835
New Zealand	19980503236 NZ503236	17 September 1998	17 September 2018	Granted

Active Microchannel Fluid Processing Unit and Method of Making

U.S. patent number 6,192,596 was granted on 27 February 2001, from an application filed on 8 March 1999. The patent expires on 8 March 2019. The patent is titled "Active Microchannel Fluid Processing Unit and Method of Making" and generally relates to an active microchannel fluid processing unit, comprising (a) at least one first sub-assembly, wherein said at least one first sub-assembly has at least a first inlet and a first outlet, wherein the at least one first sub-assembly comprises at least one first inner sheet in alternating contact with at least one first outer sheet, said at least first one inner sheet having a first major surface in contact with said at least one first outer sheet and a second major surface in contact with an outer sheet or an end block wherein said first major surface and said second major surface are separated by a thickness, and said at least first one inner sheet having at least one solid margin, said at least one solid margin defining at least one edge of at least one slot through said thickness, wherein said at least one inner sheet is adjacent said at least one outer sheet, wherein said at least one outer sheet has at least one opening positioned within said solid margin, wherein said solid margin sealably spaces said at least one outer sheet, wherein said at least one outer sheet defines at least one longitudinal wall of a flow channel having a length parallel to a sheet length, wherein said first assembly comprises a first flow path, such that, during operation, a fluid can enter through said at least one opening into at least one slot to flow in a direction parallel to the length of said flow channel and exit through another opening that is located on either said at least one outer sheet having said at least one opening or on a second outer thin sheet disposed on an opposite side of said inner sheet, wherein said at least one outer sheet and said at least one inner sheet form a first stack, and (b) at least one second sub-assembly, said at least one second sub-assembly comprising at least a second inlet, a second outlet and a second flow path, wherein said second flow path is separate from said first flow path, wherein said second flow path is within said

first stack or is in a second stack, wherein said second stack, if present, comprises at least one second inner sheet in alternating contact with a second at least one outer sheet, wherein said at least one first sub-assembly is capable of performing at least a first unit operation and said at least one second sub-assembly is capable of performing at least a second unit operation.

U.S. patent number 6,490,812 was granted on 10 December 2002, from an application filed on 11 December 2000. It is a divisional of U.S. patent number 6,192,596, filed on 8 March 1999. Consistent with patent term adjustment calculations, the patent expires on 30 April 2019. The patent is titled "Active Microchannel Fluid Processing Unit and Method of Making" and generally relates to a method of making an active microchannel fluid processing unit, comprising bonding together at least one first sub-assembly and at least one second sub-assembly: wherein the at least one first sub-assembly has at least a first inlet and a first outlet, wherein the at least one first sub-assembly comprises at least one first inner sheet stacked in alternating contact with at least one first outer sheet, said at least first one inner sheet having a first major surface in contact with said at least one first outer sheet and a second major surface in contact with an outer sheet or an end block wherein said first major surface and said second major surface are separated by a thickness, and said at least first one inner sheet having at least one solid margin, said at least one solid margin defining at least one edge of at least one slot through said thickness, wherein at least one inner sheet is stacked adjacent at least one outer sheet, wherein said at least one outer sheet has at least one opening positioned within said solid margin, wherein said solid margin sealably spaces said at least one outer sheet, wherein said at least one outer sheet defines at least one longitudinal wall of a flow channel having a length parallel to a sheet length, wherein said first assembly comprises a first flow path, such that, during operation of the bonded unit, a fluid can enter through said at least one opening into at least one slot to flow in a direction parallel to the length of said flow channel and exit through another opening that is located on either said at least one outer sheet having said at least one opening or on a second outer thin sheet disposed on an opposite side of said inner sheet, wherein said at least one outer sheet and said at least one inner sheet form a first stack, and wherein said at least one second sub-assembly comprises at least a second inlet, a second outlet and a second flow path, wherein said second flow path is separate from said first flow path, wherein said second flow path is within said first stack or is in a second stack, wherein said second stack, if present, comprises at least one second inner sheet placed in alternating contact with a second at least one outer sheet, wherein, in the bonded unit, said at least one first sub-assembly is capable of performing at least a first unit operation and said at least one second sub-assembly is capable of performing at least a second unit operation.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	09/265,227 US6,192,596B	8 March 1999	8 March 2019	Granted (with Certificate of Correction)
USA	09/735,062 US6,490,812B	11 December 2000	30 April 2019	Granted

Microsystem Process Networks

U.S. patent application number 11/241,580 was filed on 30 September 2005. It is a divisional of U.S. patent number 7,125,540, filed on 6 June 2000. The prosecution of this application is discussed below in Section 4.5.7.2.2. The application is titled "Microsystem Process Networks" and generally relates to a microchannel apparatus

comprising a header, at least two flow microchannels, at least two orifices, wherein an orifice connects said header with each flow microchannel, and wherein the ratio of the cross-sectional area of each of said at least two orifices to the cross-sectional area of the flow microchannels connected to said orifices is between 0.0005 and 0.1.

U.S. patent application number 11/241,600 was filed on 30 September 2005. The available records indicate that the USPTO has not yet issued any action on this application. The application is titled "Microsystem Process Networks" and generally relates to a method of transforming energy in a microcomponent device comprising providing a first stream that has a first chemical energy, converting at least a portion of the first chemical energy to physical energy, transferring at least a portion of said physical energy to chemical energy in a second stream, wherein the first stream and the second stream do not mix, wherein the step of transferring at least a portion of said physical energy to chemical energy in a second stream has a an energetic efficiency of at least 50 per cent., and wherein the step of converting at least a portion of the first chemical energy to physical energy has a thermal power density of at least 0.6 watts per cubic centimeter.

Details of the United States patents and patent applications and related patents and patent applications are summarised in the following table.

Country	*Application No.* *Publication No.*	*Application Date*	*Expiry Date*	*Status*
USA	11/241,580	30 September 2005	N/A	Filed
USA	11/241,600	30 September 2005	N/A	Filed
PCT	PCT/US01/17631 WO0195237	30 May 2001	N/A	Regional/National Phase
Canada	2412299	30 May 2001	30 May 2021	Filed
Japan	2002-502702	30 May 2001	30 May 2021	Filed
South Korea	20070108913	19 July 2007	30 May 2021	Filed
South Korea	20080047484	28 April 2008	30 May 2021	Filed
Europe	01939780.1 EP1286904	30 May 2001	30 May 2021	Granted
Australia	200165262 AU2001265262	30 May 2001	30 May 2021	Granted
Norway	200205796	3 December 2002	30 May 2021	Filed

4.5.4 *Maintenance fees*

Maintenance fees (also known as renewal fees or annuities) are due in order to maintain granted patents in force in most jurisdictions, and are also due for pending patent applications in a number of jurisdictions including the European Patent Office. United States patents must be maintained by payment of maintenance fees which are due 3½ years after the date of issuance, 7½ years after the date of issuance and 11½ years after the date of issuance.

Laura Silva has reported that all maintenance fees in respect of material Velocys patent and patent applications are handled through an annuity service and paid up to date worldwide. Maintenance fees in respect of material Battelle patent and patent applications are the responsibility of Battelle.

According to the review of the USPTO website by the US patent attorneys, the maintenance fees for the United States Velocys owned material patents and the United States Battelle owned material patents have been paid to date. Carpmaels & Ransford has verified from the EPO online register that the EPO maintenance fees in respect of the pending material European patent applications in this section have been paid up to date. Carpmaels & Ransford has not carried out independent checks in respect of maintenance fees in other jurisdictions.

4.5.5 *Ownership*

Summary

For the United States Velocys owned material patents and patent applications and the United States Battelle owned material patents and patent applications, the United States patent attorneys reviewed the assignment documents and USPTO recordation verifications as contained in Velocys' files. In addition, they independently searched the USPTO website records for patents and patent applications owned or assigned to Velocys. Based on the United States patent attorneys' review of available documents and records, they have concluded that Velocys and Battelle own exclusively their respective material United States patents and patent applications, subject to the inability to review certain assignments from certain third party employees, described below.

In addition, Laura Silva has reported that, to her knowledge, no third party company or individual has contacted Velocys, verbally or otherwise, to challenge Velocys' ownership of the Velocys owned material patents and applications, and that Velocys is otherwise unaware of any ownership issues regarding same. Laura Silva has likewise reported that, to Velocys' knowledge, no third party company or individual has contacted Battelle, verbally or otherwise, to challenge Battelle's ownership of the Battelle owned material patents and applications, and that Velocys is otherwise unaware of any ownership issues regarding same.

Carpmaels & Ransford has verified from the EPO online register that each of the pending material European patent applications in this section stands in the name of Velocys or Battelle, respectively, as sole applicant. Carpmaels & Ransford has not carried out any other checks on the ownership of the patents listed in this section.

United States patent attorney comments

Velocys advised that it is the sole owner of the Velocys owned material patents and applications and that, to its knowledge, Battelle is the sole owner of the Battelle owned material patents and applications. To confirm Velocys' report, an independent search of the USPTO's website records was performed for any patents and applications listed as owned or assigned to Velocys and to Battelle. It should be noted, however, that United States law does not require recordation of assignments, so these records are not conclusive of ownership. In addition, review of these records does not permit viewing of the actual assignment, and therefore the review is limited only to the indication of ownership given on the website.

Regarding issued patents, the search confirmed Velocys' ownership status of all Velocys owned material United States patents and Battelle's ownership status of all Battelle owned material United States patents. Regarding pending patent applications, the USPTO records did not indicate Velocys' ownership of all of its material applications and Battelle's ownership of all of its material applications. This is not unusual, however, inasmuch as many patent applicants do not record an executed assignment in connection with pending patent applications until a notice of allowability is received. Further, as explained below, a review of Velocys' files confirmed that all material non-provisional United States patent applications have been assigned to Velocys.

In addition to Velocys' report and the review of USPTO records, the physical assignment documents as contained in Velocys' files were reviewed, which contained completed assignments from all Velocys employees to Velocys and from any third parties, including Battelle, to Velocys. In summary, this review indicated Velocys' ownership in all material United States patents and pending patent applications, with the exception of provisional applications, for which Velocys does not generally file assignments. Thus, while USPTO records do not currently show a recordation of assignment sufficient to give Velocys full rights in Velocys Patent Application numbers 10/778,904 and 10/774,298, a review of Velocys' files confirmed Velocys' ownership of these applications.

As a limitation on the above, however, it is noted that for inventions involving inventors from third parties (including Battelle and others), Velocys' files did not contain all completed assignments from the third party employees to the third party, and therefore the review of these files cannot confirm whether third party employees, including Battelle employees, executed assignments to such third party. As stated above, however, the USPTO records generally indicate that the third party inventors have assigned their rights to the third party, who in turn assigned their rights to Velocys. If in fact a third party inventor has not executed an assignment, the inventor's obligation to assign, and thus Velocys' ownership, would be governed by any contracts existing among the parties and inventors involved.

Battelle's physical files were not reviewed and thus any conclusions regarding exclusive ownership by Battelle of Battelle owned material patents and applications must be limited to Velocys' knowledge and an independent review of the USPTO assignment records. As an exception, however, Velocys provided, through Battelle, an assignment from Phillips Petroleum to Battelle that on its face grants Battelle full ownership of patent application number 10/153,577. Thus, while USPTO records do not currently show a recordation of assignment sufficient to give Battelle full rights in Battelle Patent Application No. 10/153,577, a review of the physical assignment indicated Battelle's ownership.

4.5.6 *Liens, security interests, and government interests*

Summary

The United States patent attorneys have advised that based on their review procedure none of the material Velocys or Battelle United States patents and patent applications has a lien or security interest recorded against it. The United States Government has non-exclusive licence rights to certain material patents. We are advised that, where relevant, material licences in respect of intellectual property will be addressed in Section 2.4 of Part II of the Admission Document.

Carpmaels & Ransford has verified from the EPO online register that no liens or security interests are recorded there in respect of the pending material European patent applications in this section.

We note that neither United States nor European law requires such liens or security interests to be recorded.

United States patent attorney comments

While Velocys has stated that the United States Government has licence rights to certain material patents and applications, those licences were not reviewed.

Velocys has stated that no lien or security interest has been granted against any of the Velocys owned material United States patents and applications. Velocys does not have knowledge sufficient to state whether any lien or security interest has been granted against any of the Battelle owned material United States patents and applications, but states that Velocys is not aware of any such liens or security interests. Based on a review of the USPTO website database, none of the Velocys owned material United States patents and applications has a lien or security interest recorded against it and none of the Battelle owned material United States patents and applications has a lien or security interest recorded against it. Note, however, that United States law does not require liens or security interests to be recorded with the USPTO, and thus searching such records to confirm whether such liens or security interests exist is limited as such. State records were not reviewed, nor were any other searches carried out to identify any possible liens or security interests.

4.5.7 *Validity*

Under United States law, each claim of an issued United States patent is presumed valid and thus the material Velocys United States patents enjoy a presumption of validity. In addition, Velocys representatives have informed the United States patent attorneys that no third party has challenged the validity of the material Velocys patents verbally, in writing, by administrative action, by lawsuit or otherwise, except for an opposition, against European Patent 1281922 in the name of Battelle Memorial Institute, details of which are given in Section 4.5.7.1 below. A search of publicly available records by the United States patent attorneys found no United States lawsuit or administrative action challenging the validity of the material Velocys patents.

Carpmaels & Ransford has reviewed the EPO online register entries in respect of all of the material granted European patents in this section. This review identified only one opposition, against European Patent 1281922 in the name of Battelle Memorial Institute, details of which are given in Section 4.5.7.1 below. Carpmaels & Ransford has not conducted any other independent search to determine if the validity of any of the material patents in the USA or elsewhere has been challenged.

The review of the available evidence indicates that no challenges to the validity of the United States material patents and applications have been made or currently exist other than certain rejections and objections raised by the USPTO in connection with pending material patent applications, which objections and rejections are normal in the course of patent prosecution. This conclusion is based upon interviews with Velocys and a review of available public records.

4.5.7.1 **Validity of issued material patents**

The following factual analysis refers only to issued United States patents, and not to pending patent applications. Velocys has reported that no third party has challenged the validity of the United States Velocys owned material patents verbally, in writing, by administrative action, by lawsuit, or otherwise. As mentioned above, under United States law, each claim of an issued patent is presumed valid, and thus the Material Patents enjoy a presumption of validity.

In addition, to confirm Velocys' report, publicly available records were searched in two ways: (1) in the "LexisNexis Courtlink" database for United States Federal patent-related lawsuits in which Velocys was a named party, and (2) in the "LexisNexis Utility, Plant And Design database" for any lawsuits involving any of the Velocys owned material patent numbers. These searches revealed no United States lawsuits or reexamination proceedings challenging the validity of the Velocys owned material patents.

Furthermore, Velocys has reported that, to its knowledge, no third party has challenged the validity of the United States Battelle owned material patents verbally, in writing, by administrative action, by lawsuit, or otherwise. To confirm, publicly available records were searched in two ways: (1) in the "LexisNexis Courtlink" database for United States Federal patent-related lawsuits in which Battelle was a named party, and (2) in the "LexisNexis Utility, Plant And Design database" for any lawsuits involving any of the Battelle-Owned Material Patent numbers. These searches revealed no United States lawsuits or reexamination proceedings challenging the validity of the Battelle owned material patents. As with all on-line searches, the above LexisNexis searches are limited by the accuracy of the databases themselves. In addition, although the parties and the courts should notify the USPTO when a patent is involved in litigation, it is generally understood that this does not always happen.

While the United States patent attorneys' review was limited to the United States patents and applications, Velocys volunteered that European Patent 1281922, in the name of Battelle Memorial Institute, has been opposed in the European Patent Office by Institut Fur Mikrotechnik Mainz GmbH ("IMM"). In the European Patent Office,

IMM has asserted certain prior art (see Section 1.2, first paragraph of this Report) against the patent application, and Battelle has formulated and filed its response. Velocys has stated that EP-1281922 does not have a direct U.S. counterpart with identical claims. Velocys has further stated that, to its knowledge, Battelle filed EP-1281922 as a divisional of EP Application No. 96940755.0 after internal Battelle analysis determined that claims specific to a laminate that produces hydrogen could be pursued. While EP Application No. 96940755.0 has a corresponding U.S. case in U.S. patent No. 5,811,062, by the time Velocys made the decision to file the divisional in the EP, U.S. Patent No. 5,811,062 had been issued and therefore no opportunity to file a similar U.S. divisional existed.

Velocys has reported that, broadly speaking, the primary difference between the parent and divisional cases is that the EP Application No. 96940755.0 and U.S. patent No. 5,811,062 have claims relating to generic architecture of microcomponents on a sheet or laminate, while EP-1281922 has claims specifying that the architecture will be used to produce hydrogen. Thus, IMM is only opposing claims relating specifically to hydrogen production.

Laura Silva has stated that while she does not expect the opposed patent to be revoked, in a "worst case" scenario the revocation would not affect Velocys' operations because (1) patents grant the right to exclude, not the right to practice, and (2) Velocys is confident that its remaining patents in the SMR area would provide Velocys with a strong competitive advantage over third parties.

4.5.7.2 **Validity of the material patent applications**

The following factual analysis provided by the United States patent attorneys refers only to United States Velocys owned material patent applications and United States Battelle owned material patent applications that have an outstanding office action from the USPTO.

4.5.7.2.1 ***Velocys owned material patent applications***

U.S. patent application number 10/440,056, filed on 16 May 2003, received a final action[4] on 16 June 2008, in which the examiner allowed claims 1-29, 33, and 38, and rejected claim 39 as obvious in light of U.S. patent number 6,281,254 in combination with several U.S. patents and a Japanese reference. Velocys states that it will file a response cancelling the rejected claim so that the application will be allowed, and that Velocys will add the cancelled claims to a separate pending application claiming priority to the '056 application.

In addition, claims 34-36 have been withdrawn from consideration pursuant to a restriction requirement by the examiner, who took the position that those claims related to methods of heat exchange not requiring the steps of claim 1, which are directed to the formation of an emulsion. Velocys plans to pursue the restricted claims in a separate pending application claiming priority to the '056 application.

U.S. patent application number 10/778,904, filed on 13 February 2004, received a final action on 9 July 2008, in which the examiner rejected all pending claims (1-43) in light of U.S. patent application number

4 The USPTO can issue "final" and "non final" office actions. In general, the difference between the two is that a "final" action must be responded to in such a way as to put the application in condition for allowance (such that the application may proceed to an issued Patent), or the applicant must pay a fee and file a "Request for Continued Examination" to continue prosecuting the case, while a response to a "non final" action will not require a "Request for Continued Examination" to continue prosecuting the case, even if the response does not put the case in condition for allowance.

2003/0017105. Given the recent date of the rejection, Velocys has not studied it in detail, but currently expects to respond.

U.S. patent application number 10/848,559, filed on 17 May 2004, received a final action on 20 March 2008, in which the examiner allowed claims 37-45 and 47 and indicated that claims 10, 21, 29, 79, 80, 84, 86, 87, 93, and 93 would be allowable if written in independent form. The examiner rejected the remaining claims as either anticipated or rendered obvious by WO-02/064248. Velocys filed a response on 25 July 2008, after conducting a phone interview with the examiner on the same date. In its response, Velocys amended the independent claims to incorporate limitations of the dependent claims that the examiner indicated contained patentable limitations. The examiner has not yet taken further action.

U.S. patent application number 10/774,298, filed on 6 February 2004, received a final action on 16 June 2008, in which the examiner rejected all pending claims as obvious over 6,159,434 in combination with other references. Given the recent date of the rejection, Velocys has not studied it in detail, but currently expects to respond.

U.S. patent application number 11/077,849, filed on 11 March 2005, received a Notice of Allowance on 9 May 2008, which would typically indicate the patent would be issued in due course if Velocys paid the issue fee. In this case, however, Velocys filed a Request for Continued Examination on 6 August 2008, so that the examiner would reevaluate the application in light of certain publications (including patents, published applications, and non-patent literature) submitted via Information Disclosure Statement on the same date. The USPTO has not yet acted on the continued examination.

U.S. patent application number 11/052,455, filed on 7 February 2005, received a final action on 28 July 2008, in which the examiner rejected claims 1-18 and 24-33 as anticipated by U.S. patent number 7,118,917, or rendered obvious the patent in combination with another reference. The examiner objected to claims 19-23 as depending from a rejected claim, but indicated that they would be allowable if written in independent form. Given the recent date of the rejection, Velocys has not studied it in detail, but currently expects to respond.

U.S. patent application number 11/088,685, filed on 23 March 2005, received a non final action on 26 March 2008, in which the examiner rejected all pending claims (1-5, 7-9, and 12) primarily as anticipated by U.S. patent number 3,907,708 or obvious in view of the patent in combination with another U.S. patent. The examiner also rejected claims 1-2 and 7-8 as anticipated by U.S. patent number 6,863,868. In addition, the examiner indicated that claims 16-50 should be withdrawn from consideration and restricted out of the current application.

Velocys responded on 28 July 2008, and (1) amended claims 1, 3, 7, 12, 30, and 34, (2) cancelled claims 16, 17, 27, and 49, (3) added claims 51-54, (4) arguing against the examiner's restriction requirement of claims 18-50, and (5) arguing against the examiner's prior art-based rejections. The examiner has not yet taken further action.

U.S. patent application number 10/966,158, filed on 15 October 2004, received a non final action on 31 March 2008, in which the examiner allowed claims 1-34 and rejected claim 35. The examiner rejected claim 35 in two ways: (1) as indefinite, arguing that the term "high temperature" is indefinite,

and (2) as anticipated by U.S. patent number 4,116,883. Velocys responded on 31 July 2008, by amending claim 35 to delete the term "high temperature," arguing against the examiner's prior art rejection, and adding claims 36-39. The examiner has not yet taken further action.

U.S. patent application number 10/966,162, filed on 15 October 2004, received a non final action on 21 April 2008, in which the examiner rejected all pending claims (8-26). The examiner rejected claims 8-11, 13-14, and 17 as anticipated by an AIChE publication, claims 8 and 9 as anticipated by U.S. patent publication number 2003/0105172, and the remaining claims as obvious in view of the AIChE publication and additional references. Further, in an earlier office action, the examiner restricted claims 1-7 as directed to a separate invention, and Velocys elected to prosecute claims 8-26. Velocys may pursue the restricted claims in a divisional application. Velocys has instructed its attorneys to respond to the office action and argue against the rejection.

U.S. patent application number 11/266,582, filed on 3 November 2005, received a non final action on 13 May 2008, in which the examiner rejected all pending claims as obvious over WO-03/078052 in combination with other references. Further, in an earlier office action, the examiner restricted claims 35 and 38 as directed to a separate invention, and Velocys elected to prosecute the remaining claims. Velocys may pursue the restricted claims in a divisional application. Velocys has instructed its attorneys to respond to the office action and argue against the rejection.

U.S. patent application number 11/170,907, filed on 30 June 2005, received a non final action on 27 June 2008, in which the examiner rejected all pending claims as obvious over U.S. patent number 4,670,414 in combination with U.S. patent publication 2005/0203195. Given the recent date of the rejection, Velocys has not studied it in detail, but currently expects to respond.

4.5.7.2.2 ***Battelle owned material patent applications***

U.S. patent application number 10/153,577, filed on 21 May 2002, received a non final action on 27 June 2007, in which the examiner rejected all pending claims as obvious in view of either a Japanese patent application or U.S. patent number 5,405,586. On 14 September 2007, Battelle conducted a telephone interview in which the examiner indicated that the claims would overcome the prior art if limited to reaction microchannels having a constant height. Battelle responded to the action on 15 December 2007 by amending claims 1, 4, 11, 15, 43, 52, 54, 61, and 63, and adding claims 64-75. The examiner has not yet taken further action. Further, in an earlier office action, the examiner restricted certain claims as directed to separate inventions, and Battelle elected to prosecute the remaining claims. Battelle may pursue the restricted claims in a divisional application.

U.S. patent application number 11/236,125, filed on 9/26/05, received a non final action on 9 July 2008, in which the examiner rejected all pending claims as obvious over U.S. patent number 5,811,062 in combination with other references. Given the recent date of the rejection, Velocys and Battelle have not studied it in detail, but Velocys currently expects Battelle will respond.

U.S. patent application number 11/231,708, filed on 20 September 2005, received a non final action on 28 May 2008, in which the examiner rejected all pending claims (1, 2, 4-7, and 13-21) as anticipated by each of U.S. patent numbers 4,793,980 and 4,367,163, and rejected claims 4-7, 13-17, 19, 20, and

22 as anticipated by U.S. patent number 5,639,401. Battelle has instructed its attorneys to respond and to add additional claims.

U.S. patent application number 11/241,580, filed on 9/30/05, received a non final action on 25 February 2008, in which the examiner rejected all pending claims (18-20, 24, and 49) as obvious in view of U.S. patent number 6,274,101 in combination with U.S. patent number 6,200,536. Battelle responded to the action on 2 July 2008, by amending claims 18 and 24, adding claims 50-56, distinguishing over U.S. patent number 6,274,101, and arguing that U.S. patent number 6,200,536 cannot be treated as prior art under 35 U.S.C. 103(a) because it was obligated to be assigned to Battelle at the time of invention. The examiner has not yet taken further action.

U.S. patent application number 11/364,595, filed on 2/27/06, received a Notice of Allowance on 24 March 2008, which would typically indicate the patent would be issued in due course if Battelle paid the issue fee. In this case, however, Battelle filed a Request for Continued Examination on 9 June 2008, so that the examiner would reevaluate the application in light of (1) additional claims 32-56, and (2) certain U.S. patents submitted via Information Disclosure Statement on the same date. The USPTO has not yet responded to the continued examination.

U.S. patent application number 11/232,485, filed on 9/21/05, received a non final action on 7 April 2008, in which the examiner rejected all pending claims (1-6) as obvious over WO-79/14497 in combination with a Japanese reference. Velocys has reported that it and Battelle are formulating a response to the office action.

4.5.7.2.3 ***Material patent applications that have been abandoned***

In addition, Velocys has reported that two applications relating to the material United States patents and applications have been abandoned, but that the claims of the abandoned applications can be effectively incorporated into other pending applications. Specifically, Velocys has reported that Battelle's U.S. application number 10/911,976 ("the '976 application"), titled "Tailored Fischer-Tropsch synthesis product distribution," was abandoned after the USPTO examiner continued to reject the claims in light of Battelle's own prior art; namely, Battelle's U.S. patent application number 10/282,554, which claims priority to U.S. patent application number 09/375,610 ("the '610 application"), filed 17 August 1999. The invention of the '976 application relates generally to a thin layer of catalyst coating to get different product yields. In response to the repeated rejections over its own patents and applications, Velocys has stated that Battelle will amend its U.S. application number 11/231,708 ("the '708 application," discussed in Section 4.5.7.2.2) to generally cover the abandoned claims. That is, because the '708 application claims priority to the '610 application, which is the parent of the application relied on in the examiner's rejection, Velocys believes that Battelle has a solid basis for allowance of these claims.

In addition, Velocys has reported that its U.S. application number 10/778,891, titled "Catalyst support and steam reforming catalyst" was strategically abandoned in light of certain rejections because the abandoned application had a twin in U.S. Application No. 10/778,904 (filed the same day and having an identical specification) that could be prosecuted first. The '891 application's claims related to a composition used in SMR, while the pending '904 application's claims relate to a method of performing SMR. Velocys currently plans to pursue the '904 application's claims, and, if successful, may

add the claims of the abandoned '891 application as a continuation application. Such a continuation application would allow Velocys pursue the abandoned claims, while retaining the priority date of the original patent application.

4.5.8 *Possible third party infringers of material patents and applications*

Velocys monitors for potential infringers of its patents, and has identified specific third parties that may be infringing its patents.

Velocys has reported that it monitors for potential infringers of both Velocys owned and Battelle owned material patents and applications in several ways. For example, Laura Silva obtains reports from third party search engines, including NEARAC, Delphion, and Google, based on key words, key companies, and patents that reference Velocys or Battelle patents and applications. Further, Velocys representatives attend industry conferences at which they gather intelligence, and relevant intelligence is communicated to Laura Silva. If Velocys' monitoring highlights something that warrants further attention, Ms Silva brings it to the attention of other Velocys employees, and where appropriate, Velocys' attorneys.

If Velocys, after internal discussions and discussions with its attorneys, believes that a third party may be infringing, Ms Silva, determines whether the potential infringer operates in a "core" or "non-core" area. Velocys has defined a core area as the manufacture or purification of commodity chemicals or bulk fuels at a commercial production rate of greater than 10,000 tons/year per facility, and has defined non-core as a production rate of less than 10,000 tons/year per facility. Any potential infringement of Velocys patents in non-core areas is referred to an outside attorney under an agreement with Velocys to pursue a potential licence. The designation of core and non-core is solely for the purpose of its agreement with the outside attorney.

Velocys has reported that it is monitoring specific potential infringers of material patents and applications in both core and non-core areas. In core areas, Velocys has reported that it has not sent letters to the potential infringers or filed any law suits. In non-core areas, Velocys has sent one letter, but has not filed any suits.

To confirm Velocys' report that it has not filed any lawsuits against potential infringers, publicly available records were searched in two ways: (1) in the "LexisNexis Courtlink" database for Federal patent-related lawsuits in which Velocys was a named party, and (2) in the "LexisNexis Utility, Plant And Design database" for any lawsuits involving any of the Velocys owned material patent numbers. These searches revealed no United States lawsuits alleging infringement of the Velocys owned material patents.

To confirm Velocys' report that, to its knowledge, neither it nor Battelle has filed any lawsuits against potential infringers of the Battelle owned material patents publicly available records were searched in two ways: (1) in the "LexisNexis Courtlink" database for Federal patent-related lawsuits in which Battelle was a named party, and (2) in the "LexisNexis Utility, Plant And Design database" for any lawsuits involving any of the Battelle owned material patent numbers. These searches revealed no United States lawsuits alleging infringement of the Battelle owned material patents.

4.5.9 *Third party rights*

Laura Silva has stated that, to her knowledge, Velocys has received from third parties no written or oral accusations of infringement and that no third party has filed a lawsuit against Velocys alleging the same. To monitor for potential third party patents presenting an infringement problem, Velocys' Laura Silva obtains reports from third party search engines, including NEARAC, Delphion, and Google, based on key words, key companies, and patents that reference Velocys patents. Laura Silva reviews the patent results to make an initial assessment whether the patents pose an infringement risk. If Laura Silva feels that it is appropriate given

the patent of interest, she brings it to the attention of other Velocys employees, and where appropriate, Velocys' attorneys. If Velocys' attorneys review a patent of interest, they provide oral or written opinions to Velocys. Any written opinions are kept with the attorneys.

Further, Velocys has reported that it has not identified any such third party patent with respect to which it believes that it infringes any valid and enforceable claim.

To confirm Velocys' report that no third party has filed any lawsuits against Velocys, publicly available records were searched in the "LexisNexis Courtlink" database for Federal patent-related lawsuits in which Velocys was a named party. This search revealed no United States lawsuits alleging patent infringement by Velocys.

An analysis was not performed regarding whether any third parties have accused Battelle of infringement.

Neither Carpmaels & Ransford nor the United States patent attorneys have carried out or commissioned any freedom to operate searches in connection with the subject matter of the patents and patent applications identified in this section of the Report. We therefore cannot advise as to the existence or otherwise of any published patents or patent applications that may be of relevance to the said subject matter.

4.6 *Velocys' trade marks*

4.6.1 *Velocys United States trade mark applications and registrations*

Information regarding United States trade mark applications and registrations has been provided by the United States patent attorneys. Carpmaels & Ransford has verified the existence of these US trade mark applications and registrations from the US Patent and Trademark Office online database.

United States patent attorney comments

Only United States trade mark registrations and applications for registrations for the mark "VELOCYS" were reviewed. Velocys' United States VELOCYS trade mark registrations and applications for registrations are summarized in the table below.

Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
US	VELOCYS (Word)	78621890	3 May 2005	Filed		IC 009 Microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in laboratories IC 011 Microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing

Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
US	VELOCYS (Word)	77474192	14 May 2008	Filed		IC 011 Microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing
US	VELOCYS (Word)	77144568	30 March 2007	Abandoned		IC 011 Microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing
US	VELOCYS (Word)	76375477	28 February 2002	Registered	2702146	IC 042 technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation and others.
US	VELOCYS (Figura-tive)	76375476	28 February 2002	Registered	2971292	IC 001 Catalysts for use in chemical and petrochemical processes

Velocys has stated, through its trade mark counsel, an attorney with the intellectual property section of a large full-service United States law firm with offices throughout the central United States, as follows: Velocys has issued registrations for the mark VELOCYS (Registration number 2702146, class 042) and for a stylized version of the word VELOCYS (Registration number 2971292, class 001), both of which were filed on February 28, 2002.

Regarding Velocys' pending and abandoned applications for the VELOCYS mark, on May 3, 2005, Velocys filed trade mark registration application serial number 78621890 ("the '890 application"), reciting goods in international class 011 covering "microchannel-based apparatus for use in fluid processing."

The USPTO examiner issued a rejection against the '890 application on December 5, 2005, in part arguing that Velocys' mark would lead to a likelihood of confusion in view of U.S. Registration number 2953214 for VELOCE, issued to Nanostream, Inc. covering goods in class 009 for, among other things, "scientific apparatuses for preparing, synthesizing, purifying, and/or analyzing chemical or biological samples . . . namely microfluidic devices for use with chromatographs" and various other pumps, valves, etc.

Velocys has reported that, before preparing a response, Velocys contacted Nanostream to attempt to obtain an agreement from Nanostream that no likelihood of confusion existed, but

Nanostream would not so agree. Velocys has reported that on June 5, 2006, Velocys instituted cancellation proceedings against Nanostream's VELOCE mark, arguing that Nanostream did not actively use the mark. Also on June 5, 2006, Velocys responded to the office action by alerting the USPTO of the cancellation proceeding. In its response, Velocys amended its class 011 goods as follows: "microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing." Further, Velocys added goods in international class 009 as follows "microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in laboratories."

In July 2006, the examiner suspended the '890 application prosecution pending the outcome of the cancellation proceedings. Velocys voluntarily withdrew the cancellation proceeding against Nanostream's VELOCE registration on March 15, 2007. While the USPTO website indicates that no further action has occurred on the '890 application, Velocys has reported that it intends to allow the '890 application to become abandoned, and that it does not currently plan to pursue the goods in class 009.

Velocys has also stated that it filed trade mark application serial number 77144568 on March 30, 2007, for the word mark VELOCYS, listing goods in international class 011 identical to the amended goods in the '890 application (i.e., "microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing"). On July 13, 2007, the examiner rejected the application, again arguing in part that Velocys' mark would lead to a likelihood of confusion in view of U.S. Registration number 2953214 for VELOCE, issued to Nanostream, Inc. Velocys failed to respond to this office action, causing the application to go abandoned.

Velocys has reported that it allowed the '568 application to go abandoned and filed a similar application, serial number 77474192, on May 14, 2008, for the word mark VELOCYS, again listing goods in international class 011 identical to the amended goods in the '890 application (and the abandoned '568 application). No office action has yet been issued on this application.

The review of the USPTO website's available records supports Velocys' report, with the obvious exception that the website does not indicate Velocys' communications with Nanostream, other than to indicate that a cancellation proceeding was filed and later withdrawn.

Laura Silva has stated on behalf of Velocys that while she does not think Velocys will have to change its name in the light of the Nanostream trade mark registrations, in a "worst case" scenario a Velocys name change would not have a materially adverse effect on Velocys because (1) Velocys' primary customers are small in number, and (2) Velocys' primary customers are sophisticated. Moreover, Nanostream's website states that as of 14 March 2008, it closed its business operations in all locations.

As stated, records not involving the VELOCYS mark have not been reviewed, nor have state trade mark records for any Velocys-owned trade mark registrations or other resource materials been reviewed to identify any possible Velocys common law trade mark rights.

4.6.2 *Non-United States trade mark registrations*

A list of trade mark registrations relating to the trade mark "VELOCYS" in jurisdictions other than the United States has been provided to the US patent attorneys by Velocys, and was used to prepare the lists set out below.

Information for the Australian, Canadian and Japanese trade marks listed has been checked on the online databases of the Australian, Canadian and Japanese Intellectual Property Offices (except that the specification of goods of the Japanese trade marks has not been verified). Information concerning the South Korean and Mexican trade marks listed has been verified

with local attorneys. These checks also confirm that the Australian, Canadian, South Korean and Mexican trade marks registrations stand in the name Velocys according to the respective Intellectual Property Offices' databases. Information concerning name in which the Japanese trade mark registrations stand was not available on the Japanese Intellectual Property Office online database.

No attempt has been made to search for trade mark applications or registrations in jurisdictions other than those listed, nor has any attempt been made to search in the jurisdictions listed for any additional marks Velocys may have.

Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
US	VELOCYS (Figurative)	76375476	28 February 2002	Registered	2971292	IC 001 Catalysts for use in chemical and petrochemical processes
AU	VELOCYS (Word)	1079822	10 October 2005	Registered	1079822	IC 011 Specification includes "microchannel-based apparatus for use in fluid processing"
AU	VELOCYS (Word)	925038	28 August 2002	Registered	925038	IC 042 Technical consulting and planning services in relation to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing and transportation
AU	VELOCYS (Figurative)	925039	28 August 2002	Registered	925039	IC 001 Catalysts for use in chemical and petrochemical processes
CA	VELOCYS (Word)	1,151,008	28 August 2002	Registered	TMA 673,018	Catalysts for use in chemical and petrochemical processes Technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation.
CA	VELOCYS (Word)	1,275,457	12 October 2005	Registered	TMA 0694,920	Microchannel-based apparatus in the nature of fluid separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid-processing in manufacturing and laboratories

Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
CA	VELOCYS (Figurative)	1,274,388	3 October 2005	Registered	TMA 701,768	Catalysts for use in chemical and petrochemical processes. Technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation
EU (CTM)	VELOCYS (Figurative)	002820306	28 August 2002	Registered	002820306	IC 001 Catalysts for use in chemical and petrochemical processes IC 042 Services in connection with technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation and others
EU (CTM)	VELOCYS (Word)	004683256	13 October 2005	Registered	004683256	IC 011 Specification includes “chemical processing apparatus and installations; fluid processing apparatus and installations; microchannel-based apparatus for use in fluid processing”
EU (CTM)	VELOCYS (Figurative)	002820330	28 August 2002	Registered	002820330	IC 001 Catalysts for use in chemical and petrochemical processes IC 042 Services in connection with technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation and others

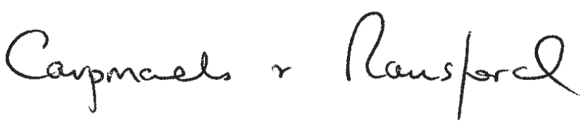
Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
JP	VELOCYS (Word)	2002-073194	28 August 2002	Registered	4712695	IC 042 Specification includes "services in connection with technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation and others"
JP	VELOCYS (Word)	2005-097213	18 October 2005	Registered	5053075	IC 007 Specification includes "chemical processing machines being composed with microchannel based apparatus for use in fluid IC 011 Specification includes "drying apparatus (for chemical processing), recuperators (for chemical processing), steamers (for chemical processing), evaporators (for chemical processing), distillers (for chemical processing), heat exchangers (for chemical processing)"
JP	VELOCYS (Figura-tive)	2002-073193	28 August 2002	Registered	4801280	IC 001 Catalysts for use in chemical and petrochemical processes.
KR	VELOCYS (Word)	17421/2002		Registered	41-0100960	IC 042 Specification includes "services in connection with technical consulting and planning services related to the implementation of industrial products and processes for others in the field of chemicals, petroleum, petrochemicals, energy and utilities, and to provide fuel for transportation vehicles"

Country	*Mark*	*Application No.*	*Application date*	*Status*	*Registration No.*	*Goods/Services*
KR	VELOCYS (Word)	51356/2005		Registered	40-0683894	IC 009 Microchannel based apparatus in the nature of fuel separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid processing in laboratories. IC 011 Microchannel based apparatus in the nature of fuel separators, heat exchangers, reactors, mixers, pumps, compressors, heaters, and coolers for use in fluid processing in manufacturing
KR	VELOCYS (Figura-tive)	39375/2002		Registered	40-0580125	IC 001 Catalysts for use in chemical and petrochemical processes
MX	VELOCYS (Word)	563364	28 August 2002	Registered	793322	IC 042 Services in connection with technical consulting and planning services related to the implementation of industrial products and processes for others in the fields of chemical, petrochemical, petroleum, energy, utilities, food processing, transportation and others.
MX	VELOCYS (Word)	744722	13 October 2005	Registered	917971	IC 011 Microchannel-based apparatus for use in fluid processing.
MX	VELOCYS (Figura-tive)	563363	28 August 2002	Registered	778432	IC 001 Catalysts related to chemical and petrochemical processes.

5. Conclusion

The above Report summarises the information provided to, and facts discovered by, Carpmaels & Ransford in relation to the patents and trade marks of Oxford Catalysts and Velocys, subject to the limitations and terms of reference set forth above.

Yours faithfully



For and on behalf of
CARPMAELS & RANSFORD

PART VI

FINANCIAL INFORMATION ON OXFORD CATALYSTS GROUP PLC

SECTION A:

INTERIM RESULTS OF OXFORD CATALYSTS GROUP PLC FOR THE 6 MONTHS ENDED 30 JUNE 2008

The following is the text of the unaudited interim results of the Company issued on 25 September 2008:

OXFORD CATALYSTS GROUP PLC
("Oxford Catalysts" or "the Group")

Interim results for the period ended 30 June 2008

Oxford Catalysts Group PLC, the leading catalyst innovator for clean fuels, announces today its interim results for the six months ended 30 June 2008.

Highlights

- Revenues ahead of management expectations at £158,000, up by 82 per cent. (H1 2007: £87,000; full year 2007: £163,000).
- MOU signed for small scale Fischer-Tropsch ("FT") with specialist technology developer, delivering revenues of at least $200,000 in 2008 and increasing in 2009 (pending successful trials).
- Small scale FT agreement signed with Thai national oil and gas company, PTT (the country's largest listed company), delivering more than $200,000 of revenue in 2008/2009.
- MOU signed with PTT for the evaluation and commercialisation of natural gas upgrading technology, with commercial side-stream testing due to start by early 2009.
- Strategic Alliance signed with Novus Energy for the production of second-generation renewable transportation fuels from organic wastes, expected to deliver revenues in excess of £120,000 in 2008.
- Instant Steam development with leading fast moving consumer goods company successfully progressed past first "go/no go" milestone; and, successful completion of safety classification process for Instant Steam fuel.
- Cash burn peaked in period due to capex on office and laboratory extension – now largely complete.
- Cash and short term deposits at period end £13.1 million.
- Board positive of exceeding management revenue expectations for the full year.

Pierre Jungels, CBE, Chairman of Oxford Catalysts, said:

"The outlook for the Group across the markets in which we operate is universally positive. I am confident that we are on course to deliver commercial agreements which will enhance shareholder value.

"The Board is optimistic of exceeding management revenue expectations for the full year, and looks to the future with confidence and excitement."

CHAIRMAN'S STATEMENT

Pierre Jungels, CBE

I am very pleased with where we are as an energy and environment related business, some two and a half years after flotation. We have a first rate team of senior executives, who have qualified a large number of opportunities and have focussed on the few which we expect will deliver most value in the short, medium and long term.

The Group achieved revenues in the first half of £158,000, almost as much as for the full year 2007 and ahead of our expectations. Cash burn peaked during the period as a result of capex on the office and laboratory extension, which is now largely complete. I am therefore glad to report that at the period end the Group had £13.1 million in cash and short term deposits.

The large number of Non Disclosure Agreements ("NDAs") and Material Transfer Agreements ("MTAs") signed over the past couple of years demonstrates the breadth of engagement with potential partners that the Company has achieved. During the period, a number of these progressed to a more advanced commercial footing.

In the biomass space, we have chosen to form an alliance with Novus Energy, LLC ("Novus Energy") to make second-generation renewable transportation fuels from organic wastes. In the steam applications market, we continue our engagement with a global fast moving consumer goods ("FMCG") giant. We are also working with Thailand's largest company, PTT Public Company Limited ("PTT"), developing and evaluating technology for upgrading natural gas, and seperately, for the development of small scale Fischer-Tropsch ("FT") applications. Finally, we are making very good progress with a specialist technology developer to deploy our highly active catalysts in small scale FT process equipment ideally suited for converting stranded natural gas and flared gas into clean synthetic fuels.

Board

We welcomed Susan Robertson to the Board of Directors of the Company at the Annual General Meeting held on 14 May 2008.

Susan joined Oxford Catalysts in October 2007 as Chief Financial Officer following seventeen years at The BOC Group (now part of Linde AG). From its inception in 2003 until 2006, Susan was Vice President and Chief Financial Officer of Japan Air Gases, which was then a £700 million turnover joint venture owned by The BOC Group and Air Liquide.

At the same time, Professor Malcolm Green (Non-executive Director), Dr Tiancun Xiao (Executive Director) and Will Barton (Executive Director), stepped down from the Board at the AGM, although all have remained with the Company in their same respective roles. The restructuring was designed to streamline the Board and to meet corporate governance best practice guidelines. I would like to thank them all for their significant contributions to the Board during my tenure as Chairman.

Outlook

The outlook for the Group across the markets in which we operate is universally positive; we are now engaged with a select number of partners, all of whom are committing development funds towards ensuring successful commercial outcomes for our technologies. I am confident that we are on course to deliver commercial agreements which will enhance shareholder value.

The Board is optimistic of exceeding management revenue expectations for the full year, and looks to the future with confidence and excitement.

CHIEF EXECUTIVE'S REPORT

Roy Lipski

Introduction

The Group has had a good first half in 2008, as the Business Development team we put in place last year has achieved substantive and material engagement with potential customers across our suite of technologies.

There are exciting projects in the pipeline for the second half in each of our core areas of operation, and a number of important commercial milestones with our existing partners.

Commercialisation

To date, we have secured 90 NDAs and MTAs, 5 MOUs, and 4 other commercial agreements with partners and potential customers, including a Joint Development Agreement. We are engaged with many of the key target partner companies in our markets, such as oil Majors and leading catalyst manufacturers. Going forward, we anticipate that the rise in NDAs and MTAs will slow, whilst the number of MOUs and other commercial agreements will maintain growth, as we continue progressing towards commercial deployment with chosen partners in our application areas. This expected trend is a reflection of progress as our business becomes established in the market place.

Fischer-Tropsch

At the beginning of July, we entered into a MOU with a specialist technology developer for the deployment of the Company's proprietary catalysts in smaller scale FT applications, such as the conversion of bio-waste or flare gas into clean-burning synthetic liquid fuels – a potential global market of many million of barrels of fuel per day.

Oxford Catalysts has developed high activity fixed bed FT catalysts that can operate at more than 15 times the productivity of conventional catalysts. In combination with novel process technology, such as that provided by our partner, these catalysts hold the promise of delivering more cost-effective small scale FT applications, at anything from 500 to 5,000 barrels of synthetic fuel per day. One of the exciting aspects of our partner's equipment is that it is modular – once the Company's catalysts have been successfully demonstrated on a small scale, no meaningful additional scaling up is anticipated to be required for commercial deployment.

The MOU was signed following months of rigorous testing of the Company's high activity FT catalysts by its partner, including successful demonstration for what now amounts to over 3,000 hours in a pilot unit. The agreement contemplates the supply of FT catalyst for demonstration units, ranging from several kilograms in 2008, to more than a tonne in 2009 – with significant commercial volumes projected beyond, as the technology takes hold in this new market.

The MOU will deliver development revenues of at least $200,000 during 2008, and increasing in 2009 (pending successful trials). The project could ultimately lead to large volume supply of FT catalyst for commercial deployment through a third party manufacturer.

The Company has already identified, and is working with, a major catalyst company that is well suited to scale-up the manufacture of its FT catalysts. The latter has already successfully manufactured the catalyst on a Kg scale, and is on course to be able to manufacture the tonnage quantities expected to be required in 2009.

Recently, Oxford Catalysts announced a second engagement in this highly promising area of smaller scale FT – an agreement with the Thai state controlled oil and gas company and Thailand's largest listed company, PTT, to specify and supply know-how and materials, including catalysts, for a system for the production of synthetic liquid fuels using small scale FT.

PTT's initial focus is on monetising its stranded gas reserves, with a further objective of converting locally available biomass and coal into clean transportation fuels. The initial contract is valued at over $200,000, to be invoiced in the course of 2008 and 2009.

Second generation biofuels

The Company's Strategic Alliance with Novus Energy, a Minneapolis-based renewable fuels company, to develop technology for the production of second-generation renewable transportation fuels from organic wastes, is progressing well.

In January, Oxford Catalysts announced that the two companies are pooling their expertise and proprietary technologies to design and deploy on-site units for the processing of organic wastes into "green" renewable transportation fuels. The companies have been working together under contract to design and build a pilot plant unit; all of the equipment for this is now assembled and in place, and the plant is in the final stages of being commissioned, with the section containing the Company's technology already demonstrated to be operational.

This pilot plant is the forerunner of a large number of commercial plants that, if successful, will be commissioned around the world. Oxford Catalysts' technology is playing a key role in the overall fuels production process.

According to the alliance agreement, Oxford Catalysts will earn royalty income based on fuel sales, which are projected by Novus Energy to average up to $750,000 p.a. per full-scale facility, with the first unit expected in 2010. Novus Energy has announced plans to roll out dozens of facilities in the USA and Europe over the coming years. Development revenues from the alliance to Oxford Catalysts are expected to be in excess of £120,000 in 2008.

Instant steam

In the latter part of 2007, Oxford Catalysts announced that it was working with a world-leading FMCG multinational to explore the use of its proprietary technology for Instant Steam.

The Company's Instant Steam technology enables the generation of steam immediately on demand, using a compact, simple and portable device. The technology incorporates a proprietary catalyst that initiates a chemical reaction in a liquid fuel (consisting of common chemicals), and produces steam instantaneously starting from room temperature. For example, the fuel can be contained in a plastic spray bottle and the catalyst incorporated into the nozzle spray mechanism. When the trigger is squeezed, the fuel passes over the catalyst and steam is produced instantly.

I am pleased to report that work with the Company's partner has now successfully progressed past the first major "go/no go" milestone of the product development programme.

In May, the Company announced that it had successfully completed the safety classification process for the transport and handing of its unique fuel mixture for making Instant Steam.

Safety is a critical component to launching any new chemical process; successfully completing the classification process was essential to progressing the technology, and represents the attainment of a significant milestone in the commercialisation of Instant Steam.

Natural gas upgrading

In July, Oxford Catalysts signed a MOU with PTT for the evaluation and commercialisation of natural gas upgrading technology.

The technology has been tested against competitive materials in the laboratory, and is now due to be tested in two commercial side-stream units with initial results expected by early 2009. If the testing is successful, the next stage will consist of an industrial scale field trial by PTT.

The project, if successful, will ultimately lead to the supply of materials to PTT for future commercial deployment, through a third party contract manufacturer, with expected revenue to Oxford Catalysts in the form of licence and royalty payments. First commercial revenue could be earned as early as 2010.

Oxford Catalysts has identified, and is already working with, a major catalyst company as their partner for scaling-up manufacture of the materials for commercial deployment.

Hydro-desulphurisation

The Company's catalysts continue to show highly promising results; in our recent laboratory tests against two commercially available competing catalysts using a refinery sourced feedstock, one of our HDS catalysts was able to process more than 35 per cent. additional diesel per hour than the competing catalysts, under similar operating conditions and with similar or better desulphurisation performance.

Simultaneously, we have made encouraging progress scaling up the manufacture of these catalysts. We have now successfully prepared multi-Kg batches externally, working with a third-party catalyst company, which show similar performance to catalysts prepared in our laboratory.

We remain on track to have our catalysts validated on a Kg scale by potential customers during the coming months, and have recently supplied one sample for testing to a major refiner.

Intellectual property

As we progress towards the commercial deployment of our technology, our developments become more focussed on market requirements. We have, therefore, continued to protect and enhance our portfolio of intellectual property and proprietary know-how – in the period we filed patent applications in the key areas of carbide-based FT catalysis and steam production. Neither of these patent applications have yet reached publication, though the former should publish in the next month or so.

Prosecution of the portfolio of patents licensed from the University of Oxford has continued, and since the beginning of the year our first patent application has been granted in Australia.

Resources

The office and laboratory expansion which commenced in January is now complete. We have improved our facilities and invested in additional experimental and analytical equipment to accelerate catalyst development and better serve our growing customer base. Our partners are impressed with our extended facilities, the standard of which, we understand, exceeds their expectations.

The expansion involved a total investment of £1.6 million, and resulted in a doubling of our laboratory and office facilities. As part of the project, we purchased two Amtec Spider16 high throughput screening reactor systems, which are now fully installed. Each Spider allows the simultaneous testing of 16 different catalyst samples under identical conditions, thereby significantly reducing the time needed to optimise catalysts for various client applications.

We now have in place both the scientific and management infrastructure to support the Group's growth, as our technologies further progress towards commercial deployment.

Financial review

Revenues in the first half to 30 June 2008 increased ahead of plan by 82 per cent. to £158,000 (H1 2007: £87,000; full year 2007: £163,000), derived from development work with partners in Europe, the USA and Asia, as well as grant revenue from the Carbon Trust. The loss for the period was £1,299,000 (H1 2007: £545,000), which reflects Oxford Catalysts' accelerated growth over the past year, new laboratories and equipment, and is in line with the Company's stated strategy.

Financial resources continue to be managed prudently. Cash reserves and short term investments at period-end were £13.1 million.

Consolidated income statement for the six months ended 30 June 2008

	Note	*6 months ended 30 June 2008 (unaudited) £'000*	*6 months ended 30 June 2007 (unaudited) (restated) £'000*	*Year ended 31 December 2007 (audited) £'000*
Revenue		158	87	163
Cost of sales		(128)	(64)	(131)
Gross profit		30	23	32
Development costs		(557)	(363)	(773)
Other administrative expenses		(1,151)	(563)	(1,620)
Share based payments (IFRS2)		(42)	(110)	(199)
Total administrative expenses		(1,750)	(1,036)	(2,592)
Operating loss		(1,720)	(1,013)	(2,560)
Interest on bank deposits and similar income		427	468	791
Finance costs		(6)	–	(21)
Loss on ordinary activities before tax		(1,299)	(545)	(1,790)
Tax		–	–	46
Loss for the period from continuing operations		(1,299)	(545)	(1,744)
Loss per share from continuing operations				
Basic and diluted (pence)	3	(3.20)	(1.46)	(4.49)

All amounts relate to continuing operations. There are no recognised gains or losses other than the losses shown above.

The figures for 6 months ended 30 June 2007 have been restated for consistency by reclassifying cost of sales and administrative expenses.

Consolidated balance sheet as at 30 June 2008

	Note	*30 June 2008 (unaudited) £'000*	*30 June 2007 (unaudited) (restated) £'000*	*31 December 2007 (audited) £'000*
Non-current assets				
Intangible assets		253	194	205
Property, plant and equipment		1,913	630	860
		2,166	824	1,065
Current assets				
Trade and other receivables		732	333	444
Short term investments – cash held on deposits		6,650	7,000	7,000
Cash and cash equivalents		6,403	5,812	8,630
		13,785	13,145	16,074
Total assets		15,951	13,969	17,139
Current liabilities				
Trade and other payables		(493)	(187)	(437)
Current tax liabilities		(54)	(38)	(47)
		(547)	(225)	(484)
Non-current liabilities				
Deferred licence payments		(128)	(101)	(122)
Total liabilities		(675)	(326)	(606)
Net assets		15,276	13,643	16,533
Equity				
Called up share capital	4	405	373	405
Share premium account	4	17,865	13,897	17,865
Merger reserves	4	369	369	369
Retained earnings (deficit)	4	(3,363)	(996)	(2,106)
Total equity	4	15,276	13,643	16,533

The Cash and cash equivalents and Short term investments figures for the 6 months ended 30 June 2007 have been reclassified for consistency.

Consolidated cash flow statement for the six months ended 30 June 2008

	Note	*6 months ended 30 June 2008 (unaudited) £'000*	*6 months ended 30 June 2007 (unaudited) (restated) £'000*	*Year ended 31 December 2007 (audited) £'000*
Net cash outflow from operating activities	5	(1,555)	(914)	(2,048)
Investing activities				
Interest received		209	391	666
Purchases of patents and trademarks		(51)	(16)	(31)
Purchases of property, plant and equipment		(1,180)	(177)	(485)
Investments – cash (placed on)/taken off deposit		350		–
Net cash (used in)/from investing activities		(672)	198	150
Financing activities				
Proceeds on issue of shares		–	–	4,000
Net cash from/(used in) financing activities		–	–	4,000
Net increase/(decrease) in cash and cash equivalents		(2,227)	(716)	2,102
Cash and cash equivalents at the beginning of the period		8,630	6,528	6,528
Cash and cash equivalents at the end of the period		6,403	5,812	8,630

Notes to the accounts for the six months ended 30 June 2008

1. Principal accounting policies

Basis of preparation and accounting policies

The interim financial report has been prepared using accounting policies consistent with International Financial Reporting Standards ('IFRS') as adopted by the EU and in accordance with IAS 34 'Interim Financial Reporting'.

The interim report is unaudited.

Segments

For management purposes, the Group reports its entire activities as one business. Accordingly, the Directors consider there to be only one reportable segment, being the design, development and provision of catalysts.

2. Publication of non-statutory accounts

The financial information for the six months ended 30 June 2008 and 30 June 2007 has not been audited and does not constitute full financial statements within the meaning of Section 240 of the Companies Act 1985.

The financial information relating to year ended 31 December 2007 does not constitute full financial statements within the meaning of Section 240 of the Companies Act 1985. This information is based on the Group's statutory accounts for that period. The statutory accounts were prepared in accordance with IFRS, received an unqualified report and have been filed with the Registrar of Companies.

3. Earnings per share

The calculation of earnings per share is based on the following losses and number of shares:

	6 months ended 30 June 2008 (unaudited)			*6 months ended 30 June 2007 (unaudited)*			*Year ended 31 December 2007 (audited)*		
	Loss £'000	*Number of shares '000*	*Pence per share*	*Loss £'000*	*Number of shares '000*	*Pence per share*	*Loss £'000*	*Number of shares '000*	*Pence per share*
Basic & diluted earnings per share	(1,299)	40,567	(3.20)	(545)	37,341	(1.46)	(1,744)	38,808	(4.49)

4. Reconciliation of movement in total equity

	Called up share capital £'000	*Share premium account £'000*	*Merger reserve £'000*	*Retained earnings £'000*	*Total £'000*
At 1 January 2008	405	17,865	369	(2,106)	16,533
Loss recognised for the period	–	–	–	(1,299)	(1,299)
Employee share based payments (IFRS2)	–	–	–	42	42
At 30 June 2008	405	17,865	369	(3,363)	15,276

5. Reconciliation of operating loss to net cash outflow from operating activities

	6 months ended 30 June 2008 (unaudited) £'000	*6 months ended 30 June 2007 (unaudited) (restated) £'000*	*Year ended 31 December 2007 (audited) £'000*
Operating loss	(1,720)	(1,013)	(2,560)
Depreciation	127	72	150
Amortisation – other intangibles	3	2	5
Share based payments expense (IFRS2)	42	110	199
Operating cash flows before movement in working capital	(1,548)	(829)	(2,206)
Increase in receivables	(115)	–	(15)
(Decrease)/increase in payables	62	(85)	173
Tax received	46		
Net cash outflow from operating activities	(1,555)	(914)	(2,048)

SECTION B:

THREE YEARS FINANCIAL INFORMATION FOR THE YEARS ENDED 31 DECEMBER 2005, 2006 AND 2007 EXTRACTED FROM THE AUDITED FINANCIAL STATEMENTS OF OXFORD CATALYSTS GROUP PLC FOR THE TWO YEARS ENDED 31 DECEMBER 2006 AND 2007

The following selected financial information of the Company has been extracted without material adjustment from the audited financial statements of the Company for the two years ended 31 December 2006 and 2007. The selected financial information contained in Section B of this Part VI does not constitute statutory accounts. The statutory accounts for the Company in respect of each of the last two financial years have been delivered to the Registrar of Companies. The auditors' reports in respect of the statutory accounts for the year ended 31 December 2006 and 2007 were unqualified. Deloitte & Touche LLP were the auditors of the Company in respect of the years ended 31 December 2006 and 2007.

During the year ended 31 December 2006, as part of a group reconstruction, the Company acquired the entire share capital of OCL in return for the issue of new ordinary share capital. This transaction was accounted for as a merger in accordance with Financial Reporting Standard ('FRS') 6 'Acquisitions and Mergers', and as such the financial statements of the Group for the year ended 31 December 2006 were prepared as if the Group had been in existence for the whole of that year and the prior year. Therefore the information presented in this Part VI for the year ended 31 December 2005 is derived from the audited financial statements of the Company for the year ended 31 December 2006.

The full text of the audited financial statements of the Company for the above years can be found at www.oxfordcatalysts.com.

Consolidated income statement for the years ended 31 December 2005, 2006 and 2007

	Note	*2007 £'000*	*Restated 2006 £'000*	*2005 £'000*
Revenue	3	163	64	–
Cost of sales		(131)	(37)	–
Gross profit		32	27	–
Development costs		(773)	(154)	–
Other administrative costs		(1,620)	(725)	(147)
Share based payments (IFRS2)	9	(199)	(558)	–
Total administrative costs		(2,592)	(1,437)	(147)
Operating loss		(2,560)	(1,410)	(147)
Interest on bank deposits and similar income	4	791	438	–
Finance costs	5	(21)	–	–
Loss on ordinary activities before tax	6	(1,790)	(972)	(147)
Tax on ordinary activities	8	46	–	–
Loss for the financial year		(1,744)	(972)	(147)
Loss per share				
Basic and diluted (pence)	10	(4.49)	(2.82)	(0.51)

There are no recognised gains or losses in either period other than the losses shown above.

All amounts relate to continuing operations.

2006 figures for cost of sales and administrative expenses have been reclassified to provide consistency with 2007 presentation. In the 2006 financial statements the items now shown as Cost of sales, Development costs and Other administrative costs were all classified under the single heading of Administrative expenses – operational. Costs of sales consist of the direct costs attributable to the revenue earned.

Consolidated statement of changes in equity for the years ended 31 December 2005, 2006 and 2007

	2007 *£'000*	*2006* *£'000*	*2005* *£'000*
Loss for the financial year	(1,744)	(972)	(147)
Share based payments (IFRS2)	199	558	–
New shares issued net of expenses	4,000	14,014	625
Change in shareholders' equity for the year	2,455	13,600	478
Shareholders equity at start of year	14,078	478	–
Shareholders' equity at the end of the year	16,533	14,078	478

Consolidated balance sheet as at 31 December 2005, 2006 and 2007

	Note	*2007* *£'000*	*2006* *£'000*	*2005* *£'000*
Non-current assets				
Intangible assets	11	205	180	51
Property, plant and equipment	12	860	525	–
		1,065	705	51
Current assets				
Debtors	14	444	256	51
Short term investments – cash held on deposit	15	7,000	7,000	–
Cash and cash equivalents	15	8,630	6,528	486
		16,074	13,784	537
Total assets		17,139	14,489	588
Current liabilities	16	(484)	(310)	(110)
Non-current liabilities	17	(122)	(101)	–
Total liabilities		(606)	(411)	(110)
Net assets		16,533	14,078	478
Equity				
Called up share capital	18	405	373	287
Share premium account	19	17,865	13,897	–
Merger reserve	19	369	369	338
Retained earnings (deficit)	19	(2,106)	(561)	(147)
Total equity		16,533	14,078	478

Consolidated cash flow statement for the years ended 31 December 2005, 2006 and 2007

	Note	*2007* *£'000*	*2006* *£'000*	*2005* *£'000*
Net cash outflow from operating activities	21	(2,048)	(739)	(88)
Investing activities				
Interest received		666	354	–
Purchase of intangible fixed assets		(31)	(31)	(51)
Purchase of property, plant and equipment		(485)	(555)	–
Investments/(cash placed on deposit)		–	(7,000)	–
Net cash from/(used in) investing activities		150	(7,232)	(51)
Financing activities				
Proceeds of issue of shares		4,000	14,014	625
Net cash from financing activities		4,000	14,014	625
Increase in cash and cash equivalents		2,102	6,043	485
Cash and cash equivalents at beginning of year		6,528	485	–
Cash and cash equivalents at end of year		8,630	6,528	485

Notes to the accounts for the year ended 31 December 2007 (including comparative tables to the accounts for the year ended 31 December 2005 and 2006)

1. General information

Oxford Catalysts Group PLC is a company incorporated in the UK under the Companies Act 1985. The address of the registered office is 115e Milton Park, Oxford OX14 4RZ.

2. Accounting policies

The principal accounting policies are summarised below. The accounting policies adopted are consistent with those of the previous financial periods except for the fact that the Company and the Group previously prepared their financial statements in accordance with UK Generally Accepted Accounting Practice (UK GAAP). For the full set of financial statements to 31 December 2007, the Group has adopted International Financial Reporting Standards (IFRS). There are no standards or interpretations which have not been applied in these financial statements which would have a material effect on the results or financial position of the Group. Under International Accounting Standard 7, Cash Flow Statement, the definition of cash is extended to 'cash and cash equivalents' which includes short-term deposits. The presentation of the cash flow statement and balance sheet has therefore changed to include these cash equivalents. Other than this, there is no impact on the financial statements as a result of the transition to IFRS.

Basis of accounting

The financial statements have been prepared in accordance with IFRS including the requirement of International Financial Reporting Standard 1, First-time adoption of International Financial Reporting Standards (IFRS1), and IFRIC interpretations issued and effective, or issued and early adopted as at the date of these financial statements. The financial statements have also been prepared in accordance with IFRS adopted by the European Union and therefore the Group financial statements comply with Article 4 of the EU IAS Regulation.

The financial statements have been prepared on the historical cost basis and are presented in UK Sterling ('£') which is the functional currency of the Group.

Basis of consolidation

The consolidated accounts incorporate the financial statements of the Company and OCL. The financial statements of the subsidiary are prepared for the same reporting period as the parent company using consistent accounting policies. The Group has elected not to adopt IFRS for OCL as permitted by IFRS1. No income statement is presented for the Company as permitted by s230 of the CA85. The Company's loss for the period was £206,000 (2006: £109,000).

Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable and represents amounts receivable for goods and services provided in the normal course of business, net of trade discounts, VAT and other sales related taxes.

Revenue from development contracts is measured in accordance with the Group's policy on development contracts. Where the outcome of a development contract can be estimated reliably, revenue and costs are recognised by reference to the stage of completion of the contract activity at the balance sheet date. This is normally measured by the proportion that costs incurred for work performed to date bear to the estimated total costs except where this would not be representative of the stage of completion.

Where the outcome of a development contract cannot be estimated reliably, contract revenue is recognised to the extent of contract costs incurred where it is probable that they will be recoverable. Contract expenses are recognised as costs in the period in which they are incurred. When it is probable that total contract costs will exceed revenue, the expected loss is recognised as an expense immediately.

Grants are recognised as income over the periods necessary to match them, on a systematic basis, with the costs which they are intended to compensate.

Interest income is accrued on a time basis by reference to the principal outstanding and at the effective interest rate applicable.

Intangible assets

Licences

Licences are capitalised at the present value of the minimum licence payments. Amortisation will commence at the earlier of when related revenue is being earned or the minimum licence payments commence, and it will be charged in equal annual instalments over the life of the patents to which the licences relate. Provision is made for any impairment.

Patents

Patents and trademarks are included at cost and amortised in equal annual instalments over a period of 20 years, which is their estimated useful economic life. Provision is made for any impairment.

Property, plant and equipment

Property, plant and equipment are stated at cost or valuation, net of depreciation and any provision for impairment. Depreciation is provided on all property, plant and equipment at rates calculated to write off the cost or valuation, less estimated residual value, of each asset on a straight-line basis over its expected useful life, as follows: plant and machinery, 3-5 years. No depreciation is provided on assets under construction. Residual value is calculated on prices prevailing at the date of acquisition.

Investments

Fixed asset investments are shown at cost less provision for impairment.

Share based payment

The Group has applied the requirements of IFRS2 – Share based payment.

The Group issues equity settled payments to certain employees. Equity settled share based payments are measured at fair value (excluding the effect of non market based vesting conditions) at the date of grant. The fair value determined at the grant date of the equity settled share based payments is expensed on a straight-line basis over the vesting period, based on the Group's estimate of shares that will eventually vest and adjusted for the effect of non market based vesting conditions.

Fair value is measured by use of the Black-Scholes pricing model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

Research and development

Expenditure on research is charged to the income statement in the year in which it is incurred. Development costs are also charged to the income statement in the year they are incurred except in those circumstances where, during the development phase of a project, the Company is able to identify an intangible asset and demonstrate that the asset will generate probable future economic benefits. In such cases, provided the criteria defined under IAS38 are met then the costs should be capitalised. As at 31 December 2007, no such intangible assets had been identified.

Pension costs

The Group operates a defined contribution pension scheme for its employees. The amount charged to the income statement in respect of pension costs and other post-retirement benefits is the contributions payable in the year. Differences between contributions payable and contributions actually paid are shown as either accruals or prepayments in the balance sheet.

Taxation

Current tax, including UK corporation tax and foreign tax, is provided at amounts expected to be paid (or recovered) using the tax rates and laws that have been enacted or substantively enacted by the balance sheet date.

Deferred tax is recognised in respect of all timing differences that have originated but not reversed at the balance sheet date where transactions or events that result in an obligation to pay more tax in the future or a right to pay less tax in the future have occurred at the balance sheet date. Timing differences are differences between the Group's taxable profits and its results as stated in the financial statements that arise from the inclusion of gains and losses in tax assessments in periods different from those in which they are recognised in the financial statements.

A net deferred tax asset is regarded as recoverable and therefore recognised only to the extent that, on the basis of all available evidence, it can be regarded as more likely than not that there will be suitable taxable profits from which the future reversal of the underlying timing differences can be deducted.

Deferred tax is measured at the average tax rates that are expected to apply in the periods in which the timing differences are expected to reverse based on tax rates and laws that have been enacted or substantively enacted by the balance sheet date. Deferred tax is measured on a non-discounted basis.

3. Revenue

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Sale of goods and services	108	64	–
Grant revenue	55	–	–
Total	163	64	–

All revenue arises from the same business segment.

4. Interest on bank deposits and similar income

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Bank interest	791	438	–

5. Finance costs

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Unwinding of deferred licence payments creditor	21	–	–

6. Loss on ordinary activities before taxation

Loss on ordinary activities before taxation is stated after charging:

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Staff costs (see note 7)	1,261	976	–
Depreciation of tangible fixed assets: owned	150	30	–
Amortisation of patents and trademarks	5	3	–
Research and development: current year expenditure	773	154	125
Auditors' remuneration for audit services	40	36	5

7. Staff costs

The average monthly number of employees (including the Executive Directors) was:

Group	*2007 Number*	*2006 Number*	*2005 Number*
Research, design and development	11	8	–
Administration	6	1	–
	17	9	–

	2007 £'000	*2006 £'000*	*2005 £'000*
Their aggregate remuneration comprised:			
Wages and salaries	907	368	–
Social security costs	104	42	–
Other pension costs	51	8	–
Share based payments (IFRS2)	199	558	–
	1,261	976	–

8. Tax on loss on ordinary activities

Current tax

Due to the availability of losses incurred in the year, there is no charge to corporation tax. The Company recovered £45,982 through R&D tax credits (2006: nil and 2005: nil).

Deferred tax

At 31 December 2007 the Group has a net unprovided deferred tax asset of £745,451 (2006: £366,743 and 2005: £56,376) arising from trading losses from incorporation. No provision for the net deferred tax asset has been made at 31 December 2007 on the grounds of uncertainty over its recoverability in light of the Company's nascent revenue streams and commitment to continued investment in research and development and therefore there is no impact on the current or prior year income statement.

Reconciliation to current tax credit

The actual tax charge for the current and previous year is different to the standard rate of tax for the reasons set out in the following reconciliation.

	2007 £'000	*2006 £'000*	*2005 £'000*
Loss on ordinary activities before tax	(1,790)	(972)	(147)
Loss on ordinary activities multiplied by the standard rate of corporation tax in the UK	(537)	(292)	(44)
Expenses not deductible for tax purposes	2	1	–
Depreciation	45	9	–
Unutilised tax losses	490	282	44
2006 R&D tax reclaim	(46)	–	–
Current tax credit for year (see above)	(46)	–	–

9. Share based payments

Equity settled share option plan

The Group has a share option plan for all employees of the Group. The Company has no employees and therefore did not recognise a share based payment charge. Share options were originally granted to two Directors prior to the listing of the Company on AIM. In July 2007, the scheme was extended to cover all

employees. Under the Share Option Plan, options are exercisable at a price equal to the mid-market value of the Company's ordinary shares on the day prior to grant. The vesting period is over a three year period from grant or date of joining the Group if earlier. If the options remain unexercised after a period of ten years from the date of grant the options expire. Options are forfeited if the employee leaves the Group before the options vest.

Details of the share options outstanding during the year are as follows:

Employee	*No of options at 01/01/07*	*No of options granted in period*	*No of options exercised/ (lapsed)*	*No of options at 31/12/07*	*Exercise price per share*	*Date of grant*	*Expiry date*
Roy Lipski	1,404,370	–	–	1,404,370	4.89p	16/03/06	16/03/16
William Barton	702,185	–	–	702,185	4.89p	16/03/06	16/03/16
Other employees	–	399,032	(16,129)	382,903	125.3p average	(i)	(i)

(i) EMI options were issued to employees on the later of 2 July 2007 or the date they joined the Company. These options vest 3 years after the employee joined the Company and expire 10 years after the date of grant. Expiry dates for these options range from 2 July 2017 to 3 December 2017 and the weighted average remaining contracted life of these options at 31 December 2007 is 2.14 years until they become exercisable, 9.5 years until expiry.

No share options were exercised during the year. As at 31 December 2007, all of the share options granted to Mr Lipski and 312,082 of the options granted to Dr Barton were exercisable at an exercise price of £0.0489. The comparative figures for 31 December 2006 were 468,123 and 117,031 respectively (2005: nil). Of Dr Barton's remaining share options, 195,051 became exercisable on 31 January 2008; the remainder become exercisable on 31 January 2009.

The aggregate of the estimated fair value of the options granted in 2007 was £118,000 (2006: £846,000 and 2005: nil).

The inputs into the Black-Scholes option pricing model are as follows:

	2007	*2006*	*2005*
Weighted average share price	£1.253	£0.4017	–
Weighted average exercise price	£1.253	£0.0489	–
Expected volatility	30%	50%	–
Expected life	2.6 years	5 years	–
Borrowing rate	5.0%	5.25%	–
Expected dividends	–	–	–

Expected volatility was determined by reference to comparable companies and by reference to the nature of the Company's own development. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations.

The Group recognised total expenses of £199,000 (2006: £558,000) relating to equity settled share based payment transactions in 2007 and 2006 respectively. There were no equity settled share based payment transactions in 2005.

10. Loss per share

	2007 £'000	*2006 £'000*	*2005 £'000*
Basic and diluted loss per share has been calculated on the loss of	(1,744)	(972)	(147)
The weighted average number of shares in issue was	38,808,262	34,412,521	28,720,493

In accordance with International Accounting Standard 33, share options have not been included in the number of shares used for the purpose of calculating diluted loss per share since these would be anti-dilutive for the period presented. Other than share options, there are no other potentially dilutive instruments. Details of share options are given in note 9.

11. Intangible fixed assets – licences, patents and trademarks

Group	*Licences, patents and trademarks £'000*
Cost	
At 1 January 2006	51
Additions	132
At 31 December 2006	183
Additions	31
At 31 December 2007	214
Depreciation	
At 1 January 2006	–
Charge for the year	3
At 31 December 2006	3
Charge for the year	6
At 31 December 2007	9
Net book value	
At 31 December 2007	205
At 31 December 2006	180
At 31 December 2005	51

12. Property, plant and equipment

Group	*Assets under construction £'000*	*Plant and machinery £'000*	*Total £'000*
Cost or valuation			
At 1 January 2006	–	–	–
Additions	–	555	555
At 31 December 2006	–	555	555
Additions	254	231	485
At 31 December 2007	254	786	1,040
Depreciation			
At 1 January 2006	–	–	–
Charge for the year	–	30	30
At 31 December 2006	–	30	30
Charge for the year	–	150	150
At 31 December 2007	–	180	180
Net book value			
At 31 December 2007	254	606	860
At 31 December 2006	–	525	525
At 31 December 2005	–	–	–

As at 31 December 2007, the Group had entered into contractual commitments for the acquisition of property, plant and equipment amounting to £766,000 (2006: nil and 2005: nil).

13. Fixed asset investments

Company	*Investment in subsidiary £'000*
At 1 January 2006	–
Additions – capital contribution made to subsidiaries	287
At 31 December 2006 (as previously stated)	287
Additions – capital contribution made to subsidiaries	558
At 31 December 2006 (restated)	845
Additions – capital contribution made to subsidiaries	199
At 31 December 2007	1,044

The investment in subsidiary has been restated to reflect the capital contribution made by Oxford Catalysts Group PLC through share-based payments to employees of Oxford Catalysts Limited. This has no impact on prior year earnings.

The Company has an investment in the following subsidiary undertaking.

Subsidiary undertakings	*Country of incorporation or principal business address*	*Principal activity*	*Holding*	*%*
Oxford Catalysts Limited	England and Wales	Design and development of catalysts, and exploitation of its platform catalyst technologies	38,243 ordinary shares	100

14. Debtors

	2007 £'000	*2006 £'000*	*2005 £'000*
Amounts falling due within one year:			
Trade debtors	15	25	–
VAT	49	85	13
Prepayments and accrued income	333	146	38
Tax reclaim	46	–	–
Rent deposit	1	–	–
	444	256	51

	2007 £'000	*2006 £'000*	*2005 £'000*
Amounts falling due after more than one year:			
Amounts owed by Group undertakings	–	–	–

The average credit period on sales is 30 days. At 31 December 2007, the Group had no overdue trade debtors (2006: nil and 2005: nil). The Group believes that the full amount of trade debtors is recoverable and no allowance has been made for doubtful debts.

15. Short term investments and cash equivalents

	UK GAAP		*IFRS*	
	2006	*2007*	*2006*	*2005*
	£'000	*£'000*	*£'000*	*£'000*
Short term investments – cash held on deposit	13,526	7,000	7,000	–
Cash	2	8,630	6,528	486
Total	13,528	15,630	13,528	486

Under UK GAAP (FRS1, Cash Flow Statements), £6,526,000 of cash held on deposit was classified as short term deposits since removal from the account would have led to a loss of interest deemed to be a penalty. Under IFRS 7, this amount has been classified as a cash equivalent since cash equivalents are defined as short term, highly liquid investments which are readily convertible to known amounts of cash and which are subject to insignificant risk of changes in value. Management consider that the risk is insignificant.

16. Creditors: amounts falling due within one year

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Trade creditors	69	53	73
Other creditors	60	60	–
Other taxation and social security	47	27	–
Accruals and deferred income	308	170	37
	484	310	(110)

17. Creditors: amounts falling due after more than one year

	2007	*2006*	*2005*
	£'000	*£'000*	*£'000*
Deferred licence payments	122	101	–

The creditor represents the discounted value of the minimum licence payments due under the terms of a licence agreement between Oxford Catalysts and Isis Innovations Limited, the technology transfer office of the University of Oxford. Under this agreement, Isis granted Oxford Catalysts the worldwide rights for the duration of the patents to certain intellectual property and is entitled to a royalty of four per cent. of direct sales and 11 per cent. of any indirect sales incorporating the licenced intellectual property. In addition there are certain minimum payments. The first of these payments of £5,000 is payable in 2009. Thereafter, the minimum payment rises by £5,000 per annum for the next 3 years then remains at £20,000 for the remainder of the contract. The discounted value of these payments is included in intangible assets.

18. Share capital

	2007	*2006*
Company	*£'000*	*£'000*
Authorised		
75,000,000 ordinary shares of £0.01 each	750	750
Allotted, called up and fully-paid		
40,566,990 ordinary shares of £0.01 each	405	373

(2006: 37,341,183 ordinary shares of £0.01 each)

The Company was incorporated on 16 February 2006 with an authorised share capital of £1,000 divided into 1,000 ordinary shares of £1 each, of which one ordinary share of £1 was issued to the subscriber to the memorandum of association. The Company's authorised share capital was increased from £1,000 to £750,000 by the creation of 749,000 additional shares of £1 each and each of the issued and un-issued ordinary shares of £1 each in the capital of the Company was sub-divided into 100 ordinary shares of £0.01 each.

On 12 April 2006, the Company acquired the entire issued share capital of Oxford Catalysts Limited in exchange for 28,720,393 ordinary shares of 1p each of the Company.

The Company then placed 8,620,690 shares of £0.01 each on AIM at £1.74 each, raising £15 million gross proceeds.

In July 2007, the Company placed 3,225,807 of new ordinary shares of £0.01 each at a price of £1.24 per share with various funds managed by Pioneer Investments, a trading name of the Pioneer Global Asset Management S.P.A group of companies, raising £4.0 million for the Company.

A total of 2,489,458 options to subscribe for ordinary shares of the Company have been granted and are outstanding at 31 December 2007 under the employee EMI scheme. Details are given in note 9.

19. Changes in share capital and reserves

	Called up share capital £'000	*Share premium £'000*	*Merger reserve £'000*	*Retained earnings £'000*	*Total £'000*
At 31 December 2005	287	–	338	(147)	478
Share issues (by OCL prior to merger)	–	–	31	–	31
Share issues (cash)	86	13,897	–	–	13,983
Loss for the financial period	–	–	–	(972)	(972)
Employee share based payments (FRS20)	–	–	–	558	558
At 31 December 2006	373	13,897	369	(561)	14,078
At 31 December 2006	373	13,897	369	(561)	14,078
Share issues (cash)	32	3,968	–	–	4,000
Loss for the financial year	–	–	–	(1,744)	(1,744)
Share based payments (IFRS2)	–	–	–	199	199
At 31 December 2007	405	17,865	369	(2,106)	16,533

20. Reconciliation of movements in group shareholders' funds

	2007 £'000	*2006 £'000*	*2005 £'000*
Loss for the financial year	(1,744)	(972)	(147)
Share based payments (IFRS2)	199	558	–
New shares issued net of expenses	4,000	14,014	625
Net addition to shareholders' funds	2,455	13,600	478
Opening shareholders' funds	14,078	478	–
Closing shareholders' funds	16,533	14,078	478

21. Reconciliation of operating loss to operating cash flows

	2007 £'000	*2006 £'000*	*2005 £'000*
Operating loss	(2,560)	(1,410)	(147)
Depreciation and amortisation	155	33	–
Increase in debtors	(15)	(120)	(51)
Increase in creditors	173	200	–
Share based payments (IFRS2)	199	558	110
Net cash outflow from operating activities	(2,048)	(739)	(88)

Cash and cash equivalents (which are presented as a single class of assets on the face of the balance sheet) comprise cash at bank and other short-term highly liquid investments with a maturity of three months or less.

22. Pension arrangements

The Group also operates a number of defined contribution schemes for which the pension cost charge for the year amounted to £51,000 (2006: £8,000 and 2005: £nil).

23. Related party transactions

Transactions with the Directors of the Company are disclosed in the remuneration report. In addition, Oxford Catalysts Ltd has a consultancy arrangement with Professor Malcolm Green under which Professor Green is paid fees based on a daily rate for services which from time to time the Company may request. Fees paid under this arrangement in 2007 amounted to £3,750 (2006: £10,000 and 2005: nil).

24. Contingent liabilities

During 2007, the Group received grant revenue of £55,000 from the Carbon Trust for a project to develop catalysts for reforming natural gas and LPG, for combined heat and power fuel cell applications. Under the terms of this grant, there is an obligation to pay a royalty of 5 per cent. of future revenues net of expenses generated from intellectual property arising from the project up to a maximum of the grant received. As no obligating event has occurred, no provision has been recognised.

PART VII

FINANCIAL INFORMATION ON VELOCYS, INC.

SECTION A:

INTERIM RESULTS OF VELOCYS, INC.
FOR THE 9 MONTHS ENDED 30 JUNE 2008

The following is the text of the unaudited interim results of Velocys.

Income statement for the nine months ended 30 June 2008

	Note	*9 Months ended 30 June 2008 $000s unaudited*	*9 Months ended 30 June 2007 $000s unaudited*
Revenue		9,470	12,161
Cost of sales		(6,295)	(7,522)
Gross profit		3,175	4,639
Unfunded research and development costs		(1,900)	(1,180)
Share based payments (IFRS 2)		(174)	(264)
Other administrative expenses		(3,492)	(3,329)
Total administrative expenses		(3,666)	(3,593)
Loss from impairment of assets	10	(73)	–
Other income		26	–
Operating loss		(2,438)	(134)
Finance income		51	47
Finance cost		(309)	(383)
Loss before income tax		(2,696)	(470)
Taxation	7	–	–
Loss for the period		(2,696)	(470)
Loss per share for loss attributable to the equity holders of Velocys during the period (cents)			
Basic and diluted	8	(11.0c)	(1.9c)

The notes on pages 200 to 205 of this document are an integral part of this unaudited interim financial information.

Statement of changes in shareholders' equity for the nine months ended 30 June 2008

	Called up share capital $000s unaudited	*Share premium account $000s unaudited*	*Retained earnings (deficit) $000s unaudited*	*Total shareholders' equity (deficit) $000s unaudited*
At 1 October 2006	245	9,160	(13,225)	(3,820)
Share based payments	–	–	264	264
Loss for the nine months ended 30 June 2007	–	–	(470)	(470)
At 30 June 2007	245	9,160	(13,431)	(4,026)
At 1 October 2007	245	9,160	(14,021)	(4,616)
Share based payments	–	–	174	174
Loss for the nine months ended 30 June 2008	–	–	(2,696)	(2,696)
New shares issued net of expenses	–	1	–	1
At 30 June 2008	245	9,161	(16,543)	(7,137)

The notes on pages 200 to 205 of this document are an integral part of this unaudited interim financial information.

Balance sheet at 30 June 2008

	Note	*30 June 2008 $000s unaudited*	*30 September 2007 $000s audited*
Assets			
Non-current assets			
Intangible assets	9	432	321
Property, plant & equipment	10	1,007	1,065
Trade and other receivables	11	26	27
		1,465	1,413
Current assets			
Trade and other receivables	11	1,112	1,234
Cash and cash equivalents		2,494	3,278
Non-current assets classified as held for sale		–	73
		3,606	4,585
Total assets		5,071	5,998
Liabilities			
Current liabilities			
Trade and other payables	12	2,946	3,235
Borrowings	13	6	5
		2,952	3,240
Non-current liabilities			
Trade and other payables	12	2,627	1,048
Borrowings		6,629	6,326
		9,256	7,374
Total liabilities		12,208	10,614
Net liabilities		(7,137)	(4,616)
Equity			
Called up share capital		245	245
Share premium account	13	9,161	9,160
Retained earnings (deficit)		(16,543)	(14,021)
Total equity (deficit)		(7,137)	(4,616)

The notes on pages 200 to 205 of this document are an integral part of this unaudited interim financial information.

Interim statement of cash flows for the nine months ended 30 June 2008

	9 Months ended 30 June 2008 $000s unaudited	*9 Months ended 30 June 2007 $000s unaudited*
Cash flows from operating activities	(535)	1,087
Net cash (used in)/generated from operating activities	(535)	1,087
Cash flows from investing activities		
Purchases of property, plant and equipment	(166)	(26)
Purchases of intangible assets	(129)	(77)
Interest received	51	47
Interest paid	(2)	–
Net cash used in investing activities	(246)	(56)
Cash flows from financing activities		
Finance lease principal repayments	(4)	–
Proceeds from issuance of ordinary shares	1	–
Net cash used in financing activities	(3)	–
Net (decrease)/increase in cash and cash equivalents	(784)	1,031
Cash and cash equivalents at beginning of the period	3,278	987
Cash and cash equivalents at end of nine months	2,494	2,018

The notes on pages 200 to 205 of this document are an integral part of this unaudited interim financial information.

Notes to the interim financial information

1. General information

Velocys is a US-based company engaged in the research, development and commercialisation of microchannel process technologies in the synthetics fuels and chemical industries. The company was founded in 2001 as a wholly owned subsidiary of the Battelle Memorial Institute (BMI). BMI is a not-for-profit incorporated charitable trust.

Velocys is a US corporation, incorporated and domiciled in the United States of America. The address of the registered office is 7950 Corporate Blvd, Plain City, OH 43064, USA.

Velocys is privately owned and unlisted.

This condensed interim financial information is unaudited and has been prepared for the purposes of the Admission Document and does not represent the statutory financial statements of Velocys.

This condensed interim financial information is presented in US dollars because that is the currency of the primary economic environment in which Velocys operates. Operations are based entirely in the United States.

2. Significant accounting policies

The unaudited financial information of Velocys has been prepared for the purpose of the Admission Document in accordance with AIM rules and in accordance with the basis of preparation.

The accounting policies and presentation applied by Velocys in this interim financial information are the same as those applied by Velocys in its financial information for the 3 years ended 30 September 2005, 2006 and 2007 which has been prepared for the purposes of the Admission Document and is set out in Part VII Section B(II).

3. Basis of preparation

This condensed interim financial information for the nine months ended 30 June 2008 has been prepared in accordance with International Accounting Standard IAS 34 as adopted by the EU "Interim Financial reporting" and should be read in conjunction with the financial information of Velocys for the 3 years ended 30 September 2005, 2006 and 2007, which has been prepared for the purposes of the Admission Document and is set out in Part VII Section B(II).

4. Critical accounting estimates and judgements

The preparation of condensed interim financial information requires management to make judgements, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets and liabilities, income and expenses. The estimates and associated assumptions are based on historical experience and various other factors that are believed to be reasonable under the circumstances, the results of which form the basis of making the judgements about carrying values of assets and liabilities that are not readily available from other sources. Actual results may differ from these estimates.

In preparing this condensed interim financial information, the significant judgements made by management in applying Velocys' accounting policies and the key sources of estimation or uncertainty were the same as those applied to the special purpose financial information for the three years ended 30 September 2005, 2006 and 2007, which has been prepared for the purposes of the Admission Document and is set out in Part VII Section B(II).

5. Operating loss

The following items have been charged within operating loss.

	9 Months ended 30 June 2008 $000s unaudited	*9 Months ended 30 June 2007 $000s unaudited*
Employee benefit cost (see note 6)	6,202	6,117
Consultancy costs – subcontractors engaged on contracts	1,016	1,702
Fees payable to Velocys' auditor for audit of financial statements*	56	64
Operating lease payment – plant and equipment	246	246
Operating lease payments – other	118	61
Depreciation of property, plant and equipment		
– owned assets	222	403
– assets held under finance leases	2	–
Impairment of property, plant and equipment	73	–
Amortisation of intangible assets	18	10
Other expenses	3,908	3,692
Total cost of sales, research & development costs & administrative expenses	11,861	12,295

* There were no fees paid to Velocys' auditors related to non-audit services.

6. Employee benefit expense charged to the income statement

	9 Months ended 30 June 2008 $000s unaudited	*9 Months ended 30 June 2007 $000s unaudited*
Wages and salaries	4,994	4,903
Social security costs	326	266
Employee medical insurance expense	433	479
Share based payments	174	264
Pension costs	143	110
Other	132	95
	6,202	6,117

7. Taxation

For the nine months ended 30 June 2008 and 30 June 2007 no charge for tax was recorded as the Company expects to incur a tax loss for the year. $nil deferred tax asset was recognised on the balance sheet as at 30 June 2008 (30 September 2007: $nil).

8. Loss per share

(a) ***Basic***

Basic loss per share is calculated by dividing the loss attributable to equity holders of Velocys by the weighted average number of ordinary shares in issue during the period.

	9 Months ended 30 June 2008 unaudited	*9 Months ended 30 June 2007 unaudited*
Loss attributable to equity holders of Velocys ($000's)	(2,696)	(470)
Weighted average number of ordinary shares in issue (thousands)	24,510	24,510
Basic loss per share (cents per share)	(11.0c)	(1.9c)

(b) ***Diluted***

Diluted loss per share is calculated by adjusting the weighted average number of shares in issue to assume conversion of all potential dilutive ordinary shares. Velocys has one category of potential dilutive ordinary shares: share options. The calculation is performed for the share options to determine the number of shares that could have been acquired at fair value determined as the average annual market share price of Velocys' shares based on the monetary value of the subscription rights attached to outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the exercise of share options to give the number of shares deemed to be issued at nil consideration. These dilutive shares are added to the weighted average number of ordinary shares in issue.

No adjustment has been made for share options in the periods since, given the loss recorded in this period, any such adjustment would be anti-dilutive.

9. Intangible assets

	Development costs unaudited $000s	*Software unaudited $000s*	*Total unaudited $000s*
Cost			
At 30 September 2007	278	457	735
Additions	70	59	129
At 30 June 2008	348	516	864
Accumulated amortisation			
At 30 September 2007	–	414	414
Charge for the period	–	18	18
At 30 June 2008	–	432	432
Net book amount at 30 June 2008	348	84	432
Net book amount at 30 September 2007	278	43	321

10. Property, plant and equipment

	Leasehold improvements $000s	*Other equipment $000s*	*Technical and laboratory equipment $000s*	*Vehicles $000s*	*Total $000s*
Cost					
At 30 September 2007	934	850	1,781	9	3,574
Additions	3	15	148	–	166
At 30 June 2008	937	865	1,929	9	3,740
Accumulated depreciation					
At 30 September 2007	498	652	1,353	6	2,509
Charge for the period	77	36	110	1	224
At 30 June 2008	575	688	1,463	7	2,733
Net book amount at 30 June 2008	362	177	466	2	1,007
Net book amount at 30 September 2007	436	198	428	3	1,065

	Assets held for sale $000s
Cost	
At 1 October 2007	510
At 30 June 2008	510
Accumulated depreciation	
At 1 October 2007	437
Impairment	73
At 30 June 2008	510
Net book amount at 30 September 2008	–
Net book amount at 30 September 2007	73

Assets held for sale as at 1 October 2007 were being actively marketed and were expected to be sold within one year. During the nine months ended 30 June 2008 the Company reassessed the fair value less costs to sell, resulting in the impairment of $73,000 charged during this period.

11. Trade and other receivables

	30 June 2008 $000s unaudited	*30 September 2007 $000s audited*
Non-current assets		
Other debtors	26	27
Non-current trade and other receivables	26	27
Current		
Trade receivables	1,057	1,146
Prepayments and accrued income	55	88
Current trade and other receivables	1,112	1,234
Total trade and other receivables	1,138	1,261

12. Trade and other payables

	30 June 2008 $000s unaudited	*30 September 2007 $000s audited*
Non-current		
Accruals and deferred income	2,482	890
Other liabilities	145	158
Non-current trade and other payables	2,627	1,048
Current		
Trade payables	369	717
Accruals and deferred income	2,493	2,209
Amounts owed to parent company	84	309
Current trade and other payables	2,946	3,235
Total trade and other payables	5,573	4,283

The fair value of trade and other payables are not materially different from the carrying values above.

13. Movements in borrowings and equity

The change in borrowings between 30 September 2007 and 30 June 2008 relates entirely to accrued interest on the loan due to the parent company. The movement on the share premium account within equity over the same period relates to shares issued in respect of exercised share options.

14. Related party transactions

The remuneration of directors and other members of key management of the Company during the periods was as follows.

(a) ***Key management compensation***

	9 months ended 30 June 2008 $000s unaudited	*9 months ended 30 June 2007 $000s unaudited*
Salaries and other short term employee benefits	469	740
Share based payments	–	216
Pension	13	9
Total	482	965

The above includes one member of the Board of Directors. In addition, key management is comprised of the President/CEO and the Chief Operating Officer. These two positions are listed as key management as they are responsible for all material decisions made for and on behalf of the Company.

(b) ***Transactions with parent company and members of the Board of Directors***

	Sale Value		*Amount due*	
Nature of transaction	*9 months ended 30 June 2008 $000s unaudited*	*9 months ended 30 June 2007 $000s unaudited*	*9 months ended 30 June 2008 $000s unaudited*	*9 months ended 30 June 2007 $000s unaudited*
Administrative & research and development services from parent company	439	502	84	117
consulting fees – W. Krause – member of Velocys Board of Directors	5	6	–	–
Legal services – Taft, Stettinius & Hollister – Corporate Secretary	268	196	15	5

15. Events after the balance sheet date

FT Agreement – On 16 July 2008, the Company entered into a significant multi-year memorandum of understanding to evaluate, finalise scale-up and demonstrate Velocys' Fischer-Tropsch technology for the production of synthetic fuels from syngas (FT Agreement). The FT Agreement shall remain in full force and effect unless terminated by conditions set forth in the agreement.

SECTION B(I):

ACCOUNTANTS' REPORT IN RESPECT OF THE FINANCIAL INFORMATION RELATING TO VELOCYS, INC.

PRICEWATERHOUSECOOPERS

PricewaterhouseCoopers
Thames Valley Office
The Atrium
1 Harefield Road
Uxbridge UB8 1EX

The Directors
Oxford Catalysts Group PLC
115E Milton Park
Oxford
OX14 4RZ

KBC Peel Hunt Ltd
111 Old Broad Street
London
EC2N 1PH

3 November 2008

Dear Sirs

Velocys, Inc.

We report on the financial information of Velocys, Inc. set out in Section B(II) of this Part VII (the "Financial Information Table"). The Financial Information Table has been prepared for inclusion in the admission document dated 3 November 2008 (the "Admission Document") of Oxford Catalysts Group PLC (the "Company") on the basis of the accounting policies set out in note 2 of the Financial Information Table. This report is required by Schedule Two of the AIM rules for Companies published by the London Stock Exchange plc (the "AIM Rules") and is given for the purpose of complying with that Schedule and for no other purpose.

Responsibilities

The Directors of the Company are responsible for preparing the Financial Information Table in accordance with International Financial Reporting Standards as adopted by the European Union.

It is our responsibility to form an opinion on the Financial Information Table and to report our opinion to you.

Save for any responsibility which we may have to those persons to whom this report is expressly addressed and for any responsibility arising under paragraph (a) of Schedule Two of the AIM Rules to any person as and to the extent there provided, to the fullest extent permitted by law we do not assume any responsibility and will not accept any liability to any other person for any loss suffered by any such other person as a result of, arising out of, or in connection with this report or our statement, required by and given solely for the purposes of complying with Schedule Two to the AIM Rules, consenting to its inclusion in the Admission Document.

Basis of opinion

We conducted our work in accordance with the Standards for Investment Reporting issued by the Auditing Practices Board in the United Kingdom. Our work included an assessment of evidence relevant to the amounts and disclosures in the financial information. It also included an assessment of significant estimates and judgments made by those responsible for the preparation of the financial information and whether the accounting policies are appropriate to Velocys, Inc.'s circumstances, consistently applied and adequately disclosed.

We planned and performed our work so as to obtain all the information and explanations which we considered necessary in order to provide us with sufficient evidence to give reasonable assurance that the financial information is free from material misstatement whether caused by fraud or other irregularity or error.

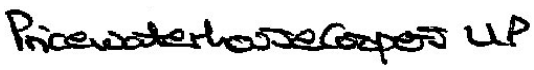
Opinion

In our opinion, the Financial Information Table gives, for the purposes of the Admission Document dated 3 November 2008, a true and fair view of the state of affairs of Velocys, Inc. as at the dates stated and of its losses, cash flows and changes in equity for the periods then ended in accordance with International Financial Reporting Standards as adopted by the European Union.

Declaration

For the purposes of paragraph (a) of Schedule Two of the AIM Rules we are responsible for this report as part of the Admission Document and declare that we have taken all reasonable care to ensure that the information contained in this report is, to the best of our knowledge, in accordance with the facts and contains no omission likely to affect its import. This declaration is included in the Admission Document in compliance with paragraph (a) of Schedule Two to the AIM Rules.

Yours faithfully



PricewaterhouseCoopers LLP
Chartered Accountants

SECTION B(II):

HISTORICAL FINANCIAL INFORMATION FOR VELOCYS, INC.
FOR THE THREE YEARS ENDED 30 SEPTEMBER 2005, 2006 AND 2007

Income statement for the years ended 30 September 2005, 2006 and 2007

	Note	*Year ended 30 September 2007 $000s*	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Revenue		15,790	12,494	11,443
Cost of sales		(9,653)	(8,980)	(7,674)
Gross profit		6,137	3,514	3,769
Unfunded research & development costs		(1,752)	(1,260)	(1,436)
Share based payments	14	(352)	(190)	(160)
Other administrative expenses		(4,747)	(2,802)	(3,417)
Total administrative expenses		(5,099)	(2,992)	(3,577)
Operating loss		(714)	(738)	(1,244)
Finance income	6	82	58	21
Finance cost	6	(516)	(411)	(350)
Loss before income tax		(1,148)	(1,091)	(1,573)
Taxation	7	–	–	–
Loss for the year		(1,148)	(1,091)	(1,573)
Loss per share for loss attributable to the equity holders of the Company during the year (cents per share)				
Basic and diluted	8	(4.7c)	(4.5c)	(6.4c)

The notes on pages 212 to 238 of this document are an integral part of this financial information.

Statement of changes in equity/(deficit) for the years ended 30 September 2005, 2006 and 2007

	Note	*Called up share capital $000s*	*Share premium account $000s*	*Retained earnings (deficit) $000s*	*Total shareholders' equity/(deficit) $000s*
At 1 October 2004		245	9,159	(10,911)	(1,507)
Share based payments		–	–	160	160
Loss for the year		–	–	(1,573)	(1,573)
At 30 September 2005		245	9,159	(12,324)	(2,920)
Share based payments		–	–	190	190
Loss for the year		–	–	(1,091)	(1,091)
New shares issued net of expenses		–	1	–	1
At 30 September 2006		245	9,160	(13,225)	(3,820)
Share based payments		–	–	352	352
Loss for the year		–	–	(1,148)	(1,148)
At 30 September 2007		245	9,160	(14,021)	(4,616)

The notes on pages 212 to 238 of this document are an integral part of this financial information.

Balance sheet as at 30 September 2005, 2006 and 2007

	Note	*30 September 2007* *$000s*	*30 September 2006* *$000s*	*30 September 2005* *$000s*
Assets				
Non-current assets				
Intangible assets	9	321	229	159
Property, plant & equipment	10	1,065	1,659	1,960
Trade and other receivables	12	27	238	228
		1,413	2,126	2,347
Current assets				
Trade and other receivables	12	1,234	2,083	4,084
Non-current assets classified as held for sale	10	73	–	–
Cash and cash equivalents	13	3,278	987	1,445
		4,585	3,070	5,529
Total assets		5,998	5,196	7,876
Liabilities				
Current liabilities				
Trade and other payables	15	3,235	2,007	3,637
Borrowings	16	5	–	5,383
		3,240	2,007	9,020
Non-current liabilities				
Trade and other payables	15	1,048	1,222	1,776
Borrowings	16	6,326	5,787	–
		7,374	7,009	1,776
Total liabilities		10,614	9,016	10,796
Net liabilities		(4,616)	(3,820)	(2,920)
Equity				
Capital and reserves attributable to equity holders of the Company				
Called up share capital	14	245	245	245
Share premium account	14	9,160	9,160	9,159
Retained earnings (deficit)		(14,021)	(13,225)	(12,324)
Total equity (deficit)		(4,616)	(3,820)	(2,920)

The notes on pages 212 to 238 of this document are an integral part of this financial information.

Cash flow statement for the years ended 30 September 2005, 2006 and 2007

	Note	*Year ended 30 September 2007 $000s*	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Cash flows from operating activities				
Net cash generated from/(used in) operating activities	19	2,357	(70)	(1,026)
Cash flows from investing activities				
Purchases of property, plant and equipment		(41)	(346)	(242)
Purchases of intangible assets		(107)	(94)	(135)
Interest received		82	57	20
Interest paid		–	(6)	–
Net cash used in investing activities		(66)	(389)	(357)
Cash flows from financing activities				
Proceeds from issuance of ordinary shares	14	–	1	–
Net cash generated from financing activities		–	1	–
Net increase/(decrease) in cash and cash equivalents		2,291	(458)	(1,383)
Cash and cash equivalents at beginning of the year		987	1,445	2,828
Cash and cash equivalents at end of the year	13	3,278	987	1,445

The notes on pages 212 to 238 of this document are an integral part of this financial information.

Notes to the financial information for the years ended 30 September 2005, 2006 and 2007

1. General information

Velocys, Inc. ("Velocys" or "the Company") is a US-based company engaged in the research, development and commercialisation of microchannel process technologies in the synthetic fuels and chemical industries. The company was founded in 2001 as a wholly owned subsidiary of the Battelle Memorial Institute (BMI).

BMI is a not-for-profit incorporated charitable trust.

Velocys is a US Corporation, incorporated and domiciled in the United States of America. The address of the registered office is 7950 Corporate Blvd, Plain City, OH 43064, USA.

Velocys is privately owned and unlisted.

This financial information is presented in US dollars, the currency of the primary economic environment in which Velocys operates. All operations are carried out in the United States of America.

2. Summary of significant accounting policies

Below are the principal accounting policies applied in the preparation of this financial information. These policies have been consistently applied to all the periods presented, unless otherwise stated.

2.1 *Basis of preparation*

The special purpose financial information of Velocys has been prepared for the purposes of the Admission Document in accordance with the requirements of the AIM Rules and in accordance with this basis of preparation. This basis of preparation describes how the financial information has been prepared in accordance with International Financial Reporting Standards as adopted by the European Union (IFRS's as adopted by the EU). This financial information has been prepared under the historical cost convention.

The financial information has been prepared on a basis consistent with the accounting policies expected to be adopted in the consolidated financial statements of Oxford Catalysts Group PLC for its next financial period, being the year ended 31 December 2008.

This is the first financial information prepared under IFRS's as adopted by the EU. Note 23 gives further details of the impact of the transition and application of IFRS 1 'First-time adoption of IFRS'.

The preparation of financial information in conformity with IFRS's as adopted by the EU requires the use of certain critical accounting estimates. It also requires management to exercise its judgement in the process of applying Velocys' accounting policies. The areas involving a higher degree of judgement or complexity, or areas where assumptions or estimates are significant to the financial information are summarised in note 3.

This financial information of Velocys is for the three years ended 30 September 2007, 30 September 2006 and 30 September 2005. The following new standards, amendments to existing standards or interpretations have been issued, but are not effective for the financial year ending 30 September 2007 and have not been adopted early:

- IFRS 2 amendment, 'Share-based payment – vesting conditions and cancellations', effective for annual periods beginning on or after 1 January 2009;
- IFRS 3 (revised), 'Business combinations', and related amendments to IAS 27, 'Consolidated and separate financial statements', effective for annual periods beginning on or after 1 July 2009;
- IFRS 8, 'Operating Segments', effective for annual periods beginning on or after 1 January 2009;
- IAS 23 (Revised), 'Borrowing Costs', effective for annual periods beginning on or after 1 January 2009;

- Amendment to IAS 32, 'Financial instruments: Presentation', and IAS 1, 'Presentation of financial statements', effective for annual periods beginning on or after 1 January 2009;
- IAS 1 (Revised), 'Presentation of financial statements', effective for annual periods beginning on or after 1 January 2009;
- IFRIC 8, 'Scope of IFRS 2', issued in January 2008, is effective for periods commencing on or after 1 May 2008;
- IFRIC 9, 'Reassessment of embedded derivatives', issued in March 2008, is effective for periods commencing on or after 1 June 2008; and

The only standard from the above list which is likely to have a significant impact on Velocys' financial statements is IAS 1(R). This new standard will change the presentation of financial statements, especially the performance statements, although it will not affect the measurement of the underlying transactions and balances reported.

Interpretations in issue but not considered relevant to the Company's activities are as follows:

IFRIC 1, Changes in existing decommissioning, restoration and similar liabilities;

IFRIC 2, Members' shares in cooperative entities and similar instruments;

IFRIC 5, Rights to interests arising from decommissioning, restoration and environmental rehabilitation funds;

IFRIC 6, Liabilities arising from participating in a specific market – waste electrical and electronic equipment;

IFRIC 7, Applying the re-statement approach under IAS 29 Financial Reporting in Hyperinflationary Economies;

IFRIC 10, Interim Financial Reporting and Impairment;

IFRIC 11, Company and treasury share transactions.

IFRIC 12, Service Concession Arrangements;

IFRIC 13, Customer loyalty programmes;

IFRIC 14, The limit on a defined benefit asset, minimum funding requirements and their interaction;

IFRIC 15, Agreements for the construction of real estate; and

IFRIC 16, Hedges of a net investment in a foreign operation.

2.2 ***Significant accounting policies***

(a) *Functional and presentational currency*

The financial information is presented in US dollars, Velocys' functional and presentational currency.

(b) *Revenue recognition*

Velocys' revenue is generated from contract research and development services provided to its industrial partners. The contracts underlying the revenue generally take two separate forms. The first is a memorandum of understanding (MOU). Its purpose is to provide a short period (less than two years) of exclusivity for one or more defined fields of use to broadly assess the technical and economic value propositions Velocys' technology may offer. The activities that generally occur during the MOU period include preliminary design, modelling and experimentation conducted at the Company's facilities. Throughout the MOU period, both the

Company and the Partner(s) assess the technical and economic results of their joint efforts. If the results are unacceptable to the Partner(s), the MOU can lapse without further consequence to Velocys or the Partner(s). Revenues for contract research and development services rendered during the MOU period are recognised as the work is performed. Additionally, the Company may charge a non-refundable fee upon signing an MOU in exchange for the period of exclusivity. Revenues from such fees are deferred and amortised over the anticipated length of the MOU.

The second type of contract is a Joint Development Agreement (JDA) and it generally follows a successful MOU programme. The purpose of the JDA is to lay out the comprehensive programme to develop, demonstrate and commercialise the Company's technology within one or more defined fields of use. The JDA includes a detailed development plan including specific milestone dates for technical accomplishments, the key commercial terms including price targets for the Company's technology as well as the periods of exclusivity and preferential rights granted to the Partner(s). The JDA also includes certain diligence requirements the Partner(s) must meet to keep the preferential rights defined in the JDA. Like the MOU's, revenues for contract research, development and demonstration activities rendered during the JDA period are recognised as the work is performed. Additionally, the Company may charge a non-refundable fee upon signing a JDA in exchange for the period of exclusivity. Revenues from such fees are deferred and amortised over the anticipated length of the JDA. Finally, certain JDA's allow the Company to charge a non-refundable fee upon the successful completion of certain milestones. Revenue is recognised only when the milestone has been achieved and no further obligations remain. Up to this point, the amount is neither due nor is its recoverability certain.

Revenue earned in accordance with the above policy but not billed is included in trade and other receivables as accrued income. Any invoices raised or cash received in advance of recognition of the income is included within deferred income in trade and other payables.

All other income is recognised on delivery of the service or once all risks and rewards have passed to the customer.

(c) *Expenses*

Cost of sales includes all direct and indirect labour costs, materials, subcontracts and travel expenses associated with funded research and development. The Company expenses all consumables when purchased and does not maintain any stock. Costs associated with unfunded research and development are, unless capitalised pursuant to (e) below, expensed when incurred and are included in Administrative Expenses.

(d) *Current and deferred income tax*

The current income tax charge is calculated on the basis of the tax laws enacted or substantively enacted at the balance sheet date in the countries where Velocys operates and generates taxable income. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation and establishes provisions where appropriate on the basis of amounts expected to be paid to the tax authorities.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the financial statements. However, the deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the balance sheet date and are expected to apply when the related deferred income tax asset is realised or the deferred income tax liability is settled.

Deferred income tax assets are recognised to the extent that it is probable that future taxable profit will be available against which the temporary differences can be utilised.

(e) *Intangible assets*

(i) **Research and development**

Research expenditure is recognised as an expense as incurred. Costs incurred on unfunded development projects, including patents and trademarks, are recognised as intangible assets when the Company can demonstrate:

- The project will be technically feasible so that the intangible asset will be available for use or for sale;
- The intention and ability to complete the intangible asset and use or sell it;
- How the intangible asset will generate probable future economic benefits;
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and
- The ability to measure reliably the expenditure attributable to the intangible asset during its development.

Costs in respect of funded projects are recognised to the extent that the costs meet the criteria above, net of any amounts reimbursed by research partners.

Development costs are amortised, from the point the asset is available for use in the manner intended by management, on a straight-line basis over the period of its expected benefit.

(ii) **Software**

Purchased software is measured initially at cost and is amortised on a straight-line basis over its estimated useful life of 3 years. Provision is made for any impairment.

(f) *Property, plant and equipment*

All property, plant and equipment is stated at cost less accumulated depreciation and subsequent impairment losses. Cost includes expenditure that is directly attributable to the acquisition of the items. Subsequent costs are included in the asset's carrying amount or recognised as a separate asset, as appropriate, only when it is probable that future economic benefits associated with the item will flow to Velocys and the cost of the item can be measured reliably. All other repairs and maintenance are charged to the income statement during the period in which they are incurred.

Assets are depreciated by writing off their cost less their estimated residual value. Depreciation is recorded on a straight line basis evenly over their estimated useful lives, based on management's judgement and experience, which are principally as follows:

Leasehold improvements:	2–7 years
Other equipment:	5–7 years
Technical and laboratory equipment:	5 years
Vehicles:	3 years

Depreciation methods, residual values and useful lives are re-assessed annually and, if necessary, changes are accounted for prospectively.

(g) *Impairment of tangible and intangible assets*

Intangible assets and property, plant and equipment are assessed for impairment at each reporting date or whenever there is an indicator of impairment to determine whether there is any indication that those assets may have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss, if any. Where the asset does not generate cash flows that are independent from other assets, Velocys estimates the recoverable amount of the cash-generating unit to which the asset belongs. Basis for the estimates is third parties or experts dealing specifically in the asset(s) deemed impaired.

The recoverable amount is the higher of fair value less costs to sell, and value in use. Value in use represents the net present value of expected future cash flows discounted on a pre-tax basis using a rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset (or cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or cash-generating unit) is reduced to its recoverable amount. Impairment of non-current assets is recognised in the income statement within operating costs.

Where an impairment loss subsequently reverses, in respect of an asset other than goodwill, it is recognised in the income statement and the carrying amount of the asset is increased to the revised estimate of its recoverable amount, but not so as to exceed the carrying amount that would have been determined had no impairment loss been recognised in prior years.

(h) *Leased assets*

Leases are classified according to the substance of the transaction. A lease that transfers substantially all the risks and rewards of ownership to the lessee is classified as a finance lease. All other leases are classified as operating leases.

Finance leases are capitalised in the balance sheet at their fair value or, if lower, at the present value of the minimum lease payments, each determined at the inception of the lease.

The corresponding liability is shown as a finance lease obligation to the lessor. Leasing repayments comprise both a capital and a finance element. Where the lease is of a fixed interest nature, the finance element is written off to the income statement so as to produce an approximately constant periodic rate of charge on the outstanding obligation. Where the lease is of a floating interest rate nature, the finance element written off to the income statement reflects the floating interest rate charge incurred during the period on the outstanding obligation. Such assets are depreciated over the shorter of their estimated useful lives and the period of the lease.

Operating lease rentals are charged to the income statement on a straight-line basis over the period of the lease.

(i) *Employee benefits*

(i) **Pension obligations**

Velocys operates a defined contribution pension scheme. Payments are charged as employee costs as they fall due. Velocys has no further payment obligations once the contributions have been paid.

(ii) **Share-based compensation arrangements**

Velocys issues share options to certain employees which are accounted for as equity settled transactions. The options are generally subject to four year service vesting

conditions. In accordance with the transitional provisions, IFRS 2 'Share-based Payments' has been applied to all grants of equity instruments after 7 November 2002 that were unvested as of 1 January 2005.

Equity settled share-based payments are measured at fair value (excluding the effect of non market based vesting conditions) at the date of grant. The fair value determined at the grant date of the equity settled share based payments is expensed on a straight-line basis over the vesting period, based on Velocys' estimate of shares that will eventually vest and adjusted for the effect of non market based vesting conditions.

Fair value is measured by use of the Black-Scholes pricing model. The expected life used in the model has been adjusted, based on management's best estimate, for the effects of non-transferability, exercise restrictions, and behavioural considerations. The credit is recognised in retained earnings. When the options are exercised the proceeds received, net of attributable transaction costs, are credited to share capital and premium.

(iii) **Short-term employee benefits**

Accruals are included to reflect the cost of short-term compensation to employees for absences such as paid annual leave.

(j) *Cash and cash equivalents*

Cash equivalents includes cash at bank and in hand and other short-term highly liquid investments which are readily convertible on initial investment into known amounts of cash within three months and which are subject to an insignificant risk of change in value.

(k) *Warrants*

The company issues warrants from time to time to partners on research projects. The terms of these warrants vary and are disclosed in note 14. Warrants issued after 7 November 2002 that are not vested as at 1 January 2005 are accounted for in accordance with IFRS 2 as equity settled share based payments. The warrants are measured at fair value at the date of grant and this fair value is expensed on a straight line basis over the vesting period, based on Velocys' estimate of shares that will eventually vest and adjusted for the effect of non market based vesting conditions. Fair value is measured using the Black-Scholes pricing model. The credit is recognised in equity.

(l) *Financial instruments*

(i) **Trade receivables**

Trade receivables are stated at nominal value (which approximates to fair value) less impairment for estimated irrecoverable amounts. Customer prepayments are netted against individual customer receivables.

(ii) **Trade payables**

Trade payables are stated at their nominal value (which approximates to fair value).

(iii) **Financial liabilities and equity instruments**

Financial liabilities and equity instruments are classified according to the substance of the contractual arrangements entered into. An equity instrument is any contract that evidences a residual interest in the assets of Velocys after deducting all of its liabilities.

(iv) **Borrowings**

Interest bearing loans and overdrafts are initially recorded at fair value, taken as proceeds received net of direct issue costs and thereafter at amortised cost. Finance charges, including premiums payable on settlement or redemption and direct issue costs, are recognised in the income statement using the effective interest method and are added to the carrying amount of the instrument to the extent that they are not settled in the period in which they arise.

(m) *Non-current assets held for sale*

Non-current assets classified as held for sale are measured at the lower of carrying amount and fair value less estimated costs of sale. Non-current assets are classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the asset is available for immediate sale in its present condition.

3. Critical accounting estimates and judgements

The preparation of financial information in conformity with IFRS requires the use of estimates and assumptions that affect the reported amounts of assets and liabilities at the reporting date and the reported amounts of revenues and expenses during the reporting period. Although these estimates are based on management's best knowledge of the amount, event or actions, actual results ultimately may differ from those estimates. The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial period are discussed below.

(a) *Revenue recognition* – Velocys recognises revenue generally at the time of delivery and when collection of the resulting receivable is reasonably assured. Should management consider that the criteria for revenue recognition are not met for a transaction, revenue recognition would be delayed until such time as the transaction becomes fully earned. Payments received in advance of revenue recognition are recorded as deferred income.

As discussed in note 2, execution of MOU and JDA agreements sometimes allow the Company to charge an up-front payment. Up-front payments are recorded as deferred income and recognised in revenue over the respective agreement to which they relate. Management reviews, on a periodic basis, progress performed on MOU's and JDA's and adjusts the proportion recognised in revenue accordingly.

The length of an agreement can be dependent upon the achievement of certain technical milestones and as such is uncertain when the agreement is signed. In such cases, management recognise income based on their best estimate of the agreement duration and review this estimate at each period end.

(b) *Share options and warrants* – The fair value calculation of the share-based payments requires several assumptions and estimates. Their details are disclosed in note 14. Such assumptions and estimates could change and could affect the amount recorded.

(c) *Capitalised development costs* – The company undertakes a significant number of research projects in which it incurs development costs. These costs are assessed against the capitalisation policy as set out in note 2.2 (e) (i). There is a high degree of judgement in assessing whether and when the costs on such projects meet the criteria for capitalisation under IAS 38. Those costs which have been assessed as meeting these criteria are disclosed within note 9.

4. Segmental information

The Directors consider that there is only one business segment, being research and development, and that the Company operates solely in the US.

5. Operating loss

5a. Expenses by nature

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Employee benefit expense (see below)	7,755	5,806	5,680
Consultancy costs – subcontractors engaged on contracts	2,115	1,577	1,022
Fees payable to Velocys' auditor for audit of financial statements*	83	69	66
Operating lease payments – plant and machinery	103	207	215
Operating lease payments – other	328	328	328
Depreciation of property, plant and equipment			
– owned assets	509	647	566
– assets held under finance leases	1	–	–
Loss on disposal of property, plant and equipment	–	–	10
Impairment of property, plant and equipment	80	–	–
Amortisation of intangible assets	15	24	65
Other expenses	5,515	4,574	4,735
Total costs of sale, research & development costs and administrative expenses	16,504	13,232	12,687

The Company incurred patent costs, in respect of patent applications, of $1,344,000 for the year ended 30 September 2007 (year ended 30 September 2006: $1,205,000; year ended 30 September 2005: $1,001,000).

* There were no fees paid to Velocys' auditors related to non-audit services in any of the periods presented.

5b. Employee benefit expense charged to the income statement

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Wages and salaries	6,198	4,623	4,638
Social security costs	353	336	271
Employee medical insurance expense	565	391	357
Share based payments	352	190	160
Pension costs (note 17)	152	145	122
Other	135	121	132
	7,755	5,806	5,680

5c. Number of employees

The average monthly number of employees of the Company (including executive directors) were:

	Year ended 30 September 2007 No.	*Year ended 30 September 2006 No.*	*Year ended 30 September 2005 No.*
Research and development – funded and unfunded (see note 2.2 c)	41	36	34
Finance and administration	12	10	9
Total	53	46	43

5d. Directors' emoluments

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Directors' emoluments	504	301	421
Amounts contributed to a defined contribution pension scheme	7	7	8
Total	511	308	429

There were four directors receiving emoluments during the years ended 30 September 2007, 30 September 2006 and 30 September 2005.

The highest paid director for the year ending 30 September 2007 earned $489,000 (year ending 30 September 2006 $286,000; 30 September 2005 $395,000). This same director received all amounts contributed to a defined contribution pension scheme presented above. No stock options were exercised by any directors in the years ending 30 September 2007, 30 September 2006 and 30 September 2005.

6. Finance income and cost

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Interest payable on loans from parent company	516	411	350
Finance cost	516	411	350
Finance income	82	58	21
Net finance cost	(434)	(353)	(329)

7. Taxation

The tax for all years differs from the losses of the Company multiplied by the standard rate of corporation tax in the United States (35%). The differences are explained below:

	Year ended 30 September 2007	*Year ended 30 September 2006*	*Year ended 30 September 2005*
Loss before tax	(1,148)	(1,091)	(1,573)
Loss on ordinary activities multiplied by the standard rate of corporation rate in the US (35%)	(402)	(382)	(551)
Effects of:			
Expenses not deductible for tax purposes	142	80	92
Unutilised tax losses	260	302	459
Tax charge	–	–	–

8. Loss per share

(a) ***Basic***

Basic loss per share is calculated by dividing the loss attributable to equity holders of Velocys by the weighted average number of ordinary shares in issue during the year.

	Year ended 30 September 2007	*Year ended 30 September 2006*	*Year ended 30 September 2005*
Loss attributable to equity holders of Velocys ($000's)	(1,148)	(1,091)	(1,573)
Weighted average number of ordinary shares in issue (thousands)	24,510	24,510	24,507
Basic loss per share (cents per share)	(4.7)	(4.5)	(6.4)

(b) ***Diluted***

Diluted loss per share is calculated by adjusting the weighted average number of shares in issue to assume conversion of all potential dilutive ordinary shares. Velocys has one category of potential dilutive ordinary shares: share options. The share options calculation is performed to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of Velocys' shares) based on the monetary value of the subscription rights attached to the outstanding share options. The number of shares calculated above is compared with the number of shares that would have been issued assuming the exercise of share options to give the number of shares deemed to be issued at nil consideration. These dilutive shares are added to the weighted average number of ordinary shares in issue.

The warrants the Company has outstanding are not considered dilutive because the exercise price of the warrants is greater than the market price of the Company's shares.

The Company's convertible note from the parent company is not included in diluted earnings based on the conversion terms in note 16 as any conversion will not be dilutive. No adjustment has been made for the share options since, given the loss recorded in the three years, any such adjustment would be anti-dilutive.

9. Intangible assets

	Development costs $000s	*Software $000s*	*Total $000s*
Cost			
At 1 October 2004	–	399	399
Additions	135	–	135
At 30 September 2005	135	399	534
Additions	69	25	94
At 30 September 2006	204	424	628
Additions	74	33	107
At 30 September 2007	278	457	735
Accumulated amortisation			
At 1 October 2004	–	310	310
Charge for the year	–	65	65
At 30 September 2005	–	375	375
Charge for the year	–	24	24
At 30 September 2006	–	399	399
Charge for the year	–	15	15
At 30 September 2007	–	414	414
Net book amount at 30 September 2007	278	43	321
Net book amount at 30 September 2006	204	25	229
Net book amount at 30 September 2005	135	24	159

10. Property, plant and equipment

	Leasehold improvements $000s	*Other equipment $000s*	*Technical and laboratory equipment $000s*	*Vehicles $000s*	*Total $000s*
Cost					
At 1 October 2004	834	844	1,758	–	3,436
Additions	100	–	134	9	243
Disposals	–	–	(10)	–	(10)
At 30 September 2005	934	844	1,882	9	3,669
Additions	–	–	346	–	346
At 30 September 2006	934	844	2,228	9	4,015
Additions	–	6	63	–	69
Transferred to assets held for sale	–	–	(510)	–	(510)
At 30 September 2007	934	850	1,781	9	3,574
Accumulated depreciation					
At 1 October 2004	203	333	607	–	1,143
Charge for the year	89	123	353	1	566
At 30 September 2005	292	456	960	1	1,709
Charge for the year	103	124	418	2	647
At 30 September 2006	395	580	1,378	3	2,356
Charge for the year	103	72	332	3	510
Transferred to assets held for sale	–	–	(357)	–	(357)
At 30 September 2007	498	652	1,353	6	2,509
Net book amount at 30 September 2007	436	198	428	3	1,065
Net book amount at 30 September 2006	539	264	850	6	1,659
Net book amount at 30 September 2005	642	388	922	8	1,960

The company leased a piece of technical equipment under a finance lease. The asset had a net book amount of $30,000 at 30 September 2007 (30 September 2006: nil; 30 September 2005: nil) and is included within technical and laboratory equipment.

	Assets held for sale *$000s*
Cost	
At 1 October 2004, 30 September 2005 and 30 September 2006	–
Transfers	510
At 30 September 2007	510
Accumulated depreciation	
At 1 October 2004, 30 September 2005 and 30 September 2006	–
Transfers	357
Impairment	80
At 30 September 2007	437
Net book amount at 30 September 2007	73
Net book amount at 30 September 2005 and 30 September 2006	–

Assets held for sale were being actively marketed as at 30 September 2007 and were expected to be sold within one year of this balance sheet date.

11. Financial instruments

The carrying amounts of Velocys' various categories of financial instruments are as follows.

	Loans and receivables *$000s*	*Financial liabilities at amortised cost* *$000s*	*Total* *$000s*
At 30 September 2005			
Trade and other receivables	4,084	–	4,084
Trade payables	–	(1,705)	(1,705)
Borrowings	–	(5,383)	(5,383)
Cash and cash equivalents	1,445	–	1,445
Total	5,529	(7,088)	(1,559)
At 30 September 2006			
Trade and other receivables	2,083	–	2,083
Trade payables	–	(750)	(750)
Borrowings	–	(5,787)	(5,787)
Cash and cash equivalents	987	–	987
Total	3,070	(6,537)	(3,467)
At 30 September 2007			
Trade and other receivables	1,234	–	1,234
Trade payables	–	(1,026)	(1,026)
Borrowings	–	(6,302)	(6,302)
Cash and cash equivalents	3,278	–	3,278
Total	4,512	(7,328)	(2,816)

Nature and extent of risks arising from financial instruments

Financial risk management

Velocys' operations expose it to a variety of financial risks that include the effects of foreign exchange risk, cashflow and interest rate risk, liquidity risk, credit risk and capital risk management. Velocys has in place a risk management programme that seeks to limit the potentially adverse effects of unpredictable movements

in financial markets on the financial performance of Velocys. The policies set are implemented by Velocys' finance department.

(a) **Foreign exchange risk**

Velocys operates in the US market, trading with US-based customers. Velocys is therefore not exposed to any significant level of foreign exchange risk and all transactions are denominated in US dollars.

(b) **Cash flow and interest rate risk**

Velocys' interest rate risk arises from long-term borrowings. Velocys' loan due to Battelle Memorial Institute is at a variable rate of interest (dependent on the movement in the prime rate) and exposes Velocys to interest rate risk.

A one per cent. increase or decrease in market interest rates, with all other variables held constant, would increase or decrease loss for the year ending 30 September 2007 by $55,000 (year ending 30 September 2006: $55,000; year ending 30 September 2005: $50,000).

This is mainly as a result of the higher/lower interest expenses on floating rate borrowings.

(c) **Liquidity risk**

Velocys' liquidity risk relates primarily to the management of its availability of funding, ability to repay borrowings and trade and other payables and generally manage its working capital. Consideration is given to the projected fluctuations in the cash flows of the business relative to its available funds.

The table below analyses Velocys' financial liabilities into relevant maturity based on the remaining period at the balance sheet date to the contractual maturity date.

The amounts disclosed are the contractual undiscounted cash flows and will not, in some cases, agree with the carrying balance sheet amount.

	At 30 September 2005				
	Less than 1 year $000s	*Between 1 and 2 years $000s*	*Between 2 and 5 years $000s*	*Over 5 years $000s*	*Total $000s*
Loan from parent company	5,383	–	–	–	5,383
Accruals	1,364	–	–	–	1,364
Trade and other payables	1,705	–	–	–	1,705
	8,452	–	–	–	8,452

	At 30 September 2006				
	Less than 1 year $000s	*Between 1 and 2 years $000s*	*Between 2 and 5 years $000s*	*Over 5 years $000s*	*Total $000s*
Loan from parent company	–	–	5,787	–	5,787
Accruals	789	–	–	–	789
Trade and other payables	750	–	–	–	750
	1,539	–	5,787	–	7,326

	At 30 September 2007				
	Less than 1 year $000s	*Between 1 and 2 years $000s*	*Between 2 and 5 years $000s*	*Over 5 years $000s*	*Total $000s*
Loan from parent company	–	6,302	–	–	6,302
Accruals	1,902	–	–	–	1,902
Trade and other payables	1,026	–	–	–	1,026
Finance lease obligations	8	8	19	–	35
	2,936	6,310	19	–	9,265

(d) **Credit risk management**

Credit risk is the risk that financial loss arises from the failure of a customer or counterparty to meet its obligations under a contract.

Velocys has implemented policies that require appropriate credit checks on potential customers before contracts are agreed and subsequently the use of credit limits. The amount of exposure to any individual counterparty is subject to an agreed limit. Velocys monitors and manages its exposure to counterparties.

(e) **Capital risk management**

The Company's objective when managing capital is to ensure that funds are raised in an appropriate, cost-effective manner considering the scale and time-frame of the funding requirement. Velocys' primary concern is to maintain its ability to continue as a going concern in order to provide returns for shareholders and stakeholders in Velocys.

Velocys takes legal, financial and taxation advice when considering changes to the capital structure of Velocys.

The Company considers its total capital to be the sum of equity and net borrowings. Changes to equity during the year are detailed in the Statement of changes in shareholders equity/(deficit) and note 14 – Called up share capital and share premium. Changes to net borrowings during the year are detailed in note 16 – Borrowings.

Velocys is not subject to any externally imposed capital requirements.

12. Trade and other receivables

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Non-current			
Other debtors	27	238	228
Current			
Trade receivables	1,146	2,069	4,009
Prepayments and accrued income	88	14	75
Current trade and other receivables	1,234	2,083	4,084
Total trade and other receivables	1,261	2,321	4,312

The fair value of trade and other receivables is not materially different to the book value above. The majority of Velocys' trade receivables are due from large multinational groups and hold a low credit risk. The maximum exposure to credit risk at the reporting date is the carrying value of each class of receivable.

The ageing of trade receivables is as follows.

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Up to 3 months	1,146	2,046	4,009
3 to 6 months	–	23	–
	1,146	2,069	4,009

As of 30 September 2007, 30 September 2006 and 30 September 2005 no trade receivables were impaired as they are all considered recoverable.

The average credit period on sales is 30 days for each of the periods. At 30 September 2007, the Company had $nil of overdue receivables (30 September 2006: $23,000; 30 September 2005: nil). The Company believes that the full amount of trade receivables is recoverable and no impairment has been charged for doubtful debts.

13. Cash and cash equivalents

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Cash in bank and on hand	3,278	987	1,445

Cash and cash equivalents are held with two institutions that have a Moody's financial strength rating of B+ and C+, respectively for all periods.

14. Called up share capital and share premium

14a. Share capital

	Number of voting shares	*Number of non-voting shares*	*Total number of shares*
At 1 October 2004 and 30 September 2005	24,500,000	7,045	24,507,045
– Shares issued	–	2,704	2,704
At 30 September 2006 and 30 September 2007	24,500,000	9,749	24,509,749

	Voting shares $000's	*Non-voting shares $000's*	*Total $000's*
At 1 October 2004, 30 September 2005, 30 September 2006 and 30 September 2007	245	–	245

14b. Share Premium

	Voting shares $000's	*Non-voting shares $000's*	*Total $000's*
At 1 October 2004 and 30 September 2005	9,149	10	9,159
– Proceeds from shares issued	–	1	1
At 30 September 2006 and 30 September 2007	9,149	11	9,160

The Company has two classes of ordinary shares: voting and non-voting. Other than the right to vote, the shares have the same characteristics. The total authorised number of ordinary shares at 30 September 2007 was 60,000,000 (30 September 2006: 60,000,000; 30 September 2005: 60,000,000) with a par value of $0.01. All issued shares are fully paid.

14c. Velocys, Inc. stock option plan

In 2001, Velocys adopted a stock option plan (the 'Plan') pursuant to which Velocys' board of directors may grant incentive stock options and nonqualified stock options to employees and certain other persons and entities. In 2007, the plan was amended to increase the number of options available from 6,914,000 to 7,600,000.

The plan authorises grants of options to purchase shares of authorised but unissued common stock. Stock options are granted with an exercise price equal to the stock's fair market value at the date of grant. Generally, the options vest as follows:

After 1 year of service from vest start date	25% of grant
Each month subsequent to 1 year of service	1/48th of grant

The options expire ten years after the date of grant. In the event of a change in control, all unexercised options will expire and cease to be effective, provided that option holders have advance notice and an opportunity prior to the change in control event to exercise any vested options.

Velocys has reserved 6,914,000 and 7,600,000 shares of common stock for issuance under the Plan in years ending 30 September 2006 and 2007, respectively. As of 30 September 2007, there were 62,777 shares of common stock available for grant under the plan.

From 1 January 2005 the fair value of each option award is estimated on the date of grant using the Black-Scholes Option Pricing Model using the weighted average assumptions noted in the following table.

	Year ended 30 September 2007	*Year ended 30 September 2006*	*Year ended 30 September 2005*
Weighted average exercise price (cents)	83	29	28
Weighted average share price (cents)	66	25	24
Expected volatility	86%–92%	70%–76%	75%–79%
Expected life	6.25 years	5 years	5 years
Risk free interest rate	4.2%–4.8%	4.5%	4.3%
Expected dividend yield	0%	0%	0%

The expected volatility of the options granted was estimated using several comparable public companies as a substitute for the historical volatility of Velocys' ordinary shares, which is not determinable in the absence of an active external or internal market. The expected dividends are based on Velocys' dividend history and management's expectations of future dividend policy. The expected life of options granted represents the period of time that options granted are expected to be outstanding. The risk-free interest rate for the period within the contractual life of the option is based on the US Treasury yield curve in effect at the time of grant. The Company estimated the number of leavers for the three year period at 5% per year.

Options outstanding

	2007		*2006*		*2005*	
	Options	*Weighted average exercise price*	*Options*	*Weighted average exercise price*	*Options*	*Weighted average exercise price*
At 1 October	6,234,724	35c	4,998,548	36c	3,858,248	39c
Granted in year	1,348,950	83c	1,271,076	29c	1,230,200	28c
Exercised in year	–	–	(2,704)	46c	–	–
Forfeited in year	(55,700)	43c	(32,196)	35c	(89,900)	35c
At 30 September	7,527,974	44c	6,234,724	35c	4,998,548	36c
Exercisable as at 30 September	5,473,400	38c	4,049,893	38c	2,996,175	41c

The per share weighted-average fair value of stock options granted during 30 September 2007 was $0.83 (30 September 2006: $0.20; 30 September 2005: $0.17).

As at 30 September 2007 there were approximately $462,000 (year ending 30 September 2006: $134,000; year ending 30 September 2005: $122,000) of total unrecognised employee share based payment costs related to non-vested share-based compensation arrangements granted under the plan.

Of the options outstanding as of 30 September 2007, expiration dates range from October 2011 to September 2017 and exercise prices range from $0.28 to $0.93 per share option.

14d. Warrants

On 28 September 2004, the Company and an international petroleum company (the "Partner") entered into a release and settlement agreement (the "Release Agreement"), whereby the Partner withdrew from a joint development program by and between the Company and the Partner. As part of the Release Agreement, the Company issued warrants to the Partner to purchase 500,000 non-voting common shares of the Company at an exercise price of $2.00 per share, expiring in September 2009. The per share value of these warrants was $0.01 on the date of issuance using the Black-Scholes option-pricing model with the following assumptions: expected volatility of 48.1%; dividend yield of 0%; risk-free rate of 3.5% and an expected life of 5 years.

On 30 September 2005, the Company entered into a multi-year development and commercialisation agreement (the "CA") with a multinational petrochemical company and a multinational industrial gas company (the "Partners"). As a part of the CA, the Company is obliged to provide warrants (capped at 2% of the outstanding shares of the Company) to each Partner upon triggering certain events during the course of the project. As of 30 September 2007, none of those events had occurred. However, pursuant to IFRS 2, the Company calculated the estimated fair value of the warrants as at the date of the signing of the CA. The fair value of the warrants was computed using the Black-Scholes pricing model with the following assumptions: expected volatility of 75.1%; dividend yield of 0%; risk-free rate of 4.3% and an expected life of 5 years and a market price of $0.24 per share. The options expire 5 years after grant date. The charge computed using the above information was deemed immaterial to the financial information.

15. Trade and other payables

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Non-current			
Accruals and deferred income	890	1,064	1,622
Other creditors	158	158	154
Non-current trade and other payables	1,048	1,222	1,776
Current			
Trade payables	717	676	507
Accruals and deferred income	2,209	1,257	1,932
Amounts owed to parent company	309	74	1,198
Current trade and other payables	3,235	2,007	3,637
Total trade and other payables	4,283	3,229	5,413

Other creditors relate to the deferred rent resulting from the difference between the amounts of lease charge as computed based on a straight-line basis and in accordance with IAS 17 and the actual rent paid to the lessor. The timing difference arises as rental payments are contracted to increase through the period of the lease. The timing difference is expected to reverse by 2011.

The fair value of trade and other payables are not materially different from the carrying values above.

16. Borrowings

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Loan from parent company	6,301	5,787	–
Finance lease obligations	25	–	–
Non-current borrowings	6,326	5,787	–
Current			
Loan from parent company	–	–	5,383
Finance lease obligations	5	–	–
Current borrowings	5	–	5,383
Total borrowings	6,331	5,787	5,383

The fair values of borrowings are not materially different from the carrying values stated above.

Maturity of borrowings is as follows.

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Within one year	5	–	5,383
Between one and two years	6,314	–	–
Between two and five years	12	5,787	–
Total borrowings	6,331	5,787	5,383

Currency and interest rate analysis

Borrowings are denominated entirely in US dollars. All borrowings above are on a floating rate except for finance leases that use a fixed rate of 6.5%. Velocys' floating rate borrowings have a maturity date of 1 October 2008 whilst finance lease obligations mature over a period ending in June 2014.

The loan from the parent company is secured by all tangible and intangible assets of the Company and bears interest based on the United States base rates. The loan is convertible into common stock upon sale of preferred stock with proceeds equal to or greater than $10,000,000. Upon notice of the Parent, the principal and unpaid interest will convert to the same class and/or series of preferred stock issued in the sale. The total shares received will be based on the principal plus unpaid interest divided by the per share price of the Company stock sold. As such, the entire loan amount has been classified within borrowings with no separate equity component recognised.

The movement in Velocys' total net debt is as follows.

	1 October 2004 $000s	*Cash inflows $000s*	*Cash outflows $000s*	*Non-cash movements $000s*	*30 September 2005 $000s*
Cash in hand and at bank	2,828	–	(1,383)	–	1,445
Current borrowings	(5,089)	–	–	(294)	(5,383)
	(2,261)	–	(1,383)	(294)	(3,938)

	1 October 2005 $000s	*Cash inflows $000s*	*Cash outflows $000s*	*Non-cash movements $000s*	*30 September 2006 $000s*
Cash in hand and at bank	1,445	–	(458)	–	987
Current borrowings	(5,383)	–	–	5,383	–
Non-current borrowings	–	–	–	(5,787)	(5,787)
	(3,938)	–	(458)	(404)	(4,800)

	1 October 2006 $000s	*Cash inflows $000s*	*Cash outflows $000s*	*Non-cash movements $000s*	*30 September 2007 $000s*
Cash in hand and at bank	987	2,291	–	–	3,278
Non-current borrowings	(5,787)	–	–	(514)	(6,301)
Finance leases	–	–	–	(30)	(30)
	(4,800)	2,291	–	(544)	(3,053)

17. Retirement benefit obligations

Defined contribution plans

Velocys operates a defined contribution retirement plan (the 'Plan') for all eligible employees of Velocys. Participants may make voluntary contributions to the Plan up to the maximum amount allowable by US law. The Company makes an annual employer contribution equal to 3% of the compensation of the Company's employees. The contributions are recognised as an employee benefit expense when they are due.

The total cost charged to the income statement of $152,000 (year ending 30 September 2006: $145,000; year ending 30 September 2005: $122,000) represents contributions paid to these plans by Velocys.

18. Deferred taxation

As at 30 September 2007, the Company had net unrecognised deferred tax assets of $5.0 million (30 September 2006: $4.8 million, 30 September 2005: $4.5 million) arising from trading losses. These net deferred tax assets have not been recognised on the basis of uncertainty over their recoverability given the

state of development of the company as it tries to move from research and development to commercialisation of its products. The Company's net operating losses will begin to expire in 2022.

19. Cash generated from operations

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Loss for the year	(1,148)	(1,091)	(1,573)
Adjustments for			
– Taxation	–	–	–
– Depreciation and amortisation	525	671	631
– Share based payment charge	352	190	160
– Finance expense	516	411	350
– Finance income	(82)	(58)	(21)
– Loss on disposal of property, plant and equipment	–	–	10
– Impairment of assets	80	–	–
Changes in working capital			
– Decrease/(increase) in trade and other receivables	1,060	1,991	(3,634)
– Increase/(decrease) in trade and other payables	1,054	(2,184)	3,051
Cash generated from/(used in) operations	2,357	(70)	(1,026)

In the cash flow statement, proceeds from sale of property, plant and equipment comprise the following.

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Net book amount (note 10)	–	–	10
Loss on disposal of property, plant and equipment	–	–	(10)
Proceeds from disposal of property, plant and equipment	–	–	–

20. Commitments

Property, Plant & Equipment

Velocys was committed to making the following minimum lease payments in respect of non-cancellable operating leases at the following year ends.

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Future commitments under non-cancellable operating property leases at 30 September			
– Within one year	392	370	366
– Between one and five years	1,346	1,632	1,578
– After more than five years	–	106	529
	1,738	2,108	2,473

	30 September 2007 $000s	*30 September 2006 $000s*	*30 September 2005 $000s*
Future commitments under non-cancellable operating plant and equipment leases at 30 September			
– Within one year	137	138	96
– Between one and five years	113	154	70
– After more than five years	32	32	–
	282	324	166

For each of the aforementioned fiscal years, there were no capital expenditure commitments.

Licence from parent company

As part of the diligence requirements set forth in one of the licence agreements by and between the Company and the Parent, Velocys is required to pay annual dividend payments to the Parent in each of the four separate fields of use. Failure to make the dividend payment could result in the loss of exclusivity in that particular field of use. Dividend payments continue to be required until the earlier of the expiration of the licence or from the date that the Company wishes the field of use to become non-exclusive.

Dividends are due as follows.

	Year ended 30 September 2008 $000s	*Year ended 30 September 2009 $000s*	*Year ended 30 September 2010 $000s*	*Year ended 30 September 2011 $000s*	*Year ended 30 September 2012 and thereafter $000s*
Field of Use No. 1	150	150	150	150	150
Field of Use No. 2	–	–	150	150	150
Field of Use No. 3	–	–	–	150	150
Field of Use No. 4	–	–	–	–	150
	150	150	300	450	600

The Parent can, at its own discretion, defer the dividend requirements.

21. Related party transactions

(a) ***Key management compensation***

	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Salaries and other short-term employee benefits	899	600	798
Fair value of share options	288	120	117
Pension	13	13	17
	1,200	733	932

Key management is comprised of the President/CEO and the Chief Operating Officer. These two positions are listed as key management as they are responsible for all material decisions made for and on-behalf of the Company.

(b) ***Transactions with parent company***

Nature of transaction	*Purchase Value*			*Amount due*		
	Year ended 30 September 2007 $000s	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*	*Year ended 30 September 2007 $000s*	*Year ended 30 September 2006 $000s*	*Year ended 30 September 2005 $000s*
Administrative & research and development services from parent company	769	2,026	1,289	309	74	1,198
Consulting fees – W. Krause – Member of Velocys Board of directors	14	16	25	–	–	–
Legal services – Taft, Stettinius & Hollister – Corporate Secretary	242	105	124	–	33	13

In addition to the transactions and balances disclosed above, the Company had notes payable to the parent company at each period end, as disclosed in note 16. Interest payable to the parent company in each period, in respect of these loan notes, is disclosed in note 6.

22. Events after the balance sheet date

(a) Synthesis agreement – on 1 November 2007, the Company entered into a multiyear joint development agreement (the "Synthesis Agreement") to develop the Company's technology for the production of synthesis gases and their conversion into liquids. The Synthesis Agreement shall continue in full force and effect unless terminated by conditions set forth in the agreement.

(b) Withdrawal of participant – on 14 December 2007, the Company received a notice of withdrawal from one of two participants in a hydrogen technology development contract. As a result, the Company will recognise approximately $203,000 of advanced payments from research partners in the year ending 30 September 2008.

(c) FT agreement – on 16 July 2008, the Company entered into a multi-year memorandum of understanding to evaluate, finalise scale-up and demonstrate the Velocys Fischer-Tropsch technology for the production of synthetic fuels from syngas. The FT agreement shall continue in full force and effect unless terminated by conditions set forth in the agreement.

(d) Amended licence with BMI – in October 2001, the Company entered into two worldwide royalty free licence agreements (the "Licenses") with the parent in conjunction with its initial capitalisation. The Licenses, which were amended and restated in January 2004, granted the Company exclusive rights to the parent's intellectual property portfolio and certain improvements thereto relating to microchannel process technology in specific fields of practice. The Licenses require the Company to meet certain diligence requirements for certain fields of use. In the event that the Company did not meet one of the specific performance objectives, the parent, at its sole discretion, could have converted those portions of the Licenses to a non-exclusive basis (see note 20).

On 15 April 2008, the Company entered into a second amended and restated licence agreement with the parent. This agreement supersedes one of the previous agreements. The second amended licence agreement continues to convey rights to the parent's intellectual property portfolio, but it provides further definition on specific fields of practice and which fields the Company has exclusive rights and non-exclusive rights. Furthermore, the licence requires the Company to meet certain diligence requirements for certain fields of use. In the event that the Company did not meet one of the specific performance objectives, the parent, at its sole discretion, may convert those portions of the Licenses to a non-exclusive basis.

The Licenses may be terminated by the Company upon sixty days advanced written notice to the parent or by either party upon a material breach of the Licenses. Otherwise, the Licenses terminate upon the expiration of the last patent or the date the Company discontinues using other intellectual property included in the Licenses but not specifically patented.

23. Transition to IFRS

IFRS 1 Exemption

Velocys' date of transition to IFRS is 1 October 2004 and all comparative information in the financial information has been restated to reflect the Company's adoption of IFRS, except where otherwise required or permitted by International Financial Reporting Standard 1 – 'First Time Adoption of International Financial Reporting Standards' (IFRS 1).

IFRS 1 requires an entity to comply with each IFRS effective at the reporting date for its first IFRS financial information. As a general principle, IFRS 1 requires the standards effective at the reporting date to be applied retrospectively; however, retrospective application is prohibited in some areas. In addition, there are a number of optional exemptions from full retrospective application of IFRS within IFRS 1.

Velocys policy on optional IFRS 1 exemptions is as follows:

- not to apply International Financial Reporting Standard 3 – 'Business Combinations' (IFRS 3) before transition date to past business combinations; and
- not to apply the requirements of International Financial Reporting Standard 2 – 'Share Based Payments' (IFRS 2) to options granted prior to 7 November 2002.

Reconciliations between IFRS and US GAAP

The tables below show the impact of IFRS on the income statement for the year ended 30 September 2007, as well as the impact on net assets at 1 October 2004 and 30 September 2007.

The main areas impacted by the transition are discussed below.

(a) *Reconciliation of cash flows*

The adoption of IFRS did not have a material effect on Velocys' cash flow statements, so no reconciliation of cash flows has been included.

(b) *Balance sheet as at 30 September 2007*

	US GAAP *$000s*	*Reclassifi-cations* *$000s* *Note (a)*	*IFRS 2 Share based payments* *$000s* *Note (b)*	*IAS 38 Intangible assets* *$000s* *Note (c)*	*IFRS* *$000s*
Assets					
Non-current assets					
Property, plant & equipment	1,110	(45)	–	–	1,065
Intangible assets	–	45	–	276	321
Trade and other receivables	27	–	–	–	27
	1,137	–	–	276	1,413
Current assets					
Trade and other receivables	1,234	–	–	–	1,234
Assets classified as held for sale	73	–	–	–	73
Cash and cash equivalents	3,278	–	–	–	3,278
	4,585	–	–	–	4,585
Total assets	5,722	–	–	276	5,998
Liabilities					
Current liabilities					
Trade and other payables	3,235	–	–	–	3,235
Borrowings	5	–	–	–	5
	3,240	–	–	–	3,240
Non-current liabilities					
Trade and other payables	1,048	–	–	–	1,048
Borrowings	6,326	–	–	–	6,326
	7,374	–	–	–	7,374
Total liabilities	10,614	–	–	–	10,614
Net liabilities	(4,892)	–	–	276	(4,616)
Equity					
Called up share capital	245	–	–	–	245
Share premium account	9,468	(308)	–	–	9,160
Retained earnings (deficit)	(14,605)	308	–	276	(14,021)
Total equity (deficit)	(4,892)	–	–	276	(4,616)

(c) *Balance sheet as at 1 October 2004*

	US GAAP $000s	*Reclassifications $000s Note (a)*	*IFRS 2 Share based payments $000s Note (b)*	*IAS 38 Intangible assets $000s Note (c)*	*IFRS $000s*
Assets					
Non-current assets					
Intangible assets	–	90	–	–	90
Property, plant & equipment	2,383	(90)	–	–	2,293
Other assets	215	–	–	–	215
	2,598	–	–	–	2,598
Current assets					
Prepaid expenses	70	–	–	–	70
Trade and other receivables	393	–	–	–	393
Cash and cash equivalents	2,828	–	–	–	2,828
	3,291	–	–	–	3,291
Total assets	5,889	–	–	–	5,889
Liabilities					
Current liabilities					
Trade and other payables	2,180	–	–	–	2,180
Borrowings	5,089	–	–	–	5,089
	7,269	–	–	–	7,269
Non-current liabilities					
Trade and other payables	127	–	–	–	127
Borrowing	–	–	–	–	–
	127	–	–	–	127
Total liabilities	7,396	–	–	–	7,396
Net liabilities	(1,507)	–	–	–	(1,507)
Equity					
Called up share capital	245	–	–	–	245
Share premium account	9,159	–	–	–	9,159
Retained earnings (deficit)	(10,911)	–	–	–	(10,911)
Total equity (deficit)	(1,507)	–	–	–	(1,507)

(d) *Income statement for the year ended 30 September 2007*

	US GAAP $000s	*Share based payments $000s Note (b)*	*IAS 38 Intangible assets $000s Note (c)*	*IFRS $000s*
Revenue	15,790	–	–	15,790
Cost of sales	(9,653)	–	–	(9,653)
Gross profit	6,137	–	–	6,137
Unfunded research & development costs	(1,826)	–	74	(1,752)
Share based payments (IFRS 2)	(307)	(45)	–	(352)
Other administrative expenses	(4,747)	–	–	(4,747)
Operating loss	(743)	(45)	74	(714)
Finance income	82	–	–	82
Finance cost	(516)	–	–	(516)
Loss before income tax	(1,177)	(45)	74	(1,148)
Income tax expense	–	–	–	–
Net loss	(1,177)	(45)	74	(1,148)

(a) *Reclassifications* – certain reclassifications were made to US GAAP balances in order to present financial information in accordance with IFRS. Specifically, software was reclassified from property, plant and equipment to intangible assets. Share based payment charges previously credited to additional paid in capital under US GAAP have been reclassified to retained earnings under IFRS.

(b) *IFRS 2 Share based payment* – on 1 October 2006, the Company adopted FAS 123R, Share-Based Payments, for US GAAP. In that fiscal year, compensation expense was recorded on a straight line basis for options granted after 1 September 2006 and on an accelerated method for options granted before that day. Prior to 1 October 2006, the Company had not recorded any expense related to share based compensation but rather disclosed the amount in the notes to the financial statements, as permitted by US GAAP.

To conform with IFRS, the Company applied IFRS 2 from fiscal years 2002 onward. Compensation expense was recorded as the options are earned by the option holders. The adjustments shown above are required for applying the charge in all periods under IFRS, and also reflect differences in how the expenses are commuted under US GAAP and IFRS.

(c) *IAS 38 Intangible asset* – under US GAAP, all research and development costs are expensed when incurred. For the transition to IFRS, the Company applied IAS 38 to the development costs incurred for all of its programs. This led to the capitalisation of certain costs. The Company has not begun to amortise the asset pursuant to its accounting policy described in note 2.2 (e) (i) above.

PART VIII

UNAUDITED PRO-FORMA STATEMENT OF NET ASSETS OF THE ENLARGED GROUP

The unaudited *pro forma* statement of net assets set out below has been prepared to illustrate the effect on the consolidated net assets of the Enlarged Group as if the Acquisition and Placing had taken place on 30 June 2008. The unaudited *pro forma* statement of net assets has been compiled on the basis set out in the notes below.

This unaudited *pro forma* financial information has been prepared for illustrative purposes only and, because of its nature, addresses a hypothetical situation, and therefore, does not represent the Enlarged Group's actual financial position.

			Adjustments		
	Oxford Catalysts Group as at 30 June 2008	*Velocys as at 30 June 2008*	*Proceeds of the Placing and associated costs*	*Acquisition adjustments*	*Pro forma Enlarged Group as at 30 June 2008*
	£'000s	*£'000s*	*£'000s*	*£'000s*	*£'000s*
	Note 1	*Note 2*	*Note 3*	*Note 4, 5*	
Assets					
Non-current assets					
Intangible assets	253	217	–	26,581	27,051
Property, plant and equipment	1,913	506	–	–	2,419
Trade and other receivables	–	13	–	–	13
	2,166	736	–	26,581	29,483
Current assets					
Trade and other receivables	732	559	–	–	1,291
Short term investments – cash held on deposit	6,650	–	–	–	6,650
Cash and cash equivalents	6,403	1,253	9,815	(4,653)	12,818
	13,785	1,812	9,815	(4,653)	20,759
Total assets	15,951	2,548	9,815	21,928	50,242
Liabilities					
Current liabilities					
Trade and other payables	546	1,480	–	–	2,026
Borrowings	–	3	–	–	3
	546	1,483	–	–	2,029
Non-current liabilities					
Trade and other payables	–	1,320	–	–	1,320
Borrowings	–	3,330	–	(3,330)	–
Provisions for liabilities and charges	128	–	–	–	128
	128	4,650	–	(3,330)	1,448
Total liabilities	674	6,133	–	(3,330)	3,477
Net assets/(liabilities)	15,277	(3,585)	9,815	25,258	46,765

Notes:

(1) The IFRS net asset financial information for Oxford Catalysts Group as at 30 June 2008 has been extracted, without material adjustment, from the unaudited interim financial information incorporated by reference as set out in Section A of Part VI of this document.

(2) The IFRS net asset financial information of Velocys as at 30 June 2008 has been extracted, without material adjustment, from the unaudited interim financial information for the 9 month period ended 30 June 2008 presented in Section A of Part VII of this document and converted into pounds sterling at an exchange rate of $1.9906: £1, being the rate of exchange as at the close of business on 30 June 2008.

(3) The proceeds of the Placing and associated costs reflects the following;

- receipt of £10,314,860 from the placing of 8,251,888 Ordinary Shares as part of the Placing, less;
- estimated Placing and other transaction costs of £500,000 of which nil was already incurred by 30 June 2008.

(4) The intangible assets arising on the Acquisition are calculated as follows:

	$'000s	*£'000s*
Initial consideration		
In the form of cash	5,000	3,053
In the form of shares	30,040	18,343
Total consideration (note (i))	35,040	21,396
Associated costs (note (ii))		1,600
Cost of the Acquisition		22,996
Net liabilities acquired		3,585
Intangible assets		26,581

(i) This represents the aggregate consideration less the repayment of existing Velocys debt which does not form part of the intangible asset calculation. See note (5) below. The consideration has been converted into pounds sterling at an exchange rate of $1.6377: £1 being the rate of exchange as at the close of business on 30 October 2008.

(ii) Of the total associated costs of the Acquisition of £2,100,000, £1,600,000 has been capitalised as part of the cost of the Acquisition, with the balance being written off through reserves (£500,000).

(5) The change in cash and cash equivalents is as follows (converted at $1.6377: £1) being the rate of exchange as at the close of business on 30 October 2008.

	$'000s	*£'000s*
Partial repayment of existing Velocys debt	2,892	1,766
Other cash consideration	2,108	1,287
Total cash consideration	5,000	3,053

The partial repayment of existing Velocys debt reflects an element of the amount owed as at 30 June 2008. The remaining element of the debt, together with the interest accruing in the period from 30 June 2008, was converted into 4,041,725 shares as part of the Acquisition agreement and is included in the initial share consideration in (4) above.

(6) No adjustments have been made for trading results or transactions from 30 June 2008 for either Oxford Catalysts Group or Velocys.

(7) No adjustment has been made to reflect any fair value adjustments to the assets and liabilities of Velocys at 30 June 2008. Additionally, no adjustment has been made to allocate the total intangible assets which may arise as a result of the Acquisition into goodwill and other intangible assets.

PART IX

SUMMARY OF THE ACQUISITION AGREEMENT

1. Acquisition and consideration payable

Under the terms of the Acquisition Agreement, Battelle has agreed to sell (or procure the sale) and the Company has agreed to purchase, subject (amongst other things) to Shareholder approval and Admission, all of the issued and outstanding shares of Velocys for an aggregate consideration of $35.0 million subject to the adjustments referred to below.

The consideration payable to Battelle will be satisfied by the payment at Completion in the following manner:

(a) $5.0 million in cash; and

(b) by the allotment of the Consideration Shares.

The Velocys Option Settlement will be part of the consideration for the Acquisition as further described in paragraph 16.6 of Part X of this document.

The consideration payable to Battelle will be reduced if Velocys' debt on Completion (excluding certain trade payables) exceeds $1 by any payments made or incurred outside of the ordinary course of business including any cash costs of terminating certain Velocys employees and completion bonuses paid to Velocys employees and other costs relating to the Acquisition (excluding any retention payments made to the Company's employees post-completion).

2. Warranties, covenants and indemnities

The Acquisition Agreement contains:

(a) warranties as to title and capacity of Battelle to sell its shares in Velocys;

(b) covenants from Battelle as to the operation of Velocys between the date of the Acquisition Agreement and Completion;

(c) a tax covenant given by Battelle in favour of the Company in respect of any tax liability payable or which may become payable by the Company;

(d) commercial warranties to be given by Battelle;

(e) warranties to be given by the Company as to the (amongst other things) information disclosed in relation to the Company pursuant to the AIM Rules for Companies, as to its title and capacity and in respect of the Consideration Shares; and

(f) specific indemnities from Battelle in favour of the Company.

Battelle's liability (exclusive of interest on any judgment obtained) is limited:

(g) under the Acquisition Agreement that it has given (other than in relation to those warranties that relate to title to the Velocys shares being sold) to a maximum of $17,500,000; and

(h) under the warranties that it has given in relation to title to the Velocys shares being sold, to a maximum of the total amount of consideration payable under the Acquisition Agreement.

The Company's liability (exclusive of interest on any judgment obtained) is limited:

(i) under the Acquisition Agreement that it has given (other than in relation to title to the Consideration Shares) to a maximum of $17,500,000; and

(j) under the warranties that it has given in relation to title to the Consideration Shares to a maximum of the total amount of consideration payable under the Acquisition Agreement.

The Company and Battelle's respective liability under the warranties (other than in relation to tax) will cease on the date falling two years after Admission.

3. Conditions

The Acquisition Agreement is conditional (amongst other things) upon:

(a) certain of the Resolutions being passed at the General Meeting;

(b) Admission;

(c) the Underwriting Agreement becoming unconditional in all respects (save for any condition relating to the Acquisition Agreement), subject to Admission;

(d) no material adverse change having occurred in relation to Velocys;

(e) no insolvency event having occurred in relation to Battelle, Velocys or the Company;

(f) certain tax related agreements having been terminated;

(g) certificates of non-foreign status having been provided by Battelle; and

(h) the conversion of part of the Battelle convertible promissory note into shares in the Company.

The expected date for Completion of the Acquisition is the Admission Date.

The Acquisition Agreement may be terminated by the Company in limited circumstances such as for failure to meet the conditions of Completion. The Acquisition Agreement will also terminate in the event that Completion does not occur by 4 December 2008.

PART X

ADDITIONAL INFORMATION

1. Responsibility statement

The Directors, whose names, business addresses and functions are set out on page 6 of this document, and the Company accept individual and collective responsibility for the information contained in this document, including individual and collective responsibility for the Company's compliance with the AIM Rules for Companies. To the best of the knowledge of the Directors and the Company (who have taken all reasonable care to ensure that such is the case) the information contained in this document for which they are responsible is in accordance with the facts and does not omit anything likely to affect the import of such information.

2. Incorporation and registration

2.1 The Company was incorporated and registered in England and Wales on 16 February 2006 under CA85 as a private company limited by shares. The registered number of the Company is 5712187. On 12 April 2006, the Company was re-registered as a public company pursuant to s43 CA85. The Company operates under the Statutes. The liability of the members of the Company is limited.

2.2 The Company's name on incorporation was Pimco 2445 Limited. On its re-registration as a public company on 12 April 2006 the Company's name was changed to Oxford Catalysts Group PLC.

2.3 The registered office and principal place of business of the Company is at 115e Milton Park, Oxford, OX14 4RZ (telephone number: +44 (0)1235 841 700). The Company website is www.oxfordcatalysts.com.

3. Group and Enlarged Group organisation

3.1 At the date of this document, the Company is the holding company of the Group and has the following subsidiary undertaking which is wholly owned by the Company.

Name	*Date and place of incorporation*	*Authorised share capital*	*Issued share capital*	*Nature of business*	*Trading status*
Oxford Catalysts Limited	13 October 2004, England and Wales	£1,000 divided into 100,000 shares of £0.01 each	£382.43 divided into 38,243 shares of £0.01 each	Design and development of catalysts and the exploitation of platform catalyst technologies	Trading

3.2 Immediately following Completion, the Company's principal activity will be that of a holding company and it will be the ultimate holding company of the Enlarged Group, and will have the following subsidiary undertakings each of which will be wholly owned by the Company.

Name	*Date and place of incorporation*	*Authorised share capital*	*Issued share capital*	*Nature of business*	*Trading status*
Oxford Catalysts Limited	13 October 2004, England and Wales	£1,000 divided into 100,000 shares of £0.01 each	£382.43 divided into 38,243 shares of £0.01 each	Design and development of catalysts and the exploitation of platform catalyst technologies	Trading

Name	*Date and place of incorporation*	*Authorised share capital*	*Issued share capital*	*Nature of business*	*Trading status*
Velocys, Inc.	27 April 2000, Delaware, United States	60,000,000 shares divided into: 51,900,000 shares of voting common stock of $0.01 each; 8,100,000 shares of non-voting common stock of $0.01 each	24,510,249 shares divided into: 24,500,000 shares of voting common stock $0.01 each; 10,249 shares of non-voting common stock of $0.01 each	Development of microchannel processing systems	Trading

4. Share capital of the Company

4.1 The history of the Company's share capital since its incorporation on 16 February 2006 is as follows.

(a) The Company was incorporated with an authorised share capital of £1,000 divided into 1,000 ordinary shares of £1 each, of which one ordinary share of £1 was issued nil paid to the subscriber to the memorandum of association.

(b) Pursuant to resolutions of the members of the Company passed on 29 March 2006:

(i) each of the issued and unissued ordinary shares of £1 each in the capital of the Company was sub-divided into 100,000 Ordinary Shares; and

(ii) the authorised share capital of the Company was increased from £1,000 to £750,000 by the creation of an additional 74,900,000 new Ordinary Shares ranking *pari passu* in all respects with the existing Ordinary Shares.

Immediately following the resolution the authorised share capital of the Company was £750,000 divided into 75,000,000 Ordinary Shares.

(c) Pursuant to a share for share exchange agreement dated 12 April 2006 entered into between (1) the Company and (2) the then shareholders in OCL (for the purposes of this paragraph, the "Oxford Catalysts Shareholders"), the Company acquired the entire issued share capital of OCL in consideration for the issue and allotment to the Oxford Catalysts Shareholders of 28,720,393 Ordinary Shares. Immediately after that, the Company's issued share capital was 28,720,493 Ordinary Shares.

(d) On 26 April 2006, the entire issued ordinary share capital of the Company was admitted to trading on AIM. On 18 April 2006, pursuant to its admission to trading on AIM and a related placing of its shares, 8,620,690 Ordinary Shares of £0.01 each were allotted at a placing price of £1.74 per share. Immediately after that the Company's issued share capital was 37,341,183 Ordinary Shares.

(e) On 18 July 2007, 3,225,807 Ordinary Shares of £0.01 each were allotted at a placing price of £1.24 with various funds managed by Pioneer Investments, a trading name of Pioneer Global Asset Management S.P.A group of companies. Immediately after that the Company's issued share capital was 40,566,990 Ordinary Shares.

(f) As at 31 December 2007 (being the last date of the Company's last financial year), the Company's issued share capital was 40,566,990 Ordinary Shares.

(g) An annual general meeting of the Company was held on 14 May 2008 at which the Company resolved (amongst other things) to:

(i) authorise generally and unconditionally the Directors for the purposes of s80 CA85 to exercise all powers of the Company to allot relevant securities (as defined in s80 CA85) up to an aggregate nominal amount of £135,223.36, such authority to expire unless sooner revoked or altered by the Company in a general meeting, on 31 July 2009 or at

the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier) and provided further that the Company may before the expiry of this authority make an offer or agreement which would or might require relevant securities to be allotted after the expiry of the authority and the Directors may allot relevant securities in pursuance of any such offer or agreement as if the authority conferred by the resolution had not expired;

(ii) empower the Directors pursuant to s95 CA85 to allot equity securities (within the meaning of s94 CA85) wholly for cash as if s89(1) CA85 did not apply to any such allotment, provided that this power shall be limited to the allotment of equity securities:

(A) in connection with a rights issue and so that a "rights issue" means for these purposes an offer for equity securities by way of rights to holders of Ordinary Shares in the Company in proportion (as nearly as may be practicable) to their respective holdings of such shares, but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to fractional entitlements or any legal or practical problems under the laws of any territory, or the requirements of any regulatory body or stock exchange; and

(B) otherwise than pursuant to paragraph 4.1(g)(ii)(A) above up to an aggregate nominal amount of £40,566.00 and shall expire on 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier), and provided further that the Company may before the expiry of this authority make an offer or agreement which would or might require relevant securities to be allotted after the expiry of this authority and the Directors may allot relevant securities in pursuance of any such offer or agreement as if the authority conferred had not expired.

The powers granted to the Directors in 4.1(g)(ii) applies in relation to a sale of shares which is an allotment of equity securities by virtue of s94(3A) of CA85; and

(iii) authorise the Company generally and unconditionally, for the purposes of s166 of CA85 to make one or more market purchases (within the meaning of s163(3) CA85) on AIM of its Ordinary Shares provided that:

(A) the maximum aggregate number of Ordinary Shares authorised to be purchased is 4,056,699 (representing 10 per cent. of the Company's issued Ordinary Share capital at the date of posting the resolution);

(B) the minimum price which may be paid for such shares is £0.01 per share;

(C) the maximum price which may be paid for an Ordinary Share shall not be more, at the time of purchase, than the amount equal to 105 per cent. of the average of the middle market quotations for an Ordinary Share as derived from the London Stock Exchange for five Business Days immediately preceding the date on which the Ordinary Share is purchased;

(D) unless previously renewed, varied or revoked, the authority conferred shall expire at the conclusion of the next annual general meeting of the Company in 2009; and

(E) the Company may make a contract or contracts to purchase Ordinary Shares under the authority conferred prior to the expiry of such authority which will or may be executed wholly or partly after the expiry of such authority and may make a purchase of Ordinary Shares in pursuance of any such contract or contracts, as if such authority had not expired.

(h) A general meeting of the Company will be held on 19 November 2008 at which the Company shall ask the Shareholders to consider, and if thought fit, pass (amongst other things) the following resolutions to:

(i) increase the Company's authorised share capital from £750,000 to £1,000,000 by the creation of a further 25,000,000 Ordinary Shares in the share capital of the Company to rank *pari passu* in all respects with the Existing Ordinary Shares;

(ii) subject to the passing of matters described in paragraphs 4.1(h)(i) authorise the Directors for the purposes of s80 CA85 to exercise all powers of the Company to allot relevant securities (as defined in s80 CA85) provided that this power shall be limited to the allotment of equity securities up to the maximum nominal amount of £389,203.85 to such persons and upon such conditions as the Directors may determine provided that this authority shall expire, unless sooner revoked or altered by the Company in a general meeting, on 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier) save that the Company may before such expiry make an offer or agreement which would or might require relevant securities to be allotted after such expiry and the Directors may allot relevant securities in pursuance of such an offer or agreement as if the authority conferred under this resolution had not expired.

This authority shall be in substitution for any previous authorities granted in this regard by the Company.

(iii) subject to the passing of matters described in paragraphs 4.1(h)(i) to empower the directors pursuant to s95 CA85 to allot equity securities (within the meaning of s94 CA85) pursuant to the authority described in paragraph 4.1(h)(ii) as if s89(1) CA85 did not apply to any such allotment provided that this power shall be limited to the allotment of equity securities:

(A) up to the maximum nominal amount of £82,518.88 to persons applying for shares in the Placing;

(B) up to the maximum nominal amount of £104,422.07 to such persons as may be entitled to receive Ordinary Shares under the terms of the Acquisition Agreement;

(C) up to the maximum nominal amount of £12,444.80 in order to satisfy the Velocys Rollover Options;

(D) up to the maximum nominal amount of £16,000 in order to satisfy the Put and Call Option;

(E) up to the maximum nominal amount of £3,881.96 in order to satisfy the Settlement Shares;

(F) in connection with a rights issue and so that a "rights issue" means an offer of equity securities open for acceptance for a period fixed by the Directors of the Company to holders of equity securities on the register of the Company on a fixed record date in proportion to their respective holdings of such securities or in accordance with the rights attached thereto but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to fractional entitlements or legal or practical problem under the laws of, or the requirements of any recognised regulatory body or any stock exchange in, any territory; and

(G) otherwise than pursuant to paragraph 4.1(h)(iii)(A) to (D) up to an aggregate nominal amount of £59,649.28,

such that this power shall supersede all previous powers given to the Directors under s95 of CA85 and provided that this authority shall expire, unless sooner revoked or altered by the Company in a general meeting, on 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier) save that the Company may before such expiry make an offer or agreement which would or might require equity securities to be allotted after such expiry and the Directors may allot equity securities in pursuance of such offer or agreement as if the power conferred hereby had not expired.

4.2 The authorised share capital of the Company at the date of this document is £750,000 divided into 75,000,000 Ordinary Shares. Of these 40,566,990 Ordinary Shares are issued and fully paid.

4.3 Immediately following Admission, the Enlarged Share Capital is expected to be £596,493 divided into 59,649,281 Ordinary Shares issued and fully paid.

4.4 All the Ordinary Shares rank *pari passu* and no Shareholder enjoys different or enhanced voting rights from any other Shareholder.

4.5 No shares in the capital of the Company are held by or on behalf of the Company or any other member of the Group.

4.6 As at 31 October 2008 (the latest practicable date before the publication of this document), options to subscribe for shares granted under the Share Option Plan were outstanding over a total of 2,541,189 Ordinary Shares (representing 6.3 per cent. of the Existing Ordinary Shares). Of these, 2,106,555 have an exercise price of £0.0489, 282,258 have an exercise price of £1.24, 10,239 have an exercise price of £1.465, 10,169 have an exercise price of £1.475, 20,000 have an exercise price of £1.50, 62,893 have an exercise price of £1.59, 9,119 have an exercise price of £1.645, 11,869 have an exercise price of £1.685 and 11,662 have an exercise price of £1.715.

5. Summary of memorandum of association and Articles

5.1 Copies of the memorandum of association and Articles are available on written request to the Company Secretary of the Company.

5.2 ***Memorandum of association***

Paragraph 4 of the memorandum of association of the Company provides that the Company's principal objects include, among other things, to carry on business as a general commercial company. The objects of the Company are set out in full in clause 4 of the Memorandum of Association.

5.3 ***Articles***

The following is a summary of certain provisions of the Articles that were adopted at an annual general meeting of the Company on 14 May 2008. This summary does not purport to be complete and is qualified in its entirety by the full terms of the Articles.

(a) *Voting rights*

At any general meeting a resolution put to the vote of the meeting shall be decided on a show of hands unless a poll is duly demanded in accordance with the Articles. Save as otherwise provided in the Articles, and subject to any special terms as to voting upon which any shares may be issued or may for the time being be held, every member who is present in person or by proxy and entitled to vote shall have one vote and, on a poll, every member who is present in person or by proxy shall have one vote for every share held by him.

No member shall, unless the board of the Company otherwise determines, be entitled to vote at any general meeting or other shareholder meeting either in person or by proxy unless all calls or other sums payable by him in respect of shares in the Company have been paid.

(b) *Dividends and other payments*

Subject to CA06, the Company may, in general meeting, declare dividends, but no dividend shall exceed the amount recommended by the board of the Company. Except in so far as the rights attaching to, or the terms of, any share otherwise provides, all dividends shall be declared and paid according to the nominal amounts (excluding any premium) paid up on the shares, (but no amount paid up on a share in advance of calls shall be treated for this purpose as paid up on such share), and all dividends shall be apportioned and paid *pro rata* to the amounts paid up on the shares during any portion of the period in respect of which the dividend is paid.

Subject to the provisions of CA06, the board of the Company may pay such interim dividends as appear to be justified by the profits of the Company.

The board of the Company may deduct from any dividend or other moneys payable to a member of the Company, all sums of money payable by him to the Company on account of calls or otherwise in respect of the shares of the Company.

Any dividend unclaimed for a period of twelve years after it became due for payment shall be forfeited and shall revert to the Company.

The Company can, in a general meeting (upon the recommendation of the board of the Company), direct payment or satisfaction of a dividend declared wholly or partly by the distribution of specific assets, and in particular of paid up shares or debentures of any other company.

(c) *Redeemable shares*

Subject to the CA06, any shares may, with the sanction of a special resolution, be issued on terms that they are, or at the option of the Company and/or the holder, are liable, to be redeemed on the terms and in the manner provided for by the special resolution passed before the issue of such shares.

(d) *Distribution of assets on winding up*

On a return of assets on a winding up or otherwise, the surplus assets of the Company remaining after payment of its liabilities shall be distributed amongst the holders of Ordinary Shares in proportion to the number of shares held by them respectively after deducting in respect of any share not fully paid up, the amount remaining unpaid.

If the Company shall be wound up the liquidator may (with sanction of an extraordinary resolution of the Company), divide amongst the members *in specie* or kind the whole or any part of the assets of the Company.

(e) *Variation of rights*

Subject to the CA85 and CA06 and the terms of their issue, all or any of the rights and restrictions attaching to any class of shares may be altered, added to or abrogated with the consent in writing of the holders of three-fourths in nominal value of the issued shares of that class or with the sanction of a special resolution passed at a separate general meeting of the holders of such shares. The conditions imposed by the Articles, in relation to variation of rights are no more significant than is required by law.

The rights conferred upon the holders of any shares shall be deemed to be varied or abrogated by the reduction of the capital paid up on such shares or by the allotment of further shares ranking in priority for payment of a dividend or repayment of capital but shall not, except as otherwise provided in the Articles or the terms of the issue of such shares, be deemed altered by either (i) the creation or issue of further shares ranking *pari passu*, or (ii) a purchase by the Company of its own shares.

(f) *Transfer of shares*

(i) The shares are in registered form but, notwithstanding any other provision of the Articles, a member is entitled to transfer his shares and other securities by means of a relevant system as referred to in the CREST Regulations including the relevant system of which Euroclear UK and Ireland is the operator. Any provision of the Articles which is inconsistent with the holding of shares in a uncertified form, the transfer of shares by means of such a relevant system or the CREST Regulations shall, to that extent, not apply.

(ii) Any member may, subject to the Articles, transfer all or any of his shares by an instrument of transfer in the usual common form or in any other manner (whether or not by written instrument) which the board may approve. Any written instrument of transfer of a share shall be signed by or on behalf of the transferor (and, in the case of a share which is not fully paid, by or on behalf of the transferee) and the transferor shall be deemed to remain the holder of the shares until the name of the transferee is entered in the register in respect thereof. All instruments of transfer may be retained by the Company.

(iii) The board of the Company may refuse to register the transfer of a share:

(A) which is not fully paid, provided that any such refusal will not prevent dealings in the shares from taking place on an open and proper basis;

(B) the transfer is in favour of a person known to be a minor, bankrupt or person who is mentally disordered or a patient for the purposes of any statute relating to mental health;

(C) unless any written instrument of transfer, duly stamped, is lodged with the Company, accompanied by the relevant certificate for the shares to which it relates;

(D) unless such other evidence as the board of the Company may reasonably require to show the right of the transferor to make the transfer is provided;

(E) unless any instrument of transfer is in respect of only one class of share; and

(F) unless, in the case of transfer to joint holders, the number of joint holders does not exceed four.

(iv) The register of members may be closed by the board of the Company for any period (not exceeding 30 days in any year) upon notice being given by advertisement in a leading national daily newspaper and in such other newspaper as may be required by the CA85.

(g) *Pre-emption*

Subject to the provisions of CA85 and the Articles, all unissued shares are at the disposal of the directors. The statutory pre-emption rights in relation to the allotment of equity securities (within the meaning of s94 CA85) have been disapplied by the Company's shareholders to the extent set out in paragraph 4 of this Part X of this document.

(h) *Alteration of share capital*

Subject to the rights attaching to any class of shares that may be in issue:

(i) the Company may by ordinary resolution consolidate and divide all or any of its share capital into shares of larger amount, sub-divide all or any of its shares into shares of smaller amount (so that the resolution whereby any share is sub-divided may determine that as between the holders of the shares resulting from the sub-division one or more shares may have such rights or restrictions as compared with the other or others as the Company has power to attach to unissued or new shares) and cancel any shares not at the date of the resolution taken or agreed to be taken by any person;

(ii) subject to any consent required by law and any conditions imposed by CA85 and or CA06, the Company may by special resolution reduce its share capital, any capital redemption reserve and any share premium account;

(iii) subject to the provisions of CA85 or CA06 (as the case may be), the Company may purchase all or any of its shares of any class, including any redeemable shares.

(i) *Directors*

(i) Unless and until the Company in general meeting shall otherwise determine, the number of directors shall not be less than two and shall not be more than twelve.

(ii) No shareholding qualification for a director shall be required but he shall be entitled to receive notice of, attend and speak at all general meetings of the Company and to any class of members of the Company.

(iii) The Company in a general meeting and the board of the Company can appoint any person to be a director. Any director appointed by the board of the Company shall hold office, only until the next general meeting when he shall be eligible for re-election.

(iv) The Company may by special resolution (or ordinary resolution of which special notice has been given), remove any director before the expiration of his period of office and may by ordinary resolution appoint another person in his place.

(j) *Restrictions on voting by directors*

Save as otherwise provided by the Articles, a director shall not vote on (nor be counted in the quorum) on any resolution of the board of the Company in respect of any contract or arrangement in which he (or anyone connected with him) is, to his knowledge, materially interested, and if he shall his vote shall not be counted, but (in the absence of some material interest other than as indicated below) this prohibition shall not apply to the following matters, namely:

(i) the giving of any guarantee, security or indemnity in respect of money lent or obligations incurred by him or any other person at the request of or for the benefit of the Company or its subsidiary;

(ii) the giving of any guarantee, security or indemnity to a third party in respect of a debt or obligation of the Company or any of its subsidiaries for which he himself has assumed responsibility in whole or in part under a guarantee or indemnity or by the giving of security;

(iii) any proposal concerning his participation in any offer of shares in or debentures or other securities of the Company or its subsidiary's issued or to be issued pursuant to any offer or invitation to holders of securities or concerning his participation for subscription or purchase in which offer he is or is to be interested as a participant for subscription or purchase in which offer he is or is to be interested as a participant in the underwriting or sub-underwriting thereof;

(iv) any contract or arrangement in which he is interested by virtue of his interest in shares or debentures or other securities of the Company or by reason of any other interest in or through the Company;

(v) any proposal concerning retirement, death or disability benefits scheme or a share option plan, share incentive scheme or profit-sharing scheme which either relates to both employees and directors of the Company and/or directors of a subsidiary and does not provide any director as such any privilege or advantage not accorded to the employees to whom such scheme or fund relates or has been approved by or is conditional on approval by HM Revenue & Customs for tax purposes; and

(vi) any proposal concerning an insurance which the Company is empowered to purchase and/or maintain for the benefit of and against any liability incurred by any directors or persons who include the directors.

(k) *Remuneration of directors*

(i) Each of the directors shall be paid a fee at such rate as may from time to time be determined by the board of the Company (or for the avoidance of doubt any duly authorised committee of the board of the Company) provided that the aggregate of all such fees so paid to directors (excluding amounts payable under any other Articles) shall not exceed £250,000 per annum, or such higher amount as may from time to time be determined by ordinary resolution of the Company except that any director holding office for less than the whole of the relevant period in respect of which the remuneration is paid shall only be entitled to a sum in proportion to the time during such period for which he has held office.

(ii) Each director may be paid all reasonable travelling, hotel and other expenses properly and reasonably incurred by him in attending and returning from meetings of the directors or any committee of the directors or meetings of shareholders or debenture holders of the Company or otherwise in connection with the business of the Company or the discharge of his duties as a director. Any director who, by request, goes to reside abroad for any purposes of the Company or who performs services which in the opinion of the directors go beyond the ordinary duties of a director shall be entitled to be paid such extra remuneration (whether by way of salary, commission, participation in profit or otherwise) and such extra remuneration shall be in addition to any remuneration provided for by or pursuant to any other Article.

(l) *Appointments to office*

Subject to the CA06, the directors may from time to time appoint one or more of their body to hold any other employment or executive office and upon such terms as they may determine and may revoke or terminate any of such appointments. Any such revocation or termination shall be without prejudice to any claim for damages such director may have against the Company or the Company has against the director for breach of any service contract between him and the Company.

(m) *General meetings and annual general meetings*

(i) The Company shall in each year hold a general meeting as its annual general meeting in accordance with the requirements of CA06 at such time and place as the board of the Company may determine.

(ii) The board of the Company may convene a general meeting whenever it thinks fit. A general meeting shall also be convened on such requisition, or in default may be convened by such requisitionists. At any meeting convened on such requisition or by such requisitionists no business shall be transacted except as stated by the requisition or proposed by the Board.

(iii) Subject to the provisions of CA85 and CA06, an annual general meeting shall be called by not less than twenty-one clear days' notice in writing and a meeting (other than an annual general) shall be called by not less than fourteen days' clear notice in writing.

(iv) Shorter notice than that specified above may be deemed to have been given in the case of an annual general meeting by all the members entitled to attend and vote at the meeting; and in the case of any other meeting, by a majority number of the members having a right to attend and vote at the meeting, being a majority together holding not less than 95 per cent. in nominal value of the shares giving that right.

(v) The directors may make arrangements for controlling levels of attendance at each place at which a general meeting is held (whether involving tickets or the imposition of some other means of random selection).

(n) *Proxies*

A member of the Company or his attorney may appoint a proxy in writing. In the case of a member who is a corporation, such member may appoint a proxy in writing either under seal, by an officer or by an authorised person. The directors may accept proxies by electronic or other data transmission on such conditions as they think fit. Proxies need not be witnessed.

The instrument appointing a proxy must be deposited either a minimum of 48 hours (excluding non-working days) prior to the meeting at which the proxy will vote, or, in the case where a poll has been demanded and where the poll is to be taken within 48 hours (excluding non-working days) of the demand, a minimum of 24 hours before the time appointed for the taking of the poll, or, in the case where a poll has been demanded and where the poll is to be taken within 48 hours (excluding non-working days) of the demand, at the meeting where the poll was demanded.

The instrument appointing the proxy must either be deposited at the address specified in the notice of the meeting, or at the registered office of the Company, or at an address specified by the Company for that purpose or generally, or, in the case of a poll vote to be taken at the meeting at which it was demanded, to the chairman, secretary or any director at that meeting. Where the board so requires, the original or a notarised certified copy of any authority under which the instrument was signed must also be deposited.

An instrument appointing a proxy which has been revoked will still be valid unless the Company receives notice of such revocation a minimum of three hours before the meeting or adjourned meeting, or, in the case of a poll not taken at the meeting in which it was demanded, a minimum of three hours before the taking of the poll.

(o) *Quorum*

A quorum for a general meeting of the Company shall be two members, either in person or by proxy, who are entitled to vote.

Where a general meeting has been called by the members of the Company, the meeting shall be dissolved if a quorum is not present within 15 minutes of the appointed time of the meeting (or within a period of up to one hour where the chairman so determines), or if a quorum ceases to be present. In any other case, if a quorum is not present within 15 minutes of the appointed time of the meeting (or within a period of up to one hour where the chairman so determines) or if a quorum ceases to be present, the meeting may be adjourned to a date appointed by the chairman, and a notice stating the time and place of the adjourned meeting and the requirements for a quorum must be delivered to the members a minimum of seven clear days in advance of the meeting. Where a quorum is not present within 15 minutes of the appointed time of the adjourned meeting (or within a period of up to one hour where the chairman so determines), or if a quorum ceases to be present, the meeting shall be dissolved.

No member shall, unless the board of the Company otherwise determines, be entitled to count in the quorum of any general or other shareholder meeting unless all calls or other sums payable by him in respect of shares have been paid.

(p) *Chairman*

The Chairman of the board of the Company (if any) or, in his absence, the deputy Chairman (if any) shall preside as chairman at every general meeting. If there is no such chairman or deputy chairman, or if at any meeting neither the chairman nor the deputy chairman is present within 15 minutes of the appointed time of the meeting, or if neither of them is willing to act, the directors present at the meeting may elect one of them to act as chairman, or if there is only

one director present, he shall act. If no director is present or willing to act, the persons entitled to vote on a poll may elect one of their number.

(q) *Method of voting*

Voting at general meetings shall be by a show of hands unless a poll is demanded. A poll may be demanded by:

- the Chairman; or
- a minimum of three members present either in person or by proxy who are entitled to vote on the resolution; or
- a member or members in person or by proxy who between them represent a minimum of one tenth of the voting rights of those entitled to attend and vote on the resolution; or
- a member or members in person or by proxy holding shares conferring a right to attend and vote on the resolution on which an aggregate of one tenth of the total sum paid up on the shares conferring that right has been paid up.

Where a poll is demanded regarding the election of the chairman or an adjournment of the meeting, a poll must be taken immediately. In any other event, the poll may be taken immediately or at any time within 30 days of demand. Where the poll is taken immediately, or if the time and place for the taking of the poll is given at the meeting where such poll is demanded, no notice of the poll is required. In any other event, a notice specifying the time and place for the taking of the poll must be delivered to the members a minimum of seven clear days in advance.

A vote on a show of hands shall be calculated as one vote per member entitled to vote, or their proxy. A poll vote shall be calculated as one vote per share.

In the event of an equality of votes on either a show of hands or on a poll, the Chairman has the second or casting vote.

(r) *Borrowing powers*

The board of the Company may exercise all the powers of the Company to borrow money and shall restrict the borrowings of the Company, and exercise all other rights and powers of control which the Company has in relation to its subsidiaries, so as to secure (but, in relation to the subsidiaries, only insofar as the rights and powers of the Company enable the board of the Company to do so) that the aggregate outstanding principal amount of all borrowings of the Company and its subsidiaries from time to time does not, without the sanction of an ordinary resolution, exceed an amount equal to four times the share capital and reserves without the previous sanction of any ordinary resolution of the Company in general meeting.

(s) *Pensions, gratuities etc.*

The directors may, subject to the provisions of CA85 and CA06, exercise all the powers of the Company to grant pensions, annuities or other allowances and benefits in favour of any person including any director or former director or the relations, connections or dependants of any director or former director, provided that no pension, annuity or other allowance or benefit (except such as may be provided for by the Articles) shall be granted to a director or former director who has not been an executive director or held any office or place of profit under the Company or any of its subsidiaries or to a person who has no claim on the Company except as a relation, connection or dependant of such a director or former director without the approval of an ordinary resolution of the Company.

(t) *Untraced Shareholders*

(i) When the registered address of a member appears to be incorrect or out of date such member may, if the board of the Company so resolves, be treated as if he had no registered address and thereafter the Company is not obliged to send cheques, warrants, notices or accounts to the member. No such resolution shall be proposed unless cheques or warrants sent to the registered address of such member have been returned by the Post Office or left uncashed on at least two consecutive occasions or, following one such occasion, reasonable enquiries have failed to establish any new address of such member.

(ii) If for a period of twelve years at least three dividends have become payable and not been cashed and no communication has been received from the member (or any person entitled to the member's shares by transmission), the Company may sell such shares at the best obtainable price if, after giving notice in a leading newspaper and a newspaper circulating in the region of the member's registered address, it has not had any communication from the member (or anyone entitled to his shares by transmission) within three months.

(u) *Indemnity of directors*

Every director or secretary of the Company shall be indemnified out of the assets of the Company against all costs, charges, losses, expenses and liabilities which he may sustain or incur in the execution or purported execution of discharge of his duties or in the exercise or purported exercise of his powers or otherwise in relation to or in connection with his duties, powers or office (except in relation to any negligence, default, breach of duty or breach of trust in relation to the Company except as permitted by the Statutes).

(v) *Non-United Kingdom Shareholders*

There are no limitations in the Articles on the rights of non-United Kingdom Shareholders to hold, or to exercise voting rights attached to the Ordinary Shares.

(w) *CREST*

CREST is a paperless system enabling securities to be evidenced otherwise than by a certificate and transferred otherwise than by a written instrument. The Articles are consistent with CREST membership and, amongst other things, allow for the holding and transfer of shares in uncertificated form.

6. Other relevant laws and regulations

6.1 A shareholder in a public company incorporated in the UK whose shares are admitted to trading on AIM is required pursuant to Rule 5 of the Disclosure and Transparency Rules to notify the relevant company of the percentage of his voting rights if the percentage of voting rights which he holds as a shareholder or through his direct or indirect holding of financial instruments (or a combination of such holdings) reaches, exceeds or falls below 3 per cent., 4 per cent., 5 per cent., and each 1 per cent. threshold thereafter up to 100 per cent. as a result of an acquisition or disposal of shares.

6.2 Pursuant to ss979 to 991 CA06, where a takeover offer has been made for a company and the offeror has acquired or unconditionally contracted to acquire not less than 90 per cent. of the voting rights carried by those shares, the offeror may give notice, to the holder of any shares to which the offer relates which the offeror has not acquired or unconditionally contracted to acquire that he wishes to acquire and is entitled to so acquire, to acquire those shares on the same terms as the general offer.

6.3 Pursuant to Part 22 CA06 and the Articles, the Company is empowered by notice in writing to require any person whom the Company knows to be, or has reasonable cause to believe to be interested in the Company's shares or, at any time during the three years immediately preceding the date on which the notice is issued has been so interested, within a reasonable time to disclose to the Company particulars of any interest, rights, agreements or arrangements affecting any of the shares held by that person or in which such other person as aforesaid is interested (so far as is within his knowledge).

7. Directors of the Company

7.1 Details of the Directors, their business addresses and their functions in the Company are set out on page 6 of this document under the heading "Directors, Secretary and Advisers". Each of the Directors can be contacted at the registered office and principal place of business of the Company at 115e Milton Park, Oxford, OX14 4RZ.

7.2 In addition to being Directors of the Company, the Directors hold or have held the directorships of the companies and/or are or were partners of the partnership specified opposite their respective names below within the five years prior to the date of this document.

Directors' name	*Current directorships and partnerships*	*Previous directorships and partnerships (within the past five years)*
Pierre Jungels	Baker Hughes Inc Imperial Tobacco Group PLC Rockhopper Exploration PLC Woodside Petroleum Limited	Bristow Group Inc. Enterprise Oil (Bawean) Limited (dissolved 10/11/2004) Institute of Petroleum (dissolved 8/2/05) Offshore Hydrocarbon Mapping PLC Oxford Catalysts Limited
Roy Lipski	Oxford Catalysts Limited	Infonic Limited Phonologica Limited
Susan Robertson		Japan Air Gases Limited
Jeremy Scudamore	ARM Holdings plc Boardlink Group Limited Oxford Advanced Surfaces Group plc Plant Health Care PLC Skyepharma PLC	Avecia Biotech Properties Limited Avecia Corporation Limited Avecia Finance PLC Avecia Group PLC Avecia Holdings PLC Avecia Investments Limited Avecia Limited Avecia UK Holdings Limited Avecia 10 Limited AV No. 2 Limited AV No. 3 Limited (dissolved 19/04/04) Chemical Industries Association Limited Fujifilm Imaging Colorants Limited Illiad 3 Limited (dissolved 29/03/04) Kemfine UK Limited MCI Toner Resins Limited NPIL Pharmaceuticals (UK) Limited Stem Cell Sciences PLC Oxford Advanced Surfaces Limited
Jan Verloop	Causa Innovatie Commonwealth Partnership for Technology Management Limited	Oxford Catalysts Limited

7.3 Jeremy Scudamore was appointed as a director of AV No. 3 Limited on 23 June 1999. A resolution was passed on 12 February 2002 to voluntarily wind that company up. The company was then dissolved on 19 April 2004. Jeremy Scudamore was a director of AV No.3 Limited at the time of the liquidation and dissolution.

7.4 Save as disclosed, as at the date of this document, none of the Directors have:

(a) any unspent convictions in relation to indictable offences;

(b) been declared bankrupt or been subject to any individual voluntary arrangement;

(c) been a director of any company which has been placed in receivership, compulsory liquidation, creditors' voluntary liquidation, administration, company voluntary arrangement or any composition or arrangement with its creditors generally or any class of its creditors whilst he was a director of that company or within 12 months after he ceased to be a director of that company;

(d) been a partner in any partnership which has been placed in compulsory liquidation, administration or partnership voluntary arrangement whilst he was a partner of that partnership or within 12 months after he ceased to be a partner in that partnership;

(e) been the owner of any asset or been a partner in any partnership which had an asset placed in receivership whilst he was a partner of that partnership or within the 12 months after he ceased to be a partner of that partnership; or

(f) been subject to any public criticisms by any statutory or regulatory authorities (including recognised professional bodies) or been disqualified by a court from acting as a director of a company or from acting in the management or conduct of the affairs of any company.

8. Directors' service agreements and letters of appointment

The following agreements have been entered into between (amongst others) the Directors and the Company.

8.1 ***Pierre Jungels***

Dr Jungels was appointed as a Director on 29 March 2006.

On 10 March 2006, Pierre Jungels entered into a letter of appointment with OCL pursuant to which he was appointed as the Chairman of the Company. The annual fee payable to Dr Jungels under this arrangement is £40,000 per annum plus VAT (if applicable). The fees are subject to review annually and the next annual review shall take place in January 2009. The appointment is for an initial term of three years (which expires 16 March 2009) unless terminated by either party giving not less than three months' written notice. His anticipated time commitment is two days per month.

8.2 ***Roy Lipski***

Mr Lipski was appointed as a Director on 29 March 2006.

On 12 April 2006, Roy Lipski entered into a service agreement with OCL, under which he agreed to act as Chief Executive Officer of OCL and to hold such other appointments within the Group as requested. He was appointed as the Company's Chief Executive Officer and a Director of the Company on 29 March 2006. Mr Lipski's employment commenced on 1 February 2006. Mr Lipski is entitled to a salary of £150,000 per annum. Either party may terminate the agreement by giving not less than 12 months' written notice. Mr Lipski is entitled to the standard company benefits which include medical insurance, death in service cover and a company pension contribution of 7 per cent. of basic salary. Mr Lipski is entitled to up to one month's sick pay during any rolling 12 month period.

8.3 ***Susan Robertson***

Ms Robertson was appointed as a Director on 14 May 2008 and as Company Secretary on 28 December 2007.

On 20 October 2007, Susan Robertson entered into a service agreement with OCL pursuant to which she was employed as the Company's Chief Financial Officer. Ms Robertson is entitled to a salary of £120,000 per annum. Either party may terminate the agreement by giving not less than 6 months' written notice. Ms Robertson is entitled to the standard company benefits which include medical insurance, death in service cover and a company pension contribution of 7 per cent. of basic salary. Ms Robertson is entitled to up to 30 days' sick pay in any 12 month rolling period.

8.4 ***Jeremy Scudamore***

Mr Scudamore was appointed as a Director on 1 March 2007.

On 12 February 2007, Jeremy Scudamore entered into a letter of appointment with the Company pursuant to which he was appointed as a Non-executive Director of the Company. The annual fee payable to Mr Scudamore under this arrangement is £30,000 per annum plus VAT (if applicable). The fees payable are subject to review annually and the next review shall take place in January 2009. The appointment is for an initial term of three years (which expires 1 March 2010), unless terminated at any time on either party giving 3 months' prior written notice. His anticipated time commitment is up to three days per month.

8.5 ***Jan Verloop***

Dr Verloop was appointed as a Director on 29 March 2006.

On 10 March 2006, Jan Verloop entered into a letter of appointment with OCL pursuant to which he was appointed as a Non-executive Director of the Company. The annual fee payable to Dr Verloop under this arrangement is €45,000 per annum plus VAT (if applicable). The fees are subject to review annually and the next review shall take place in January 2009. The appointment is for an initial term of three years (which expires 16 March 2009) unless terminated by either party giving not less than three months' written notice. His anticipated time commitment is up to four days per month.

8.6 Save as specified in this paragraph 8, there are no existing or proposed service agreements, consultancy agreements or letters of appointment between any of the Directors and any member of the Group which provide benefits upon termination of employment or otherwise.

9. Directors' shareholding and other interests

9.1 As at 31 October 2008, being the last practicable date prior to the publication of this document, the interests (all of which are beneficial except as shown below) of the Directors in the Existing Ordinary Share capital of the Company and (so far as is known to the Directors having made appropriate enquiries) persons connected with them (which expression shall be construed in accordance with s252 CA06) are as follows.

Name	*Number of Ordinary Shares*	*Percentage of Company's Existing Ordinary Share capital (per cent.)*
Pierre Jungels	211,031	0.52
Jan Verloop	140,437	0.35

9.2 As at 31 October 2008, being the last practicable date prior to the publication of this document, the interests (all of which are beneficial except as shown below) of the Directors in the Enlarged Share Capital of the Company and (so far as is known to the Directors having made appropriate enquiries) persons connected with them (which expression shall be construed in accordance with s252 CA06) will, following Admission, be as follows.

Name	*Number of Placing Shares*	*Total number of Ordinary Shares on Admission*	*Percentage of Company's Enlarged Share Capital (per cent.) on Admission*
Pierre Jungels	12,000	223,031	0.37%
Jan Verloop	10,400	150,837	0.25%
Roy Lipski	12,000	12,000	0.02%
Susan Robertson	9,600	9,600	0.02%
Jeremy Scudamore	24,000	24,000	0.04%

9.3 As at 31 October 2008, being the last practicable date prior to the publication of this document, the Directors (so far as is known to the Directors having made appropriate enquiries) persons connected with them (which expression shall be construed in accordance with s252 CA06) have, and on Admission will have, the following options over Ordinary Shares.

Name	*Date of grant*	*Number of Ordinary Shares under option*	*Exercise price per share (pence)*	*Exercise period*
Roy Lipski	12/04/2006	1,404,370	4.89	26/04/2006 – 23/03/2016
Susan Robertson	01/04/2008	62,893	159	29/10/2010 – 01/04/2018

9.4 Save as disclosed in this document, none of the Directors have, or will have, following Admission, any interests, whether beneficial or non-beneficial, in the issued share capital or loan capital of any member of the Enlarged Group and nor does (so far as is known to the Directors having made appropriate enquiries) persons connected with them (which expression shall be construed in accordance with s252 CA06).

9.5 Save as disclosed in this document, none of the Directors has, or will have, following Admission any interests in the share capital or loan capital of any member of the Enlarged Group and nor does (so far as is known to the Directors having made appropriate enquiries) persons connected with them (which expression shall be construed in accordance with s252 CA06).

9.6 There are no outstanding loans granted by any member of the Group to any of the Directors and there are no guarantees provided by any member of the Group for the benefit of any of the Directors.

9.7 Save as disclosed in this document, no Director nor any member of his immediate family nor any person connected with him has, or will have, following Admission, a related financial product (as defined in the AIM Rules for Companies) referenced to the Ordinary Shares being admitted.

10. Employees

10.1 The table below sets out the average monthly number of persons employed by the Group during the financial years ended 31 December 2006 and 2007.

Financial year	*Average number of persons (including Executive Directors) employed*
2006	9
2007	17

10.2 As at 25 September 2008 the Group had 23 employees (including the Executive Directors but excluding Non-executive Directors). These employees are based at 115e Milton Park, Oxford OX14 4RZ.

10.3 The table below sets out the average monthly number of persons employed by Velocys during the financial years ended 30 September.

Financial year	*Average number of persons (including executive directors of Velocys) employed*
2005	43
2006	46
2007	53

10.4 As at 25 September 2008 Velocys had 65 employees. These employees are based at 7950 Corporate Blvd., Plain City, OH 43064, United States.

10.5 Details of the Company's and Velocys' share incentive arrangements are set out at paragraph 16 of this Part X.

11. Related party transactions

11.1 Save as disclosed in this document, none of the members of the Group have entered into any related party transaction, as defined by the AIM Rules for Companies since its incorporation.

11.2 Until 9 December 2005, OCL was under the control of one of its directors, at that time, Dr Tiancun Xiao. After this date, that company was not under the control of any individual or company.

During the period ended 31 December 2005, OCL received a grant of £124,509 from Isis, a direct subsidiary of the University of Oxford. The University of Oxford is a shareholder in OCL. This amount was originally given as a grant in August 2001 to the research group from which OCL has its origins. This grant was given under the premise that the grant be treated as equity capital, converted at a first round funding price which was £36.75, should a company be formed to commercialise this research. The grant was spent on research prior to the equity conversion and these costs have therefore been treated as research costs.

In addition to the above, OCL was required to pay to Isis, under the terms of a licence for use of intellectual property rights, patent costs that had already been incurred in connection with patents filed by Isis. These patent costs totalled £51,233. At 31 December 2005, the amount unpaid in respect of these charges was £51,233.

OCL was also recharged £1,314 by Isis in respect of legal fees during the year to 31 December 2005. At 31 December 2005, the amount unpaid in respect of these charges was £nil.

11.3 OCL entered into a consultancy agreement with Professor Malcolm Green on 4 August 2006 which is terminable on either party giving three months' written notice. Under the consultancy agreement Professor Green is paid fees based on a daily rate of services which the Company requests from time to time. During the year to 31 December 2007, Professor Green was paid £3,750. Professor Green was a Director of the Company from 29 March 2006 until 14 May 2008.

11.4 Save as disclosed in this document, Velocys has not entered into any related party transactions, as defined by AIM Rules for Companies since 30 September 2005.

11.5 The Company has also entered into certain arrangements with the Directors as described in this Part X.

12. Significant shareholdings

12.1 Other than the holdings of the Directors which are set out in paragraph 9 of this Part X. As at 31 October 2008, the last practicable date prior to the publication of this document, save as set out

below, the Company is not aware of any persons who directly or indirectly have an interest of three per cent. or more of the Company's Existing Ordinary Share capital or voting rights.

Name of Shareholder	*Number of Existing Ordinary Shares*	*Percentage of Existing Ordinary Share capital (per cent.)*
IP2IPO Limited	7,735,689	19.07%
Pioneer Investments*	7,706,958	19.00%
Lansdowne Partners**	5,309,586	13.09%
Dr Tiancun Xiao	4,130,500	10.18%
Professor Malcolm Green	3,379,500	8.33%
University of Oxford	2,339,661	5.77%
New Star Asset Management***	2,289,368	5.64%
Credit Suisse Securities Europe Limited****	2,052,299	5.06%

* Aggregate number of shares beneficially owned by Pioneer Euroland Equity Fund, Pioneer Managed Funds and Pioneer European Equity Opportunity.

** Aggregate number of shares beneficially owned by Lansdowne UK Equity Fund Limited, Lansdowne UK Strategic Inv. Master Fund Limited and Lansdowne UK Equity Fund LP.

*** Aggregate number of shares beneficially owned by New Star UK Growth Fund and New Star Hidden Value Fund.

**** Part of the investment banking division of Credit Suisse.

12.2 Immediately following Admission, the following persons will (so far as is known to the Directors having made appropriate enquiries) directly or indirectly have an interest of three per cent. or more of the Enlarged Share Capital or its voting rights:

Name of Shareholder	*Number of Existing Ordinary Shares*	*Percentage of Enlarged Share Capital (per cent.)*
Battelle Memorial Institute	10,442,207	17.51%
Lansdowne Partners**	10,109,586	16.95%
Pioneer Investments*	10,063,646	16.87%
IP2IPO Limited	7,735,689	12.97%
Dr Tiancun Xiao	4,130,500	6.92%
Professor Malcolm Green	3,379,500	5.67%
University of Oxford	2,339,661	3.92%
New Star Asset Management***	2,289,368	3.84%
Credit Suisse Securities Europe Limited****	2,052,299	3.44%

* Aggregate number of shares beneficially owned by Pioneer Euroland Equity Fund, Pioneer Managed Funds and Pioneer European Equity Opportunity.

** Aggregate number of shares beneficially owned by Lansdowne UK Equity Fund Limited, Lansdowne UK Strategic Inv. Master Fund Limited and Lansdowne UK Equity Fund LP.

*** Aggregate number of shares beneficially owned by New Star UK Growth Fund and New Star Hidden Value Fund.

**** Part of the investment banking division of Credit Suisse.

12.3 As at 31 October 2008, the last practicable date prior to the publication of this document, the Company was not aware of any person, who following Admission could directly, indirectly, jointly or severally exercise control over the Company.

12.4 As at 31 October 2008, the last practicable date prior to the publication of this document, the Company is not aware of any arrangements the operation of which may at a subsequent date result in a change in control of the Company.

13. Principal investments

13.1 Other than the Acquisition, the Group has made the following principal investments since its incorporation up to the date of this document:

(a) the Group set up its offices and laboratory at 115e Milton Park, Oxford OX14 4RZ in 2006 with an investment of approximately £800,000; and

(b) the Group expanded its laboratory and offices in 2008 and purchased 2 Amtec Spider 16 high throughput screening reactor systems. The total investment by the Group was approximately £1.6 million.

13.2 Save as disclosed in Part VII of this document, Velocys has made no principal investments since 1 October 2004 up to the date of this document.

14. Material contracts

14.1 The following contracts (not being contracts entered into in the ordinary course of business):

14.1.1 have been entered into by any member of the Group during the two years immediately preceding the date of this document; or

14.1.2 have been entered into by a member of the Group and contain provisions under which any member of the Group has any obligation or entitlement which is or may be material to any member of the Group at the date of this document.

(a) ***Isis licence***

On 9 December 2005 Isis granted OCL a licence in respect of the patents and patent applications which are detailed in section 3.4 of the Patent Attorney's Report in Part V of this document. The licence was amended on 3 April 2006. The licence is an exclusive, worldwide licence which is granted in respect of all fields of application and which lasts for the full life of the patents. It also gives OCL the ability to sub-licence. The licence is subject to a licence-back to Isis so that Isis can grant a licence of the technology to the University of Oxford for academic and research purposes.

Under the licence, OCL is obliged to pay royalties of 4 per cent on net sales of all licensed products sold directly by it, and 11 per cent on all sub-licensing revenue which it receives. In the event that these payments to Isis, in aggregate, do not achieve certain minimums, OCL is due to make up the shortfall. The minimum royalties are index-linked and start at £5,000 in year 4 of the licence. They rise each year until year 7 when they reach £20,000 and where they remain for the remaining years of the licence. OCL is also responsible for the cost of maintaining and renewing the patents.

Isis may terminate the licence in the event of OCL's material breach or insolvency. In the event that OCL fails to exploit the licensed technology, Isis is entitled to make the licence non-exclusive upon 30 days' written notice.

OCL may terminate on Isis's material breach. OCL may also terminate the agreement without cause at any time after three years upon six months' written notice. OCL also has the ability to terminate the licence in respect of some or all of the patents, should it no longer require them, at any time after the first three years of the licence upon six months' written notice.

Neither party may assign any of its rights or obligations under the licence without the prior written consent of the other (not to be unreasonably withheld) except to an affiliate or any entity under common control of that party, and in that case only for so long as it remains an affiliate or under common control. Where OCL proposes to assign its rights and obligations under the agreement to an acquirer of substantially all of its business, or where a third party proposes to acquire control of OCL, then Isis shall either provide written consent to the proposed assignment or acquisition or an explanation of its objection to it. It is only reasonable for Isis to object to the same on the basis of the financial standing of the proposed acquirer or where association with the proposed acquirer would be materially detrimental to the reputation of Isis or the University.

(b) ***2006 engagement letter with KBC***

A letter agreement dated 6 March 2006 between (1) the Company and (2) KBC was entered into pursuant to which the Company appointed KBC to act as nominated adviser to the Company in accordance with the requirements of the AIM Rules for Companies and also in connection with its original admission.

Under this agreement, the Company gave certain customary indemnities to KBC in connection with its engagement as the Company's nominated adviser and with Admission.

(c) ***2006 placing agreement***

A placing agreement dated 20 April 2006 between (1) the Company (2) the then directors of the Company and (3) KBC was entered into in connection with the Company's original admission and placing pursuant to which KBC agreed to use its reasonable endeavours to procure subscribers at a placing price of £1.74 per share placed. The Company agreed to pay KBC a commission at the rate of the higher of three per cent. of the value of the Ordinary Shares placed and £300,000, and a corporate finance fee.

Under this agreement, the Company and the then directors of the Company gave certain customary warranties and indemnities to KBC.

(d) ***Acquisition Agreement***

The Acquisition Agreement dated 31 October 2008 between (1) the Company and (2) Battelle was entered into for the purposes of the Acquisition. Further terms of the Acquisition Agreement are summarised in Part IX of this document.

(e) ***Lock in and orderly market agreements***

Details of the lock in and orderly market arrangements are set out in paragraph 10 of Part I of this document.

(f) ***Underwriting Agreement***

An Underwriting Agreement dated 31 October 2008 between (1) the Company (2) the Directors (3) KBC and (4) Piper Jaffray was entered into pursuant to which KBC and Piper Jaffray agreed conditionally, amongst other things, on Admission becoming effective not later than 8.00 a.m. on 4 December 2008, as agents for the Company, to use their reasonable endeavours to procure Placees for the Placing Shares at the Placing Price and to the extent that there are any remaining Placing Shares which have not been taken up by prospective subscribers, to severally subscribe for those remaining Placing Shares.

Under this agreement, the Company and the Directors gave certain customary warranties and indemnities to KBC and Piper Jaffray regarding, amongst other things, the accuracy of the information contained in this document. The Underwriting Agreement can be terminated prior to Admission in certain circumstances, including those where any of the warranties are found not to be true or accurate in any material respect.

Under the Underwriting Agreement, and subject to it becoming unconditional, the Company has agreed to pay to each of KBC and Piper Jaffray 50 per cent. of the commission of three per cent. of all funds raised pursuant to the Placing and to pay KBC a corporate finance fee.

The Company will pay certain other costs and expenses (including all applicable VAT) of, or incidental to, the Placing including all fees and expenses payable in connection with Admission, expenses of the registrars, printing and advertising expenses, postage and all other legal, accounting and other professional fees and expenses.

The Company entered into an engagement letter with KBC dated 1 September 2008 pursuant to which the Company appointed KBC to act as nominated adviser, joint broker and

underwriter in connection with the Acquisition, Admission and the Placing and an engagement letter with Piper Jaffray dated 3 September 2008 pursuant to which the Company appointed Piper Jaffray to act as joint broker, bookrunner and underwriter in connection with the Acquisition, Admission and the Placing. These engagement letters contain substantially similar terms, including as to fees and indemnities, as the Underwriting Agreement referred to above.

(g) ***Put and Call Option agreement***

A put and call option agreement dated 31 October 2008 between (1) the Company and (2) Avenir Finances S.A. was entered into pursuant to which the Company and Avenir Finances S.A. agreed, amongst other things that:

(a) either Avenir Finances S.A. may, in the period of 24 months after Completion, exercise a call option to acquire 1,600,000 Ordinary Shares in the capital of the Company at the Placing Price (in aggregate, £2,000,000); or

(b) the Company may, in the period from 12 months after Completion up to 24 months after Completion, exercise a put option to require Avenir Finances S.A. to acquire 1,600,000 Ordinary Shares in the capital of the Company at the Placing Price (in aggregate £2,000,000).

Under the Put and Call Option agreement the Company has agreed to pay Innovator Capital Ltd a fee of £100,000, which is payable by the Company upon the exercise of the put or call option.

(h) ***Costs agreement with Battelle***

An agreement dated 11 September 2008 between (1) the Company and (2) Battelle was entered into in connection with the Acquisition. Pursuant to this agreement, the Company and Battelle agreed that in the event that Completion does not occur, Battelle would pay half of the costs actually incurred in connection with the Acquisition and Admission, up to the amount of £424,462. However, in the event that Completion does not occur as a result of Battelle breaching certain exclusivity obligations, Battelle will be liable to pay all of the costs incurred in connection with the Acquisition and Admission. In the event that Completion does not occur because the Shareholders do not approve the Acquisition at the General Meeting (the General Meeting having been duly convened), the Company will be liable to pay all such costs.

(i) ***Directors' service agreements and letters of appointment***

Details of the Directors' service agreements and letters of appointment are set out at paragraph 8 of Part X of this document.

(j) ***Irrevocable undertakings***

The Company received the following irrevocable undertakings granted to the Company, to vote (or otherwise procure the vote) in favour of each of the Resolutions to be passed at the General Meeting (or any adjournment thereof):

(i) an irrevocable undertaking from Pierre Jungels dated 16 September 2008 in respect of 211,031 Ordinary Shares;

(ii) an irrevocable undertaking from Jan Verloop dated 16 September 2008 in respect of 140,437 Ordinary Shares;

(iii) an irrevocable undertaking from the University of Oxford dated 18 September 2008 in respect of 2,339,661 Ordinary Shares;

(iv) an irrevocable undertaking from Top Technology IV LP dated 18 September 2008 in respect of 823,893 Ordinary Shares;

(v) an irrevocable undertaking from IP2IPO Limited dated 18 September 2008 in respect of 7,735,689 Ordinary Shares;

(vi) an irrevocable undertaking from Professor Malcolm Green dated 18 September 2008 in respect of 3,379,500 Ordinary Shares;

(vii) an irrevocable undertaking from Dr Tiancun Xiao dated 18 September 2008 in respect of 4,130,500 Ordinary Shares; and

(viii) an irrevocable undertaking from William Barton dated 16 September 2008 in respect of 153,204 Ordinary Shares.

Each of the persons listed above additionally undertook not to (and to procure that no registered holder did not) sell, transfer or otherwise dispose of charge, encumber or grant any option or other right into or over the Ordinary Shares held by them until the conclusion of the General Meeting (or any adjournment thereof).

14.2 The following contracts (not being contracts entered into in the ordinary course of business):

14.2.1 have been entered into by Velocys during the two years immediately preceding the date of this document; or

14.2.2 have been entered into by Velocys and contain provisions under which Velocys has any obligation or entitlement which is or may be material to it at the date of this document.

(a) ***Warrant***

A warrant to purchase shares of non-voting common stock of Velocys dated 28 September 2004 between (1) Velocys and (2) a commercial partner was entered into pursuant to which Velocys granted a commercial partner a warrant to purchase 500,000 shares of the non-voting common stock of Velocys at the price of $2 per share. The warrant was expressed to be exercisable at any time on or before 28 September 2009.

Under the warrant, in the event that Velocys is party to any transaction (including a merger, consolidation or sale of all or substantially all of the Company's assets) pursuant to which its shares are (amongst other things) exchanged for another company's shares or for cash, following the date of completion of that transaction, the warrant represents the right to receive the highest amount of shares or cash which the commercial partner would have been entitled to receive, had it exercised the warrant immediately prior to that date.

In the event that, Velocys conducts an IPO, a second round of venture capital financing or a merger, consolidation or sale of all or substantially all of the Company's assets, following notice of such transaction having been given, the commercial partner shall exercise the warrant and purchase all or part of the shares subject to the warrant. To the extent that any shares are not purchased prior to the completion of this type of transaction, the warrant and the commercial partner's rights under the warrant shall expire.

As at the date of this document, this warrant has not been exercised.

The warrant was granted to the commercial partner by Velocys in connection with a release and settlement agreement that was entered into by (1) Velocys; (2) a now dissolved joint venture company; and (3) the commercial partner also dated 28 September 2004. This agreement was entered into for the purposes of the commercial partner's withdrawal as a member of that joint venture company. Pursuant to this agreement, the parties agreed to release each other from any claims arising in connection with (amongst other things) participation in that joint venture company. The joint venture company was dissolved on 14 August 2006.

(b) ***Battelle contribution agreement***

A contribution agreement dated 5 October 2001 (as amended and restated by a further contribution agreement dated 6 November 2001) between (1) Velocys and (2) Battelle was entered into pursuant to which Battelle subscribed for 23,500,000 shares in Velocys for the purposes of providing Velocys with additional capital. In connection with this agreement, Battelle agreed to licence certain intellectual property rights to Velocys (including the licence arrangements between Velocys and Battelle are summarised at paragraph 14.2(c) below) assign a non-exclusive licence to the company and a draft business plan, pay $9,733,000 in cash and additionally assign certain contracts between Battelle and third parties. The total consideration was agreed to be $49,870,000. Pursuant to this agreement, Velocys agreed to indemnify Battelle against any losses arising as a result of Battelle's shareholding in Velocys and the parties gave certain customary warranties to each other.

(c) ***Battelle Licences***

Battelle has granted three patent and know-how licences to Velocys, one dated 21 January 2004 (also called the E-licence), one dated 29 January 2007 and one dated 15 April 2008. Each covers various fields of use relating to microchannel process technology applications and permits sub-licensing.

The 2004 licence relates to inventions made under US government funded programmes. It is exclusive, but all but one of the licences granted within it can be converted to non-exclusive by Battelle if Velocys fails to meet certain diligence obligations (such as a failure by Velocys to invest at least $2 million in R&D in the relevant licence field in a 24-month rolling period, and/or to pay minimum dividends of $150,000 per year in relation to the relevant licence field. Battelle agrees not unreasonably to withhold its agreement to extending the time for Velocys to meet these diligence requirements if Velocys shows commercially reasonable efforts to comply with them. Arrangements are proposed to be made by Battelle to delay the dividend payment schedule and pursuant to the Acquisition Agreement, Battelle has agreed to indemnify the Company against any loss arising (up to the amount of $1,650,000) as a result of any failure by Battelle to amend the licence in this manner.

The 2007 licence is purely non-exclusive. It relates to technology development at PNNL incorporating carbon nanotubes and proteins in porous supports.

The 2008 licence is partly exclusive and partly non-exclusive, depending on the relevant field of use. Similarly to the 2004 licence, certain of the exclusive licences within it can be converted to non-exclusive by Battelle if Velocys fails to meet certain diligence obligations (most of which are similar to the $2 million R&D expenditure obligation referred to above).

The licences are subject to certain US Government rights, where the relevant intellectual property arises out of Government funding. In summary, these so-called "march-in" rights entitle the US Government to require the grant of a licence to a third party if Velocys itself does not meet public need for the use of the intellectual property. Any products embodying this intellectual property which are for use or sale in the US must be substantially manufactured in the US.

Each of the licences remains in force for the life of the relevant patents and covers all countries in which the patents exist, subject to early termination on the grounds of a breach by or the insolvency of Velocys (or because Velocys has chosen to terminate one of the licences, which may trigger termination of another licence). In addition, the licence of one specific patent (which relates to proteins in a porous support) can be terminated for failure to meet certain diligence obligations.

Under the 2007 licence, the only ongoing payment obligation on Velocys is the reimbursement of patent costs. The 2004 and 2008 licences also require Velocys to pay Battelle $75,000 for

the first sub-licence of each new application area which Velocys grants to a third party under certain of the technology licensed by Battelle.

As is normal with non-exclusive licences, the 2007 licence does not give Velocys any right to enforce the licensed patents against third parties who may be infringing them. On the other hand, the 2004 and 2008 licences give Velocys the first right to bring such enforcement action.

Under the 2007 licence, Battelle has sole discretion over whether to keep the patents in life. The 2004 and 2008 licences still leave ultimate discretion over these matters with Battelle, but require it to collaborate with Velocys and not to take any action which would harm its interests without its consent.

Under the 2004 and 2008 licences, Velocys commits to placing at least 60 per cent. by value of R&D services with Battelle, if Battelle personnel refer clients to Velocys who fund contract R&D within the licensed fields of use, and to supply catalyst to US Government Agency clients of Battelle on commercially reasonable terms. If Velocys cannot supply, it must enable a third party approved by Battelle to do so in its place.

The 2004 and 2008 licences are assignable by Velocys on a merger or consolidation, or to a purchaser of substantially all of its assets. Under the 2007 licence, assignments in these scenarios also require Battelle's reasonable consent.

(d) ***Administrative services provided by Battelle***

A task order agreement dated 11 April 2006 and an administrative services agreement dated 1 October 2003 (as amended) between (1) the Company and (2) Battelle, and a task order agreement dated 6 October 2001 between (1) the Company and (2) Battelle through its Pacific Northwest Division were entered into whereby Battelle agreed to provide certain administrative, technical and research services to the Company. Pursuant to these agreements, generally, the Company owns all rights and title to inventions and intellectual property arising from Battelle's performance of the agreements. Under these arrangements, in the event that, in the course of performing agreed upon services for the Company, Battelle conceives an invention, it is required to notify the Company of that invention. The Company has a period of one year in which to request that Battelle assign to it all rights, title and interest in and to that invention and the Company agrees to grant Battelle an exclusive, royalty-free, worldwide licence including the right to sub-licence in relation to that invention. If the Company does not request assignment within the one year period, Battelle may file for a letter patent on unassigned inventions and shall grant the Company an exclusive, royalty-free, worldwide licence including the right to sub-licence.

(e) ***Battelle convertible promissory note***

A convertible promissory note dated 28 April 2006 between (1) Velocys and (2) Battelle (and as amended pursuant to a side letter dated 26 September 2008) was entered to pursuant to which, Velocys promised to pay to Battelle the amount of $5,569,815.14 together with interest. The agreement provides that on the closing of the first preferred stock financing of the Company pursuant to which it generates proceeds of at least $10 million, any outstanding sums under this note shall be converted into shares of the Company. Arrangements have been made, in connection with the Acquisition, for the sums owing under this note to be repaid and for all of Velocys' outstanding obligations to be released on Completion.

The note was secured pursuant to a security agreement between Velocys and the Company dated 29 October 2004. Under this agreement, the Company granted security interest in all of its tangible and intangible assets and proceeds, increases, substitutions, replacements, repairs, additions, and accessions. Upon full payment of the note, the security interest shall also terminate.

(f) ***Financing term sheet***

A non-binding financing term sheet to provide a research and development loan and an Ohio enterprise bond fund loan dated 10 June 2008 (updated 15 February 2008) has been agreed between (1) Velocys and (2) the Ohio Department of Development ("ODOD") which sets out the preliminary terms on which ODOD has agreed to provide Velocys with a $2 million research and development investment loan and to issue up to $5,385,000 in taxable revenue bonds through its Ohio Enterprise Bond Fund loans programme (the "Loans").

Velocys has not yet drawn down on the Loans. The effective interest rate in respect of the Loans is 5.22 per cent. The Loans are expected to be available for approximately 15 years and once drawn down shall be repaid by way of monthly payments.

(g) ***TriNet agreement***

A customer services agreement dated 11 August 2008 between (1) Velocys and (2) TriNet HR Corporation pursuant to which TriNet HR Corporation provides human resources services (payroll, benefits and employer of record services). TriNet has provided such services to Velocys with effect from 10 August 2001. Fees are payable under this agreement for the services provided by TriNet HR Corporation on a per Velocys employee basis. This agreement is expressed to continue until terminated and may be terminated by either party at any time by providing 30 days' written notice to the other party. In the event that Velocys fails to give 30 days' notice, Velocys is liable to pay TriNet HR Corporation the sum of $100 per employee. Under this agreement, Velocys warrants its compliance with applicable payroll, health and wage-hour requirements and TriNet HR Corporation guarantees that all employees will be paid in accordance with the law. Both parties indemnify the other in respect of any loss suffered as a result of the acts, errors and omissions of the other.

(h) ***Stockholders' agreement***

A stockholders' agreement dated 30 September 2008 between (1) Velocys and (2) Velocys' shareholders was entered into for the purposes of applying "tag and drag" rights to Velocys' outstanding share capital in order to ensure that the Company (or any other future majority shareholder) can use such rights following Completion to obtain all of the outstanding shares in the capital of Velocys. These rights will only be relevant to the Company in the event that on Completion any person (other than Battelle) holds any shares in the capital of Velocys.

14.3 The Group and Velocys have a number of other arrangements (such as memoranda of understanding, letters of intent, joint development agreements, material transfer agreements and non-disclosure agreements) in place with their commercial partners. The Directors consider that these arrangements have been entered into in the ordinary course of business.

15. Litigation

15.1 There are no, and have been no, governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened against it of which the Company is aware) during the period of 12 months prior to the date of this document which may have, or may have had in the recent past a significant effect on the Company's and/or the Group's financial position or profitability.

15.2 There are no, and have been no, governmental, legal or arbitration proceedings (including any such proceedings which are pending or threatened against it of which the Company is aware) during the period of 12 months prior to the date of this document which may have, or may have had in the recent past a significant effect on Velocys' financial position or profitability.

16. Share incentive arrangements

16.1 The following share incentive arrangements will be, or are proposed to be, in place following Admission:

(a) stand-alone options granted before shares in the Company were first admitted to AIM (the "Stand-alone Options");

(b) the Oxford Catalysts Group Share Option Scheme (the "Share Option Plan"); and

(c) the proposed amended options granted under the Velocys, Inc. 2001 Stock Incentive Plan (the "Velocys Rollover Options").

16.2 Summaries of the principal terms of these arrangements are set out in the following paragraphs. These summaries do not form part of any of the arrangements and should not be taken as affecting the interpretation of their detailed terms and conditions.

16.3 ***Stand-alone Options***

Two Stand-alone Options have been granted, one to Roy Lipski over 1,404,370 Ordinary Shares which is currently fully vested, and one to William Barton over 702,185 Ordinary Shares, which is currently vested as to 507,133 shares, with the remainder vesting on 31 January 2009.

These options were granted as tax-favoured "enterprise management incentive" (**"EMI"**) options, under stand-alone EMI share option contracts. They were granted on 12 April 2006 in exchange for options originally granted over shares in Oxford Catalysts Group Limited on 23 March 2006.

The provisions specific to the Stand-alone Options are as follows (with the terms which are common to the Stand-alone Options and options granted under the Share Option Plan set out in paragraph 16.5).

(i) *Exercise of options*

Subject to the following, the Stand-alone Options may be exercised to the extent vested.

If the option holder ceases to be employed within the Group by reason of injury, ill-health, disability, redundancy or retirement on or after reaching age 65 (or such other age at which the option holder is expected to retire), or the business unit or company by which he is employed being sold outside the Group the option may be exercised to the extent exercisable at the date of cessation, within the period of six months following cessation of employment.

If the option holder dies in service, his personal representatives may exercise his option in full within the period of 12 months following the date of death.

If the option holder leaves the Group for any other reason, the extent to which options may be exercised (if at all) in what period is at the discretion of the Board, acting fairly and reasonably.

If options are not exercised within the periods specified above, they will lapse.

(ii) *Corporate transactions*

If the Company is subject to a demerger, reconstruction or winding up, options may be exercised, to the extent vested at that date, within a specified period. If there is a change of control, options may be exercised to the extent vested at that date within a period of one month (or, at the discretion of the Board, a period of up to six months) following the date of the change of control. If options are not exercised within the specified periods, they will lapse.

If there is an internal reconstruction, the Board may determine that options may not be exercised, and may instead offer option holders a compulsory rollover of their options, into options over shares in the new parent company, provided that the new options are substantially equivalent in value to the old options.

(iii) *Amendment of the existing options*

Amendments may only be made to the terms of the existing options by agreement in writing between the Company and the option holder.

16.4 ***Share Option Plan***

The Share Option Plan was adopted on 16 March 2006 and amended on 26 June 2007. Options granted under this scheme are currently outstanding over a total of 382,903 shares, with an average exercise price of £1.253.

Set out below is a summary of the principal terms which are specific to options granted under the Share Option Plan. Terms common to both options under the Share Option Plan and the Stand-alone Options are set out in paragraph 16.5.

(i) *Grant of options*

Options granted under the Share Option Plan may take the form of unapproved share options or EMI options. EMI options offer tax advantages if all the requirements of the EMI legislation are met. Unapproved options do not offer any tax benefits.

Options may normally be granted within 42 days following the fourth dealing day after the announcement of the Company's annual or half year results. Options may also be granted within 28 days of a new employee joining the Company, or at any other time, provided that the Board are of the opinion that the grant is appropriate.

(ii) *Limits*

Options to subscribe for ordinary shares in the capital of the Company may not be granted under the Share Option Plan if that would cause the aggregate number of Ordinary Shares which have been or may be issued as a result of rights granted in the preceding 10 years under the Share Option Plan and any other employees' share scheme of the Company to exceed 10 per cent. of the Ordinary Shares in issue at the relevant time (excluding rights granted prior to the first admission of Ordinary Shares to AIM). It is proposed that the rules of the Share Option Plan be amended with Shareholder approval so that the Velocys Rollover Options are expressly excluded from this limit (see paragraph 11 of Part I of this document for further details).

In addition, the aggregate market value of Ordinary Shares in respect of which options may be granted may not, when added to the aggregate market value of shares subject to rights to acquire Ordinary Shares which have previously been granted to the relevant employee pursuant to the Share Option Plan and any other employees' share scheme of the Company (except a savings-related share option scheme) in that year, exceed an amount equal to three times the higher of the salary payable to the option holder by members of the Group in the financial year in which options are granted, and the preceding financial year, save where the Board considers that exceptional circumstances exist.

(iii) *Exercise price*

The exercise price per Ordinary Share for an option may not be less than the market value of an Ordinary Share at the date of grant. It is proposed that the rules of the Share Option Plan be amended with Shareholder approval so that options with an exercise price per Ordinary Share of the nominal value of those shares may also be granted (see paragraph 11 of Part I of this document for further details).

(iv) *Option contract*

Options are granted using a form of share option contract which contains all of the terms applicable to that option, a *pro forma* version of which is appended to the Share Option Plan rules. In the case of each option granted under the Share Option Plan, the Board may determine whether to impose performance related exercise provisions, or to set a vesting schedule applicable specifically to that option. Each option granted under the Share Option Plan may therefore differ from the *pro forma* share option contract in these respects.

(v) *Exercise of options*

An option will become exercisable as set out in the individual share option contract.

Options may be exercised if the option holder ceases to be employed within the Group by reason of any of the following: ill-health, injury, disability, retirement, redundancy, or the business unit or company by which he is employed being sold outside the Group, within the period of 40 days following the date of cessation. If not exercised during that period, options will lapse.

If options are subject to a vesting schedule, they may be exercised to the extent that they had vested at the date of cessation of employment.

If options are subject to a performance target, and the performance period has not ended at the date of cessation of employment, options may be exercised over a number of shares representing the proportion of the performance period as fell before the date of cessation of employment, to the extent that the performance target is deemed to have been satisfied at that time.

If an option holder dies in service, his personal representatives may exercise his option in full within the period of 12 months following the date of cessation.

If an option holder leaves the Group for any other reason, he may only exercise his option to the extent, and within such periods, as the Board may determine.

(vi) *Demerger, reconstruction or winding-up of the Company*

Options may be exercised early in the event of a demerger or statutory reconstruction of the Company within specified periods. If notice is given to Shareholders of a resolution for the voluntary winding up of the Company, options may be exercised at any time before the winding up commences or within a period notified to option holders. All options will lapse on the commencement of winding up.

If options are subject to a vesting schedule, they may be exercised to the extent vested at the date of the relevant event. If options are subject to a performance target, they may be exercised over a number of shares representing the proportion of the performance period as fell before the date of the relevant event, to the extent that the performance target is deemed to have been satisfied at that time.

(vii) *Takeover of the Company*

If Shareholders accept a takeover offer for the Company, options may be exercised within a period of one month (or, at the discretion of the Board, up to six months) following the date of the change of control. If options are not then exercised they will lapse.

If options are subject to a vesting schedule, they may be exercised to the extent vested at the date of the change of control. If options are subject to a performance target, they may be exercised over a number of shares representing the proportion of the performance period as fell before the date of the change of control, to the extent that the performance target is deemed to have been satisfied at that time.

(viii) *Exchange of options*

If there is an internal reconstruction, the Board may determine that options may not be exercised, and may instead offer option holders a compulsory rollover of their options, into options over shares in the new parent company, provided that the new options are substantially equivalent in value to the old options.

(ix) *Administration and amendment*

The Share Option Plan is administered by the Board or such appropriate person(s) to whom the Board delegate its administration. The Board may at any time for any reason amend or terminate the Share Option Plan. No amendments shall, however, be made which benefit option holders, to specified key features of the Share Option Plan including the definition of "eligible employee" and the limits on the grant of options without the prior approval of Shareholders in general meeting, except to the extent that the Board consider it is a minor amendment which is

necessary or appropriate to benefit the administration of the Share Option Plan, to take account of a change in legislation or to obtain or maintain favourable tax, exchange control or regulatory treatment for option holders or for the Company or any group company.

16.5 ***Provisions common to the Stand-alone Options and the Share Option Plan***

(i) *Option tax liability*

It is a condition of exercise of each option that the option holder indemnifies the Company against any liability to income tax and employees' and (if so determined by the Board) employer's National Insurance contributions ("NICs") which may arise on the exercise or release of that option. Each option contract contains provisions enabling the Company to recover from each option holder any such income tax and NICs due. The Company can withhold the issue or transfer of shares to the option holder until such amount has been recovered from him.

(ii) *Variation of share capital*

In the event of a variation in the ordinary share capital of the Company the Board may adjust the number of shares subject to any option and/or the exercise price, provided that an adjustment must be made in the case of an EMI option, if the variation would otherwise increase the value of the shares under option. In the case of any variation other than a subdivision, consolidation of capitalisation issue, the Company's auditors must confirm in writing that any adjustment is fair and reasonable.

(iii) *Rights attaching to Ordinary Shares*

Ordinary Shares issued or transferred on the exercise of an option shall rank equally in all respects with all of the other Ordinary Shares for the time being in issue, save as regards any rights attaching to Ordinary Shares by reference to a record date prior to the allotment or transfer of such shares.

(iv) *Non-transferability of options*

Options are not transferable (except in the case of the death of the option holder to the option holder's personal representatives) or pensionable.

16.6 ***Velocys Rollover Options***

Velocys has granted various options to acquire shares of common stock in Velocys (the "Velocys Options") under the Velocys, Inc. 2001 Stock Incentive Plan.

As part of the arrangements for the Acquisition, Velocys intends to amend the Velocys Option held by certain employees of Velocys so that following completion of the Acquisition they become options to acquire Ordinary Shares in the Company (the "Velocys Rollover Options"). Option holders would be entitled to elect either to have a Velocys Rollover Option, or exercise the vested portion of the Velocys Option on or before completion of the Acquisition with the remainder of the Velocys Option lapsing.

The value of the Ordinary Shares under a Velocys Rollover Option will be equal to the value of the Velocys common stock under the Velocys Option before amendment (subject to numerical rounding). Similarly, the aggregate exercise price of each Velocys Rollover Option (although in pounds sterling) will be the same as the aggregate exercise price of the Velocys Option before amendment. For these purposes one Ordinary Share has been taken to have the same value as 2.7333 shares of common stock of Velocys, and an exchange rate of £1 = $1.6377 has been used.

The other material terms of the Velocys Rollover Options will be the same as the Velocys Option before amendment.

Assuming the option holders elect for Velocys Rollover Options in full, a total of 1,244,480 Ordinary Shares will be subject to the Velocys Rollover Options, with exercise prices ranging from £0.467 to

£1.552. The Velocys Rollover Options will be vested as to 1,057,451 Ordinary Shares at the anticipated time of completion of the Acquisition, with all options vesting fully four years from the original date of grant.

The Velocys Rollover Options are not subject to performance conditions. If the holder ceases to be an employee of the Enlarged Group the unvested portion of the option will generally lapse, and the vested portion of the option may generally be exercised for a specified period following cessation.

17. Property

17.1 Upon completion of the Acquisition, the Enlarged Group's principal properties will be as follows:

Property	*Type*
7950 Corporate Blvd., Plain City, Ohio, United States of America	Short Leasehold (less than 25 years)
8520 Rausch Drive, Plain City, Ohio, United States of America	Short Leasehold (less than 25 years)
Units 115 E, F, G and H Milton Park, Oxford OX14 4RZ, United Kingdom	Short Leasehold (less than 25 years)

17.2 As far as the Company is aware there are no environmental issues that may affect the utilisation of these properties or any other tangible fixed assets of the Enlarged Group.

18. Intellectual property and licences

Please refer to Part V for a detailed review of the Company's and Velocys' intellectual property and to paragraph 14.1(a) and 14.2(c) of this Part X for summaries of material contracts which relate to intellectual property.

19. Working capital

The Directors are of the opinion that, having made due and careful enquiry, the working capital available to the Enlarged Group is sufficient for its present requirements, that is for at least twelve months from the date of Admission.

20. Significant change

20.1 There has been no significant change in the financial or trading position of the Company since 30 June 2008, the date to which the last financial information relating to the Group (as shown in Part VI) was prepared.

20.2 There has been no significant change in the financial or trading position of Velocys since 30 June 2008, the date to which the interim statement of Velocys (as shown in Part VII) was prepared.

21. UK taxation

The following paragraphs are intended as a general guide only for Shareholders who are resident, ordinarily resident and domiciled in the United Kingdom for tax purposes and who beneficially own Ordinary Shares as investments and not as securities to be realised in the course of a trade, and are based on current legislation and HM Revenue and Customs (**"HMRC"**) practice. Any prospective purchaser of Ordinary Shares who is in any doubt about his tax position or who is subject to taxation in a jurisdiction other than the UK should consult his own professional adviser immediately. The following information does not apply to:

(i) Shareholders who do not hold their Ordinary Shares as capital assets; or

(ii) special classes of Shareholder such as dealers, broker-dealers or investment companies.

21.1 ***Taxation of chargeable gains***

(a) For the purpose of UK tax on chargeable gains, the issue of Ordinary Shares, including Placing Shares pursuant to the Placing, will be regarded as an acquisition of a new holding in the share capital of the Company.

(b) To the extent that a Shareholder acquires Ordinary Shares allotted to him, the Ordinary Shares so allotted will for the purpose of tax on chargeable gains be treated as acquired on the date of allotment. The amount paid for the Ordinary Shares will constitute the base cost of a Shareholder's holding.

(c) If a Shareholder disposes of all or some of his Ordinary Shares and/or Placing Shares, as the case may be, a liability tax on chargeable gains may, depending on his or its circumstances, arise. For corporate shareholders indexation allowance may be available to reduce any chargeable gains.

21.2 ***Inheritance Tax ("IHT")***

The Ordinary Shares are assets situated in the UK for the purposes of UK IHT. The gift of such shares by, or on the death of, an individual Shareholder may give rise to a liability to UK IHT. Relief may be available where the Company meets all of the relevant qualifying conditions for Business Property Relief provided that the Ordinary Shares have been held for two years prior to the event giving rise to IHT.

21.3 ***Stamp Duty and Stamp Duty Reserve Tax***

Stamp duty and stamp duty reserve tax (**"**SDRT**"**) treatment under the Placing will be as follows:

(a) in relation to the shares being issued by the Company, no liability to stamp duty or SDRT will arise on their issue or on the issue of definitive share certificates by the Company;

(b) the transfer on sale of Ordinary Shares outside the CREST system will generally be subject to *ad valorem* stamp duty on the instrument of transfer at the rate of 0.5 per cent. of the amount or value of the consideration given (rounded up to the nearest multiple of £5.00). In addition, an unconditional agreement to transfer shares will generally be subject to SDRT at 0.5 per cent. of the amount of value of the agreed consideration. Any transfer on sale or agreement to transfer where the consideration is £1,000 or less will generally not be liable to any stamp duty or SDRT, provided that the transaction is not linked to any other which will bring the aggregate consideration over £1,000. The liability to pay stamp duty on SDRT is generally satisfied by the purchaser or transferee;

(c) investors may elect to hold their Ordinary Shares in uncertificated form through CREST. No stamp duty or SDRT will arise on a transfer of Ordinary Shares into CREST for conversion into uncertificated form, unless such transfer is made for a consideration in money or money's worth, in which case a liability to SDRT will arise at the rate of 0.5 per cent.; and

(d) a transfer of Ordinary Shares effected on a paperless basis within CREST will generally be subject to SDRT at the rate of 0.5 per cent. of the amount or value of the consideration. CREST is obliged to collect SDRT from the purchase of the Ordinary Shares on relevant transactions settled within the CREST system.

The above statements do not apply to shares which are issued or transferred to certain categories of person, including intermediaries and persons whose business is or includes, or who are connected with, depository arrangements and clearance services.

21.4 ***Dividends and other distributions***

(a) Dividends paid by the Company to individual Shareholders resident in the UK will carry an associated tax credit of one-ninth of the cash dividend or 10 per cent. of the aggregate of the cash dividend and associated tax credit. Individual Shareholders resident in the UK (and not claiming the remittance basis) receiving such dividends will be liable to income tax on the

aggregate of the cash dividend and associated tax credit at the lower or basic rate of income tax or the dividend upper rate (32.5 per cent.).

(b) The effect will be that taxpayers who are otherwise liable to pay tax at only the lower rate or basic rate of income tax will have no further liability to income tax in respect of such a dividend. Higher rate taxpayers will have an additional tax liability (after taking into account the tax credit) of 22.5 per cent. of the aggregate of the cash dividend and associated tax credit. Individual Shareholders whose income tax liability is less than the tax credit will not be entitled to claim payment of all or part of the tax credit associated with such dividends.

(c) Trustees of discretionary trusts are liable to account for income tax at the rate applicable to trusts on the trust's income and are required to account for tax at the dividend rate (32.5 per cent.) with a tax credit equivalent to 10 per cent. of the cash dividend and the associated tax credit.

(d) A UK resident corporate shareholder will not generally be liable to corporation tax in respect of dividends received from the Company.

(e) Under current UK tax legislation, the Company will not be required to withhold UK tax from any dividends paid by the Company.

(f) Persons who are not resident in the UK, or who are not UK domiciled, should consult their own tax advisers on the possible application of such provisions and on what relief or credit may be claimed for any such tax credit in the jurisdiction in which they are resident. These comments are intended only as a general guide to the current tax position in the UK as at the date of this document. The comments assume that Ordinary Shares are held as an investment and not as an asset of financial trade.

22. Auditors

22.1 The current auditors of the Group are Deloitte & Touche LLP, whose address is Abbots House, Abbey Street, Reading, RG1 3BD, who are a member of the Institute of Chartered Accountants' of England and Wales and who were responsible for the audit of the Company for the years ended 31 December 2006 and 2007. BDO Stoy Hayward LLP, whose registered office is at 8 Baker Street, London W1U 3LL, who is a member firm of the Institute of Chartered Accountants in England and Wales, was responsible for the audit of OCL for the year ended 31 December 2005. BDO Stoy Hayward LLP resigned as auditors on 12 August 2006. There were no circumstances connected with BDO Stoy Hayward's resignation which it considered should be brought to the attention of OCL's members or creditors.

22.2 The auditors of Velocys for the years ended 30 September 2005, 2006 and 2007 were Deloitte & Touche LLP whose address is 155 East Broad Street, Columbus, Ohio, 43215-6211, United States who are a member of the Institute of Chartered Accountants' of England and Wales.

22.3 The financial information included in this document does not constitute statutory accounts within the meaning of s434(3) CA06. Statutory accounts of the Group for the financial year ended 31 December 2006 and 2007 have been delivered to the Registrar of Companies and the Company's auditor has made a report under s235 CA85 in respect of each of those statutory accounts and each such report was an unqualified report within the meaning of s271 CA85 and did not contain a statement under s237(2) or (3) CA85. The financial information relating to Velocys set out in Part VII of this document has been prepared for the purposes of this document.

23. Expenses

23.1 The total costs, charges and expenses payable by the Company in connection with the Acquisition, the Placing and Admission are estimated to be £2.1 million (exclusive of VAT).

23.2 No person (excluding professional advisers otherwise disclosed in this document and trade suppliers) has received, directly or indirectly, from the Company within the 12 months preceding Admission, or entered into contractual arrangements (not otherwise disclosed in this document) to receive on or after Admission, directly or indirectly, from the Company any of the following:

(a) fee totalling £10,000 or more;

(b) securities in the Company with a value of £10,000 or more, calculated by reference to the issue price of the Ordinary Shares; or

(c) any other benefit with a value of £10,000 or more.

23.3 The Company has instructed Peroxident Limited to act on its behalf in connection with the Acquisition. Wilmer Cutler Pickering Hale and Dorr LLP have been instructed as the Company's solicitors in the 12 months preceding Admission. Pensar Systems Limited have provided information technology services to the Company. Branding Matters have provided branding and website services to the Company. Additionally, the Group has consultancy arrangements in place with Climate Action Limited, Phil Charsley Consulting, Peter Grant and Nina Morgan.

24. Consents

24.1 PricewaterhouseCoopers LLP has given and has not withdrawn its written consent to the inclusion in this document of its report in Section B(I) of Part VII in the form and context in which it appears and has authorised its report for the purposes of Schedule Two of the AIM Rules for Companies.

24.2 KBC Peel Hunt Ltd has given and not withdrawn its written consent to the issue of this document with the inclusion in it of its name in the form and context in which it appears.

24.3 Piper Jaffray Ltd. has given and not withdrawn its written consent to the issue of this document with the inclusion in it of its name in the form and context in which it appears.

24.4 Nexant, Inc. as Technical Expert has given and not withdrawn its written consent to the inclusion in this document of its report on the technical information relating to Velocys in Part IV in the form and context in which it appears. Nexant, Inc. has also given and not withdrawn its consent to the inclusion of references in this document to its name in the form and context in which it appears.

24.5 Carpmaels & Ransford as Patent Attorney has given and not withdrawn its written consent to the inclusion in this document of its report set out in Part V in the form and context in which it appears. Carpmaels & Ransford has also given and not withdrawn its consent to the inclusion of references in this document to its name in the form and context in which it appears.

25. Sources of information

Where information in this document has been sourced from a third party, the source has been given along with the information, it has been accurately reproduced and, so far as the Company is aware and able to ascertain from information published by that third party, no facts have been omitted which would render the reproduced information inaccurate or misleading.

Dated: 3 November 2008

NOTICE OF GENERAL MEETING

OXFORD CATALYSTS GROUP PLC

(Incorporated in England and Wales under the Companies Act 1985 with registered number 5712187)

NOTICE is hereby given that a General Meeting of Oxford Catalysts Group PLC (the "Company") will be held at the offices of Mayer Brown International LLP, 11 Pilgrim Street, London EC4V 6RW on 19 November 2008 at 10.00 a.m. for the following purposes:

To consider and, if thought fit, pass Resolutions 1 to 4 (inclusive) which will be proposed as ordinary resolutions:

1. THAT the authorised capital of the Company be increased from £750,000 to £1,000,000 by the creation of a further 25,000,000 ordinary shares of £0.01 in the share capital of the Company (the "Ordinary Shares") each to rank *pari passu* in all respects with the existing Ordinary Shares.

2. THAT, conditional upon the passing of Resolution 1 and Admission, the proposed acquisition by the Company of the entire issued share capital of Velocys, Inc (the "Acquisition") on the terms of the conditional share sale and purchase agreement entered into by (1) the Company and (2) Battelle Memorial Institute dated 31 October 2008 (particulars of which are set out in Part IX (*Summary of Acquisition Agreement*) of the admission document produced by the Company dated 3 November 2008 in relation to re-admission of the Ordinary Shares to trading on AIM ("Admission") (the "Admission Document") be and is approved pursuant to Rule 14 of the AIM Rules for Companies and that the Directors be and are authorised to take all steps necessary or otherwise, in their opinion, desirable to effect the Acquisition with such minor modifications, variations, amendments and revisions as they shall deem necessary or otherwise, in their opinion, desirable and to do or procure to be done such other things in connection with the Acquisition as they consider will promote the best interests of the Company and that the amendments to the Oxford Catalysts Group Share Option Scheme (which are explained at paragraph 11(b) of Part I (*Letter from the Chairman*) of the Admission Document) be approved.

3. THAT, conditional upon the passing of Resolution 1, the Directors be and are hereby authorised for the purposes of section 80 of the Companies Act 1985 (the "Act") to exercise all powers of the Company to allot relevant securities (as defined in section 80(2) of the Act) up to the maximum nominal amount of £389,203.85 to such persons and upon such conditions as the Directors may determine provided that this authority shall expire, unless sooner revoked or altered by the Company in a general meeting, on 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier) save that the Company may before such expiry make an offer or agreement which would or might require relevant securities to be allotted after such expiry and the Directors may allot relevant securities in pursuance of such an offer or agreement as if the authority conferred under this resolution had not expired. This authority shall be in substitution for any previous authorities granted in this regard by the Company.

4. THAT the amendments to the Oxford Catalysts Group Share Option Scheme which are explained at paragraph 11(a) of Part I (*Letter from the Chairman*) of the Admission Document, be approved.

To consider and, if thought fit, pass Resolution 5 which will be proposed as a special resolution, subject to and conditional upon the passing of Resolution 1:

5. THAT the Directors be and are hereby empowered pursuant to section 95(1) of the Act to allot equity securities (within the meaning of section 94(2) of the Act) pursuant to the authority conferred on the Directors under Resolution 3 above, wholly for cash as if section 89(1) of the Act did not apply to any such allotment provided that this power shall be limited to the allotment of equity securities:

   (a) for cash up to the maximum nominal amount of £82,518.88 to persons applying for Ordinary Shares in connection with the Placing (as defined in the Admission Document);

(b) for cash up to the maximum nominal amount of £104,422.07 to such persons as may be entitled to receive Ordinary Shares under the terms of the Acquisition Agreement;

(c) up to the maximum nominal amount of £12,444.80 in order to satisfy the Velocys Rollover Options;

(d) up to the maximum nominal amount of £16,000 in order to satisfy the Put and Call Option;

(e) up to the maximum nominal amount of £3,881.96 in order to satisfy the Settlement Shares;

(f) in connection with a rights issue and so that for this purpose "rights issue" means an offer of equity securities open for acceptance for a period fixed by the Directors to holders of equity securities on the register of the Company on a fixed record date in proportion to their respective holdings of such securities or in accordance with the rights attached thereto but subject to such exclusions or other arrangements as the Directors may deem necessary or expedient in relation to fractional entitlement or legal or practical problems under the laws of, or the requirements of any recognised regulatory body or any stock exchange in, any territory;

(g) otherwise than pursuant to the authorities contained in (a) to (d) of this Resolution, up to an aggregate nominal value of £59,649.28,

such that this power shall supersede all previous powers given to the directors under section 95 of the Act and provided that this authority shall expire, unless sooner revoked or altered by the Company in a general meeting, on 31 July 2009 or at the conclusion of the next annual general meeting of the Company in 2009 (whichever is the earlier) save that the Company may before such expiry make an offer or agreement which would or might require equity securities to be allotted after such expiry and the Directors may allot equity securities in pursuance of such offer or agreement as if the power conferred hereby had not expired.

By order of the Board
Susan Robertson
Company Secretary

Registered office
115e Milton Park, Oxford, OX14 4RZ

3 November 2008

Notes:

(a) Any member entitled to attend and vote at the general meeting may appoint a proxy to attend, speak and vote on his/her behalf. A member may appoint more than one proxy in relation to the General Meeting provided that each proxy is appointed to exercise the rights attached to a different share or shares of the member. A proxy need not be a member, but must attend the meeting in person. Proxy Forms should be lodged with the Company's Registrar, Capita Registrars at The Registry, 34 Beckenham Road Beckenham, Kent BR3 4TU or submitted not later than 48 hours before the time for which the General Meeting is convened or, as the case may be, the adjourned meeting. Completion of the Proxy Form does not prevent a member from attending and voting in person if he/she is entitled to do so and so wishes.

(b) In the case of joint holders, the vote of the senior who tenders the vote whether in person or by proxy will be accepted to the exclusion of the votes of the other joint holders and for this purpose seniority will be determined by the order in which names stand in the Company's relevant register of members for certificated or uncertificated shares of the Company (as the case may be) (the "Register") in respect of the joint holding.

(c) In order to facilitate voting by corporate representatives at the meeting, arrangements will be put in place at the meeting so that (i) if a corporate shareholder has appointed the Chairman of the meeting as its corporate representative to vote on a poll in accordance with the directions of all of the other corporate representatives for that shareholder at the meeting, then on a poll those corporate representatives will give voting directions to the chairman and the chairman will vote (or withhold a vote) as corporate representative in accordance with those directions; and (ii) if more than one corporate representative for the same corporate shareholder attends the meeting but the corporate shareholder has not appointed the Chairman of the meeting as its corporate representative, a designated corporate representative will be nominated, from those corporate representatives who attend, who will vote on a poll and the other corporate representatives will give voting directions to that designated corporate representative. Corporate shareholders are referred to the guidance issued by the Institute of Chartered Secretaries and Administrators on proxies and corporate representatives (www.icsa.org.uk) for further details of this procedure. The guidance includes a sample form of appointment letter if the chairman is being appointed as described in (i) above.

(d) In accordance with Regulation 41 of the Uncertificated Securities Regulations 2001, the Company gives notice that only those shareholders entered on the Register 48 hours beforehand (the "Specified Time") will be entitled to attend or vote at the General Meeting in respect of the number of shares registered in their name at that time. Changes to entries on the Register after the Specified Time will be disregarded in determining the rights of any person to attend or vote at the General Meeting. Should the General Meeting be adjourned to a time not more than 48 hours after the Specified Time, that time will also apply for the purpose of determining the entitlement of members to attend and vote (and for the purpose of determining the number of votes they may cast) at the adjourned General Meeting. Should the General Meeting be adjourned for a longer period, then to be so entitled, members must be entered on the Register at the time which is 48 hours before the time fixed for the adjourned General Meeting or, if the Company gives notice of the adjourned General Meeting, at the time specified in the notice.

(e) CREST members who wish to appoint a proxy or proxies through the CREST electronic proxy appointment service may do so for the General Meeting and any adjournments of it by using the procedures described in the CREST Manual. CREST personal members or other CREST sponsored members, and those CREST members who have appointed voting service provider(s), should refer to their CREST sponsors or voting service providers, who will be able to take the appropriate action on their behalf.

(f) For a proxy appointment or instruction made using the CREST service to be valid, the appropriate CREST message (a "CREST Proxy Instruction") must be properly authenticated in accordance with Euroclear UK & Ireland Limited's specifications and must contain the information required for those instructions as described in the CREST Manual. The message, regardless of whether it relates to the appointment of a proxy or to an amendment to the instruction given to the previously appointed proxy, must, to be valid, be transmitted so as to be received by the Company's agent (Identification number RA10) by the latest time for receipt of proxy appointments specified in the notice of meeting. For this purpose, the time of receipt will be taken to be the time (as determined by the timestamp applied to the message by the CREST Applications Host) from which the Company's agent is able to retrieve the message by enquiry to CREST in the manner prescribed by CREST. After this time, any change of instruction to a proxy appointed through CREST should be communicated to the proxy by other means.

(g) CREST members and, where applicable, their CREST sponsors or voting service providers should note that Euroclear UK & Ireland Limited does not make available special procedures in CREST for any particular messages. Normal system timings and limitations will, therefore, apply in relation to the input of CREST Proxy Instructions. The Company may treat as invalid a CREST Proxy Instruction in the circumstances set out in Regulation 35(5)(a) of the Uncertificated Securities Regulations 2001.

It is the responsibility of the CREST member concerned to take (or, if the CREST member is a CREST personal member or sponsored member or has appointed voting service providers, to procure that its CREST sponsors or voting service providers take) such action as shall be necessary to ensure that a message is transmitted by means of the CREST system by any particular time. In this connection, CREST members and, where applicable, their CREST sponsors or voting service providers are referred, in particular, to those sections of the CREST Manual concerning practical limitations of the CREST system and timings.

(h) You may not use any electronic address provided in this notice to communicate with the Company for any purpose other than as expressly stated.