

**28<sup>th</sup> September 2007**  
**2007 Interim Results Presentation**



# **Commercial Solutions from Nanotechnology**

[www.oxonica.com](http://www.oxonica.com)

**Dr. Kevin Matthews** (Chief Executive Officer)

**Richard Clarke FCA** (Chief Financial Officer)

# Purpose

Develop profitable, sustainable, market driven businesses based on nanomaterials

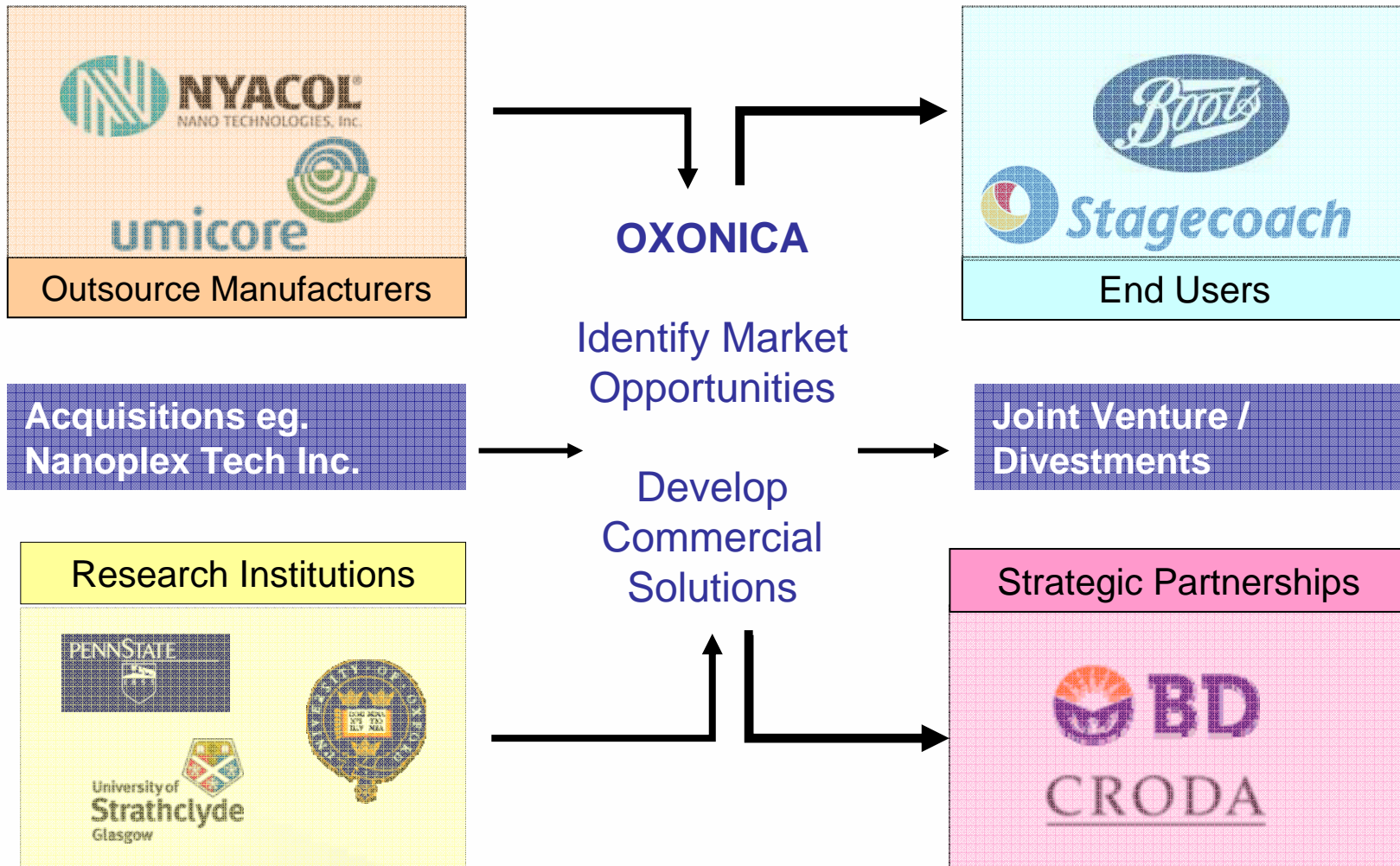
Identifying attractive market opportunities, securing necessary IP/capabilities and develop the technology into products, realising value through a leveraged business model

# Why Nanomaterials?

In many industries, performance is controlled by the use of old technologies that have reached their performance limit

Relative Performances	Current Materials	Oxonica Nanomaterials
Photostability	Unstable	Stable
Thermal Stability	Unstable	Stable
Performance	At Limit	Improved

# Business Model



# Unique Capabilities

## HIGH GROWTH MARKETS

Nanotech Market

\$2.6 trillion\*

## NANOMATERIAL SOLUTIONS

- Manufacturing partners
- IP
- Regulatory
- R & D strengths

## ABILITY TO EXECUTE

- Experienced team
- Partnerships
- Listed on AIM
- US and Europe base
- Products in market

- Energy \$3bn
- UV protection \$2.3bn
- Diagnostics \$10bn
- Security \$0.5bn

- Envirox™
- Optisol™
- Nanoplex™
- Solacor™

\*2006 lux research

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# Skills and Assets



Kevin Matthews, PhD



Michael Natan, PhD



Richard Clarke, FCA



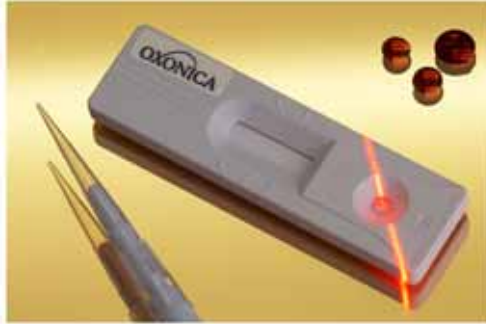
Barry Park, PhD

Team of 50 employees with multidisciplinary advanced degrees in chemistry, materials science, biology, engineering and physics.

International commercial and operational experience from blue-chip multinationals

Intellectual Property: 193 applications with 38 granted patents

# Nanomaterial Products




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# Energy Business

**Envirox™** 5-10% fuel savings in diesel vehicles

2001 Technology developed	2003 Field trails	2004 Stagecoach adoption	2006 PO supply agreement
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Market potential of \$3bn

H1 2007

- Loss of PO contract
- Continued sales in UK, Germany, Italy, New Zealand
- Neuftec's granted European patent does not cover current Envirox™

H2 2007

- Secured supply agreement with Nyacol Nano Technologies Inc

# Materials Business

**Optisol™** A photostable UV protection for cosmetics

<b>1999</b> Licence from the University of Oxford	<b>2004</b> Manufacturer appointed	<b>2005</b> First commercial sale to Boots	<b>2005</b> Global distributor – Croda appointed
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Market potential of \$2bn

H1 2007

- Optisol™ sales more than doubled to £265,000
- Now in 27 formulations, 14 customers in 9 countries
- Croda launched pre-dispersed form to aid customer adoption

# Nanomaterials in the Pipeline



Photostable UV protection for industries

- Market potential of \$2bn
- Product application to protect materials from UV/sunlight
- Building application data for market launch
- Product in long term evaluation with blue-chip industrial parties

## Nanobarcode™ technology

- Market potential of \$0.4bn
- Product applications in anti-counterfeiting tags for high value documents, tax stamps, pharmaceuticals, fuel and luxury goods
- \$1.16m order for prototype products received in June 2007

# Oxonica Diagnostics

- Diagnostics – Nanoplex™ optical tags
- This is a platform technology
- Developed to enable rapid sensitive robust diagnostics tests for clinical applications in point of care, veterinary and bioterrorism
- \$10bn market



Nanoplex™  
Direct

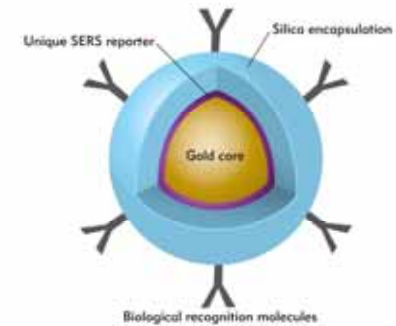
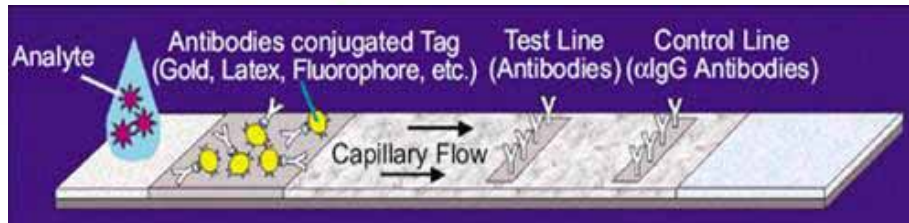
Two product  
formats



Nanoplex™  
Rapid

# Oxonica Diagnostics

Nanoplex™



## Nanoplex™ Rapid

- Benchmarked against current commercial products
- Advantages:
  - multiplexed simultaneous disease detection
  - improved sensitivity
  - option for quantitative measurements

## Nanoplex™ Direct

- Currently being evaluated for variety of product applications
- Advantages:
  - reduction or elimination of sample wash steps
  - faster turnaround time
  - maintain performance



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# Diagnostics Timeline

**Nanoplex™** Sensitive, flexible optical tags

<b>2003</b> Licensed from University of Strathclyde	<b>2006</b> Acquisition of Nanoplex Technologies Inc	<b>2006</b> BD licensing agreement	<b>2007</b> BD follow on research agreement
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Market potential of \$10.4bn

H1 2007

- Initial sales of Nanoplex™ tags to support partner evaluations
- Pipeline of evaluation partners
  - Point of Care, Central Laboratory, Vet, Bioterrorism, Food

H2 2007

- BD follow-on research agreement

# Competitive Landscape

	Materials	Energy	Diagnostics	Security
Incumbent (organic products)	L'Oreal, BASF Ciba Ceigy	Lubrizol, Infineum	Roche Invitrogen Luminex	Sipca De La Rue
Emerging companies	Altair Nanophase	Clean Diesel Cerion, Energenics	Nanosphere, Nanogen	Authentix

Oxonica plc has no comparable competitors

# Highlights

- Revenue up 142% v H1 2006
- Gross profit up 59% v H1 2006
- Operating loss - £3.2 million
- Petrol Ofisi contract lost
  - Contractual issues successfully resolved
  - Costs reduced
  - Trial programme re-established
- Optisol™ sales more than doubled to £265,000
- Oxonica Security booked US\$1.2 million in purchase orders
- Oxonica Diagnostics secured follow-on research agreement with BD
- Discussions regarding equity financing at advanced stage

# Profit & Loss Account

	H1 2007 £'000 Unaudited	H1 2006 £'000 Unaudited	Full Year 2006 £'000 Unaudited
<b>Revenue</b>	3,101	1,280	10,229
Cost of sales	(1,883)	(510)	(4,304)
<b>Gross profit</b>	<b>1,218</b>	<b>770</b>	<b>5,925</b>
<i>Gross profit %</i>	39.3%	60.2%	57.9%
Other operating income	852	252	377
Research and development	(1,036)	(626)	(2,384)
Sales & marketing & admin costs	(3,714)	(3,072)	(6,010)
Write-off of intangible asset	(135)	-	-
Share options charge	(261)	(114)	(353)
Amortisation of acquired intangibles	(107)	(89)	(196)
<b>Operating loss</b>	<b>(3,183)</b>	<b>(2,879)</b>	<b>(2,641)</b>
Net financial income	104	45	115
Taxation	(1)	(9)	114
<b>Retained loss for the period</b>	<b>(3,080)</b>	<b>(2,843)</b>	<b>(2,412)</b>

# Balance Sheet

	30/6/2007 £'000 Unaudited	30/6/2006 £'000 Unaudited	31/12/2006 £'000 Unaudited
Intangible assets	13,254	13,432	13,498
Property, plant and equipment	664	783	731
<b>Total non-current assets</b>	<b>13,918</b>	<b>14,215</b>	<b>14,229</b>
Inventories	311	417	477
Trade and other receivables	1,955	920	852
Cash and cash equivalents	2,200	2,161	6,423
Trade and other payables	(2,489)	(1,111)	(3,331)
<b>Total net assets/(liabilities)</b>	<b>15,895</b>	<b>16,602</b>	<b>18,650</b>
Share capital	453	418	428
Share premium/merger reserve	32,475	27,841	28,924
Shares to be issued	-	4,225	4,225
Profit & loss account	(17,033)	(15,882)	(14,927)
<b>Equity shareholders funds</b>	<b>15,895</b>	<b>16,602</b>	<b>18,650</b>

# Cash flow

	H1 2007 £'000 Unaudited	H1 2006 £'000 Unaudited	Full Year 2006 £'000 Unaudited
<b>Operating loss for period</b>	<b>(3,183)</b>	<b>(2,879)</b>	<b>(2,641)</b>
Depreciation & other amortisation	274	233	557
Share-based payment expense	260	114	353
Working capital (increase)/decrease	(1,753)	(9)	2,348
<b>Cash flow from operations</b>	<b>(4,402)</b>	<b>(2,541)</b>	<b>617</b>
Net interest	104	45	115
Tax	30	(9)	(5)
Acquisition of subsidiaries	-	(66)	(66)
Capital expenditure	(111)	(145)	(318)
Write-off of intangible asset	147	-	-
<b>Free cash flow</b>	<b>(4,232)</b>	<b>(2,716)</b>	<b>343</b>
Share issues	64	-	1,117
Loans (decrease)/increase	(137)	417	232
<b>Cash (decrease)/increase</b>	<b>(4,305)</b>	<b>(2,299)</b>	<b>1,692</b>

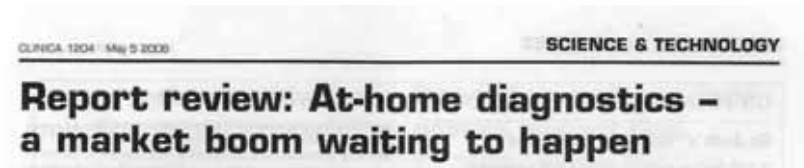
# Oxonica's Steps to Success

- 9 products in market; continue to build product offerings
- Drive increasing market penetration of products
- Manage current activities to profitability
- Accelerate development of new business



Build the leading nanomaterials business

# Appendix



**NEWS IN BRIEF**

**New London Low Emission Zone**

Public consultation on proposals for a London-wide Low Emission Zone began on 30 January 2006. The aim is to improve London's air quality by encouraging vehicle operators to clean up their fleets. It would mean lorries, coaches and buses that fail to meet a minimum pollution standard pay a charge if they drive polluting vehicles into Greater London. Cars would not be affected by the introduction of a Low Emission Zone. For more details see the Transport for London website.

**CARBON & CARS: THE EU**

Transport was a key sector targeted under the Kyoto Protocol for reductions in carbon emissions. However, the EU has experienced a significant rise in CO<sub>2</sub> emissions from transport since 1990, the Kyoto baseline year. Carbon emissions from transport increased by 26% between 1990 and 2004. The EU urgently needs to put in place measures to reduce CO<sub>2</sub> emissions from the transport sector if it is to meet its target of a 20% reduction in greenhouse gas emissions by 2020.

Aviation looks likely to enter the EU ETS by 2008 or early 2009. Aviation emissions are growing fast, but they still account for only around 20% of all transport sector carbon emissions. The road transport sector remains by far the largest contributor to transport sector greenhouse gas emissions.



Environment and Emissions

## Green fleets

As reducing national carbon emissions is fast becoming the latest political 'hot potato', **Alan Whitehead MP** asks: 'Can we decarbonise our freight fleet?'



CLINICA 1198 March 17 2006

AVIAN FLU

**Alarm rings across Africa over diagnostic readiness and wider investment needs**

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# Appendix

## Optisol™

- Increases UVA protection
- Photo-stable, giving long lasting protection from UVA and UVB
- Minimises free radicals

A photostable UV absorber, providing enhanced and longer lasting protection against UVA in sun care and anti-ageing products. Optisol™ also reduces the formation of free radicals produced by exposure to the sun, which are implicated in premature skin ageing. Optisol™ is incorporated in Boots Soltan Once range

# Appendix



- ENVIROX™ saves fuel
- ENVIROX™ catalytically removes engine deposits
- ENVIROX™ reduces harmful exhaust emissions

ENVIROX™ fuel borne catalyst is a scientifically and commercially proven diesel fuel combustion catalyst which reduces fuel consumption, green house gas emissions (CO<sub>2</sub>) and other harmful exhaust emissions.

These benefits are achieved by using a catalyst technology based on cerium oxide, a well-known industrial catalyst, which is already used within the automotive sector in gasoline engine three-way catalytic converters

# Appendix

## Nanoplex™

- High-level multiplexing and simultaneous internal calibration
- Minimal, interference from highly-coloured and/or scattering samples such as blood or fixed tissue
- Environment-insensitive signal generation

Together, these benefits translate to unprecedented capabilities for biomarker quantitation, with the ability to support the implementation of the next generation of ultra-sensitive, multiplexed biomarkers, covering a wide range of areas, from infectious disease, cardiac and cancer diagnostics to food testing for pathogens and animal health.

# Appendix

## How small is nano?

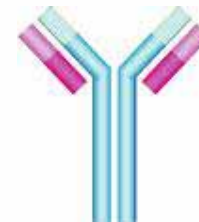
- A nanometre is a billionth of a metre
- 1 inch = 25,400,000nm
- 1 nanometre is 100 – 1000 smaller than a human cell



Single strand of hair is 10,000 nm



Blood cell is approx. 80nm



Antibody is approx. 6nm

# Appendix



## Michael Natan, PhD

As CTO of Oxonica, Dr. Michael Natan guides technical development of the company's product portfolio for the diagnostics and security markets.

Formerly CEO and Founder of NanoPlex Technologies, Inc., Michael has unparalleled experience in metal nanoparticle technology with more than 60 published papers, 13 granted patents and 32 pending applications.



## Barry Park, PhD

Barry joined Oxonica in 2001 and currently has responsibility for IP and regulatory issues as well as sourcing and supply of Oxonica's UV absorber and fuel additive products. Barry is a co-author of 20 papers and is an inventor on over 120 granted patents, 48 pending applications.

Barry represents Oxonica on UK and US nanotechnology industry organisations. These include the Nanotechnology Industries Association in the UK and the NanoBusiness Alliance in the US.