

GIBSON INDEX NEWSLETTER

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Your Monthly e-Newsletter on British Enterprise and Innovation

Welcome to the UK's most comprehensive and best-read Newsletter on Small Technology Companies, Academic Enterprise and Latest Innovation

Myths, ancient and modern, abound when discussions begin about the **Greek fiscal crisis**. Many of these – both good and bad – can be discounted. First, the willingness of the Greeks to rein in their profligate ways. This is 'near zero'. Very few Greeks pay any income tax – the cash economy and offshore accounts are the ways of doing business.

Sovereign defaults are typically about willingness to pay rather than ability to pay. Greece has plenty of assets and huge potential to cut spending, increase tax collection and improve productivity if it is willing to make sacrifices. Rather than solvency, Greece's challenge is whether the changes required are politically possible.

A second myth is that a Greek default would have few implications. Unfortunately, this is unlikely to be true – even if the main initial losers are French and German banks.

Even the **German Government** now seems to accept it was too complacent in imagining the market was prepared for a Greek debt restructuring. **Lehman** was a severe market shock, but a Greek default could trigger a global slump if credit dried up.

The next myth, widely held, is that it is in Greece's interest to default. The country would still need to borrow money immediately or face huge spending cuts overnight to balance the books. Worse, the Greek banking system would collapse as its capital was wiped out and its funding dried up; under **European Central Bank** rules, Greek government bonds would no longer be eligible as collateral. Nor would it make life easier if Greece tried to leave the euro, since this would likely trigger an immediate run on its banks.

Sadly, the **Euro Zone** has little option but to bail out Greece again. But one piece of sympathy for the Greeks – the Euro Zone is charging a high lending rate, almost twice what the **European Financial Stability Facility** pays to borrow, making repayment much more difficult. This makes little sense.

www.gibson-index.com

The Newsletter is compiled and edited by **Marcus Gibson**, former *Financial Times* technology correspondent, who has been covering enterprise and innovation for more than 20 years. The Newsletter aims to highlight developments in at least 100+ companies each month. It is derived from the wide-ranging news-gathering operation that produces the [Gibson Index SME database](#), which now contains profiles on more than 47,000 UK-based technology SMEs.

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COMPANY OF THE MONTH

BAE Systems awards missions software contract to Cambridge Pixel Ltd

Cambridge Pixel won a contract worth 600,000 pounds to supply its software-based SPx radar scan converter to **BAE Systems** for the command and control client software aboard UK warships.

In January 2011 BAE Systems Mission Systems needed a radar scan conversion technology for the **Royal Navy's** Type 45 destroyers and the Queen Elizabeth-class aircraft carriers.

Cambridge Pixel is a developer of primary radar, acquisition, radar processing, and display solutions. The BAE Systems command and control client software feeds video from several different shipboard radar systems into a computer server, and distributes the radar video over Ethernet networks to command and control displays located in different parts of the ships. The server application is built from Cambridge Pixel's HPx-100 radar acquisition cards and SPx software modules for compression and network interfacing.

Brian Page, chief technical authority for the CMS-1 combat management system at BAE Systems Mission Systems, said "We chose Cambridge Pixel's solution for these programs because of their advanced software solution and flexible product architecture. Our software engineers were able to work with Cambridge Pixel to integrate the SPx capabilities into our server and client software. Cambridge Pixel's expertise in radar display systems has been a great asset to our program."

The Type 45 anti-air warfare destroyer will provide the backbone of the Royal Navy's air defenses for the next 30 years and beyond. Ultimately, Type 45 will defend the UK's new aircraft carriers or groups of ships, such as an amphibious landing force, against the strongest threats from the air.

The **Queen Elizabeth class** is a two-ship class of aircraft carrier being built for the Royal Navy. The Class will be the biggest and most powerful surface warships ever constructed for the Royal Navy. These 65,000 tonne ships will be used by all three sectors of the UK Armed Forces, each providing a four acre operating base that can be deployed worldwide.

www.cambridgepixel.com

SME NEWS – ENGINEERING, ELECTRONICS, TELECOMS

Space structures research project given go-ahead by the TSB

Magna Parva Ltd has been included by the **Technology Strategy Board** for the Consolidated Off Planet Manufacturing and Assembly System for Large Space Structures (COPMA) project.

The scheme will develop the idea of off-planet manufacturing for technology such as solar sails and antenna reflectors, which could cut the costs and complexity of such structures.

The TSB has given Magna Parva £30,000 to develop a proposal, which it hopes to take to the European Space Agency in around six months' time. If this equipment were manufactured in space it could be made thinner, lighter and with fewer parts because it would not have to withstand the force of Earth's gravity or fold compactly into a launch vehicle.

Andrew Bowyer, Magna Parva's director, said he thought technology from the Consolidated Off Planet Manufacturing and Assembly System for Large Space Structures (COPMA) project could become a reality within five to 10 years.

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Mr Bowyer said one of the key manufacturing processes Magna Parva will examine is 'pultrusion' (from pull and extrusion), where composite material is pulled through a shaped die to create long structures with continuous cross-sections, for example, tubes.

Pultrusion is already used to make structures with embedded devices such as stress sensors or fibre-optic cable and Magna Parva hopes to apply this technology for space use.

Mr Bowyer estimated that manufacturing equipment around 1m³ in size could make 200m-long structures. "The process itself is very easy to control and not particularly manually intensive," he said. "We've got some ways of joining structures automatically and there's a lot of detail when it comes to joints and how you would create unlimited lengths of structure."

www.magnaparva.com

New engineering design SME opens for business in Rotherham

In June 2011 a new breed of engineering design company, **Performance Engineered Solutions (PES) Ltd**, started up at the AMP Technology Centre on the Advanced Manufacturing Park in Rotherham.

The company has grown out of AMP-based **Bromley Technologies Ltd** and specialises in enhancing the performance of components, products and systems by delivering integrated engineering thinking alongside innovative design, materials, manufacturing and testing technologies.

Dan Fleetcroft, Design Director, said the company is currently working on a number of projects including; aerospace components, the aerodynamic and composite design for a new Moto2 racing bike, composite parts for a super lightweight, high performance road car, R&D projects in the automotive tyre sector, and the management of a major international engineering project.

Mike Maddock, MD at PES said: "The last 12 months have seen significant developments within all aspects of the business, and in order to take full advantage of the opportunities that are arising we have decided to separate the key business areas.

"We believe that there is significant potential within industry for the kind of integrated engineering design services that PES provides. The interest is such that we are already looking to expand the team and recruit additional high calibre design engineers."

The company is also sponsoring British racing driver **Paul Rees**, who is driving the MTech Ferrari 458 Italia in the international FIA GT3 sports car championship.

Dan Fleetcroft has worked with many F1 racing teams, including Ferrari, Arrows, Prost GP, Kenny Roberts Moto GP team and B3 Technologies Ltd design & engineering consultancy. Throughout this time he has also completed projects in multiple engineering environments outside of F1 including aerospace, automotive, medical technology, elite sport, renewable energy and product design.

www.pes-performance.com – dan@pes-performance.com

UK Space Agency warms to Reaction Engines' Skylon project

A technical assessment has concluded that there are no impediments to the further development of the Skylon spacecraft being developed by **Reaction Engines**.

The UK Space Agency's report on the Skylon technical assessment, for which the **European Space Agency** (ESA) was commissioned, also agreed with the objectives of the proposed next stage of the development programme.

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Reaction Engines, based at Culham Science Centre in Oxfordshire, will now conduct a demonstration of the engine's key pre-cooler technology later in the summer.

Skylon is an unpowered, reusable single-stage-to-orbit spacecraft that is capable of delivering payloads of up to 15 tonnes into Low Earth Orbit at a fraction of the cost of traditional expendable launch vehicles, such as rockets.

Skylon's Sabre engines use liquid hydrogen combined with oxygen from the air at altitudes up to 26km and speeds of up to Mach 5 before switching over to on board liquid oxygen for the final stage of ascent.

Dr David Parker, director of technology, science and exploration at the UK Space Agency, said: "Both Sabre and Skylon are exciting new technologies that could transform access to space. ESA's positive assessment should give everyone increased confidence that Reaction Engines is on the right track. We are looking forward to the upcoming technology tests with interest."

In separate news, scientists and engineers at the **University of Queensland** (UQ) are building a 1.8m-long hypersonic scramjet that is expected to fly at 8,600km/h in South Australia next year.

According to UQ, the research is the first phase of Scramspace, which aims to change the way satellites are launched into space. Scramspace I is on track for launch at Woomera in South Australia late next year, having passed a major design review. According to technical lead **Dr Sandy Tirtey**, the scramjet has passed its preliminary concept-development phase. "We have another design review set for July and are aiming at the critical design review in October this year," said Dr Tirtey. "After that, we start the process of manufacture, assembly and extensive pre-flight tests."

www.reactionengines.co.uk

Offshore Hydrocarbon Mapping plc rises from ashes as Rock Solid Images plc

Analysts think Rock Solid Images plc will 'return to profitability in 2011-12', and a strong IP portfolio 'underlines the valuation'.

The firm has been re-focused as an interpreter and integrator of seismic, well-logging and CSEM data. The group is a leader in rock-physics and seismic reservoir characterization, pioneering the processing, interpretation and integration of data from a variety of sources.

In November 2010 the disposal of the marine CSEM survey business was completed, and the core geophysical processing and interpretation business was at last receiving much needed investment and is confidently moving into a growth phase.

As a result of the disposal, **Rock Solid Images** (RSI) has become a specialist interpreter and integrator of geophysical data, specifically seismic, well, CSEM and magnetotelluric data. RSI has embarked on a business re-introduction programme with existing and past clients as well as introducing the company to potential new clients. Investment in an increased sales force has given RSI the ability to develop and close a wider set of business development opportunities.

The firm recorded a pre-tax loss of £1.5 million for the six months to 28 February 2011. This compares with a £1.3 million pre-tax loss (as adjusted for discontinued operations) for the same period last year. Cash balance at 28 February 2011 was £1.8 million.

Peter Reilly, non-executive chairman of Rock Solid Images, said: "The first six months of the financial year to 31 August 2011 has seen the Board put in place arrangements to stabilise the business and make investments in technology and people. The second six months will see more effort on brand support, sales and marketing and further technology development.

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“The investments we have made in software are designed to improve our processing and interpretation capabilities particularly for seismic and CSEM data, but also for key enabling technologies such as rock-physics.

They see themselves as the only independent supplier of integrated processing and interpretation products and services for seismic and electromagnetics. Its traditional Rock Solid Images business remains strong in West Africa and they continue to work on developing new markets such as unconventional shale gas in North America and fractured reservoirs.”

www.rocksolidimages.com

Is Norwich based electronics firm Proxama ‘one to watch’

Proxama is a fast-expanding business working at the forefront of next generation mobile consumer technologies. In January 2011 Proxama acquired Cambridge-based company **Hypertag**, to become the world leading specialist in proximity marketing, and in March Most recently, Proxama, a developer of near field communications (NFC) technology, announced it will be collaborating with Nokia on developing NFC applications for the new generation of smartphones, starting with the Nokia C7.

Most recently, in May, Proxama delivered the first NFC marketing campaign in the UK for the next ‘X Men’ movie. Fresh from speaking at the world’s leading WIMA conference in Monaco, founder **Neil Garner** says Proxama is now “a company to watch in the East Anglia region”.

Proxama has designed a complete NFC-driven service package, featuring its unique TagCenter application that will enable Nokia NFC phone users to get instant, media-rich brand experiences from NFC data tags that will be on posters, product packaging and point-of-sale displays.

The Nokia C7 is the first Nokia handset to make use of Proxama’s **TagCenter**. The delivery of Nokia NFC-enabled phones presents brands, advertisers, media owners and retailers with new opportunities to reach customers through NFC marketing campaigns.

Neil Garner added: “The NFC mobile phone is now a reality. This collaboration with Nokia means that, very quickly, consumers around the world will be able to enjoy much more rewarding interaction with their favoured brands.

“Proxama’s TagCenter will breathe new life into traditional media channels that have been in decline, by enabling them to deliver to consumers a much more engaging experience. It also offers advertisers something of a Holy Grail; because these channels will be instantly more measurable, advertisers will have the ability to monitor and measure actual consumer behaviour that is prompted by the NFC interaction.”

www.proxama.com

Pico Technology celebrates 20 years in business as makers of oscilloscopes

In June 2011 Pico Technology, based in St Neots, entered its 20th anniversary by launching its fastest-ever PicoScope. Its four-channel PicoScope 6404 PC Oscilloscope has an analog bandwidth of 500 MHz and real-time sampling rate of 5 GS/s.

Based on Pico Technology’s experience in PC Oscilloscope design, the instrument packs more performance and features than ever before into a space-saving USB oscilloscope enclosure.

“It includes valuable features such as segmented memory, serial decoding and advanced digital triggers at no extra cost,” explained MD **Alan Tong**. “Many of our competitors sell these as optional extras. Their

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deep memory upgrades, for example, often cost more than one of our scopes.”

Since it was established in 1991 Pico Technology has been at the forefront of PC test and measurement solutions. During this time Pico has built up an impressive portfolio of products; including the PicoScope 3000 series of PC Oscilloscopes, the USB TC-08 Thermocouple Data Logger and the award-winning Automotive Diagnostics Kit.

Pico Technology supports a network of distributors in over 60 countries worldwide, building and maintaining their enviable reputation in the industry.

www.picotech.com

Video Arts links up with Hubflow Ltd to provide ‘m-learning’ programmes

Hubflow, a specialist supplier of mobile content management systems, joined with London learning provider Video Arts to provide ‘m-learning’ programmes.

Video Arts has been the UK’s leading provider of video-based learning since 1972. Founded by **John Cleese** and **Sir Anthony Jay**, who wrote the ‘Yes, Minister’ TV series, it has won over 200 awards for its learning content, and is now part of the **Tinopolis** group.

Hubflow delivers training materials to any mobile workforce. It can be used to share a video on best practices, a PDF of the latest product information or a podcast to reinforce those key messages, hubflow makes the process simple and efficient.

Hubflow measures key metrics, such as who is downloading and viewing content, how long are they looking at it, and what do they think about it, via feedback mechanisms. All data is centrally captured and reports and analytics allow you to explore the data and find new insights into the way your workforce learns.

Hubflow allows managers to control who will receive content, and ensures that the content remains secure through secure and digitally-rights managed (DRM) processes.

Each programme brings to life key learning points using ‘bite-sized’ video clips, with famous faces such as **Hugh Laurie**, **Dawn French** and **James Nesbitt** playing memorable characters. The two – three minute clips include ‘wrong-way, right-way’ scenarios that demonstrate different skills, behaviours and techniques, as well as summaries and strategies for success.

www.hubflow.com

Foreign subsidiary benefits from EPSRC funding – but why?

Eyebrows have been raised after the UK subsidiary of a very rich Swiss hearing products manufacturer was included in the three and a half year ‘Hearing Dummy’ project, which has received funding totalling nearly £358,000 from the EPSRC.

Phonak UK will be part of a scheme which includes hearing charities (**Deafness Research UK**, **Action on Hearing Loss**), the (**Colchester**) **Hearing Care Centre**, the **Colchester Hospital University NHS Foundation Trust** and the **Department of Computer Science** at the **University of Sheffield**.

At the heart of the scheme is **Professor Ray Meddis**, of **Essex University’s** Department of Psychology, who is recognised as a world-leading authority on the development and use of computer models of peripheral hearing. The new hearing tests are quicker and easier to use than laboratory-based procedures because they have been changed into a simple ‘tone-counting task’ suitable for use with a minimum of

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training. The tones have different levels and by comparing the number presented with the number heard, it is possible to infer what is heard and what is missed.

In addition the number of trials involved in the testing process has been greatly reduced. They still, however provide the required accuracy necessary to produce all the information needed to assess a patient's needs thoroughly.

The new software 'hearing dummies' are part of cutting-edge research that promises to revolutionise the diagnosis and treatment of hearing impairments. The work could also be used in the long-term to develop a radical new type of hearing aid that can be customised using the hearing dummy to meet the different needs of individual patients.

If the procedures gain clinical acceptance, a device could reach the market within 4 years.

The aim has been to enable hearing aids to be carefully calibrated so that they address the particular underlying hearing condition affecting each individual patient; and to ensure that they tackle the most common problem affecting hearing-impaired people – sound interference, which leads to an inability to follow conversations in noisy environments.

People also differ in how much they are affected by noisy environments, which is why developing a tailor-made approach represents such a significant breakthrough.

www.phonak.co.uk

Skipton-based Contis Group acquires card issuer GTP Financial Services

Little-known online banking and pre-paid card technology business **Contis Group** card issuer **GTP Financial Services** for an undisclosed sum. The deal cements Contis as one of a handful of 'end-to-end service providers' in the European pre-paid card industry.

Contis Group general manager **Mike Fromant** and finance director **Seng Ng** celebrated a deal which will boost international operations. Buying GTP is part of the Contis Group's plan to grow organically through acquisitions.

Mike Fromant said the deal would further develop its strengths and capabilities as a full supplier of Visa pre-paid card solutions across the UK and EU. He said: "This milestone positions us as a major player in what is becoming a complex and often poorly-serviced sector. We see great opportunities in developing innovative pre-paid solutions which can be linked to our internet banking solutions, as well as to our advanced payment platforms."

In addition to its Skipton base, where it has 25 staff, Contis has established a high-tech development centre in India where it creates bespoke solutions for clients and partners.

Mr Fromant added: "There is a voracious demand from programme managers throughout the UK and Europe for a dynamic partner who can retain total in-house control, demonstrate a full set of capabilities and can be relied on for timely and professional delivery of schemes. Our expertise and hard work ensures we are ready to step up to the plate and maximise this opportunity to underpin our position as a major player in the payment technologies market."

Founded in 2007, Contis Group provides technology and services to a range of international retail and financial clients including **Pizza Express, Pilkington, SpeedeCard, Mywonga, Kube, Empire Cinemas, AA Driving School, Zizzi, Crabtree & Evelyn, and Virgin**. Contis Group also issues its own brand prepaid card.

www.contisgroup.com

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Green Energy Ltd evaluates power-saving products via power helix website

Power Helix is the evaluation website for power-saving electrical products recommended and distributed by **Green Energy Ltd**. The latter 'only recommends and distributes proven, high quality energy-saving products for onward sale and distribution via its established UK distributor network'.

The green energy market is an emerging one: which means innovation is occurring all the time – and the hype keeps pace. Many products are leading edge: many products are 'bleeding edge', so new they are as yet commercially unproven and as such carry some commercial risk. One engineer said "Many products are also very poor quality imitation products that sidetrack the industry and waste peoples' money."

Green Energy are infrared heating specialists and UK distributors of **Redwell** infrared heating systems. Infrared heating works because feeling warm or cold does not actually depend on the temperature of the surrounding air.

For example, skiers and mountain climbers do not freeze even in extremely cold air. They are bathed by infrared rays from the sun. When infrared waves touch a surface, heat energy is released regardless of the surrounding air temperature. People on a winter sports holiday are able to sunbathe despite the low temperatures – all thanks to IR.

www.powerhelix.co.uk

SME NEWS – CHEMICALS, MATERIALS & ENVIRONMENT

Ilika plc raises total revenues by 48% to £1.9 million up to April 2011

The company has reported substantial growth in joint development and contract research revenues, together with an increase in the level of grant funding for own research and development, in the financial year ended 30 April 2011.

Total revenues including other operating income increased to approximately £1.9 million (unaudited), 48% ahead of the previous year's total revenues, with committed revenues including other operating income for the first half of 2011/2012 already exceeding £0.7m (H1 2010/2011: £0.15m). Losses before tax for the year improved slightly, compared with last year's reported loss of £3.26m.

Graeme Purdy, Ilika's chief executive, said: "We have successfully demonstrated our capabilities to a number of world leading multinational corporations in the year, embarking on commercial projects with three new customers, whilst continuing to extend and deepen longer standing relationships.

"Significant progress has been made in the development of products building on previous work undertaken with our partners. Specific examples include a programme of scaling up a more energy efficient and safer hydrogen storage product from materials originally developed together with **Shell**. With one of our manufacturing partners, **Sigma Aldrich**, they have been successful in increasing levels of hydrogen storage capacity at the prototype testing scale. This gives us further confidence of achieving first commercialisation of our material in 2012."

Ilika is an advanced materials company which accelerates the discovery of new and patentable materials using its unique high throughput technologies process for identified end uses in the energy, electronics and biomedical sectors. This process enables hundreds of scalable materials to be made in a single, automated operation and subsequently tested for key properties.

www.ilika.com

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Can you mark your pitch with 1 litre of line marking paint?

Pitchmark was founded by **Mark Rodman**, an engineer and groundsman in 2010 – and he was jointly awarded the 2011 **Queen's Award for Enterprise**.

Pitchmark provides a cost-effective system that can mark an average-sized soccer pitch with only one litre of Impact Eco paint. It is now a unique, environmentally friendly line-marking system used by top English **Premier League** football clubs, and stadiums around the world. Impact Eco is a ready-to-use paint that requires no additional water, making it the easiest and quickest system available.

Its application does not require the use of water, there is no mixing, no measuring or pouring its environmentally responsible packaging is recyclable. "Combined with the Eco Pro Marker, it produces bright, durable and quick-drying lines resulting in huge financial and environmental savings for the user," said Mark Rodman.

He added "It is the most cost effective system globally including paint costs, labour, waste disposal and water consumption. The Impact paint system was created to transform the outdated system of diluting concentrates with water, resulting in a huge reduction in water consumption and making it the most advanced eco-friendly product in the industry."

Following its outstanding success the system caught the eye of **Keith Kent**, Head Groundsman at **Twickenham**, England's premier rugby ground: "There is no ghosting seen after cutting twice the following morning after application and the brightness of the line was amazing, with less paint used in marking out than with its current formulation. Even five hours of non-stop torrential rain during the tournament did not affect the brightness of the line."

Pitchmark has recently secured 'home-field advantage' by appointing **Swancorp Pty Ltd** as exclusive distributor in Australia. Swancorp, a leading horticultural Queensland company, will distribute the Impact Eco system down under from May 2011.

www.pitchmarkltd.com

Leicester University spinout Perpetuity Research launches anti-counterfeit module

The firm has helped create a handheld device that will detect fake whisky and wine through the bottles they are contained in. The technique used by the device will rely on detecting the characteristics of light reflected from printed packaging on the bottles using spectroscopic imaging. The technology has already been adapted for use in the pharmaceutical world by the team at the Leicester University's **Space Research Centre**, in conjunction with university spinout company Perpetuity Research and Consultancy International, and colleagues at **De Montfort University**.

Now the technique is being re-purposed again for use in detecting fake liquids, with experts at De Montfort University providing skills in product design and rapid prototyping so that a handheld device can be created.

Tim Maskell, knowledge transfer manager in the Space Research Centre at Leicester University, said the project is one of five Collaborative R&D grants worth a total of more than £235,000 announced by the region's **Food and Drink iNet**, which co-ordinates innovation support for businesses, universities and individuals working in the food and drink sector in the East Midlands. The team has been awarded £50,000 towards the almost £71,000 cost of the research project.

The team is working with the **Scotch Whisky Research Institute** and Leicestershire brewery **Everards** to help with the research and product trials.

www.perpetuityresearch.com

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ITM Power's hydrogen fuel system in spotlight from Vestas and Center Parcs

Vestas Wind Systems and **Center Parcs** have joined other organisations, including local councils, who have signed up to trial a transportable high pressure refuelling unit for hydrogen-powered vehicles, developed by Sheffield-based ITM Power.

ITM Power's chief executive **Graham Cooley**, said: "Their assessment of our energy storage and clean fuel technology, using wind energy, for decarbonising return to base logistics fleet vehicles, will provide ITM Power with incredibly useful data. Center Parcs provides a perfect demonstration of return to base commercial fleet refuelling."

The Danish firm had almost 13 per cent of the wind turbine market last year and has installed more than 40,650 turbines worldwide. Vestas's **Rob Sauven** said: "Wind is an energy source on par with oil and gas and we are pleased to support ITM Power in the development of its Transportable High Pressure Hydrogen Refuelling Station... using hydrogen derived from wind energy. This fits well with Vestas' goal of generating the greatest and most sustainable return on wind for our customers."

ITM Power's **Hydrogen On Site Trials** (HOST) involve companies using ITM's portable hydrogen generation system, powered by sustainably generated electricity, to split water into oxygen and hydrogen and refuel hydrogen-powered vans, developed by Revolve Technologies.

www.itm-power.com

Cardiff University technology launches water impurities devices via spinout firm

In May 2011 a device that grows light-emitting bacteria to continuously detect for water impurities won a university innovation award. The Cardiff University Innovation Awards are awarded for successful collaborations forged between the university and industry.

The Continuous Toxicity Monitor (CTM), which allows authorities to monitor water supplies in real time for suspicious biological or chemical contaminants, received the prize from Cardiff University.

The technology was developed by a team from the university's School of Biosciences, led by Prof David Lloyd, and spinout Cymtox, now a subsidiary of Guildford-based technology firm Modern Water plc.

Bio-luminescent (light-emitting) bacteria from deep in the ocean are grown inside the CMT and any changes in the water being tested can be detected because they affect the amount of light produced. "The light emission is a complicated system that is sensitive in a non-specific way to many different toxicants – thousands, maybe tens of thousands of chemicals. So almost anything will affect the light output," Prof Lloyd said.

Water samples inside the CMT are mixed with a small amount of bacteria and sensors known as photomultiplier tubes are used to measure any change in the light produced.

The 60kg device can be monitored remotely and in real time using the internet, and can check individual samples or automatically collect water from open bodies such as rivers or from domestic or industrial supplies or outflows.

The CMT is able to continuously monitor a water source because it uses the same stock of bacteria for up to one month. Then a new culture of organisms can be installed and monitoring can begin again.

www.modernwater.co.uk

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Alstom dips into piggybank to take a stake in AWS Ocean Energy Ltd

The Scottish wave energy company has sold a 40% equity stake in Inverness-based firm to the power engineering giant Alstom, which will give the firm the financial strength to expand its operations and accelerate the development of its AWS-III wave power technology. It is Alstom's first investment in the wave energy sector.

Alstom becomes a shareholder in AWS Ocean Energy alongside the **Shell Technology Ventures Fund 1** and **Scottish Enterprise/Scottish Investment Bank**.

AWS Ocean Energy Ltd currently employs 14 people, primarily in engineering and research analysts. Its core business is marine energy technology: creating, commercialising and delivering enabling technologies and related services to the emerging marine energy sector through R&D, engineering and commercial expertise.

AWS's lead product is the **AWS-III**, a multi-MW offshore wave energy generator evolved from the award-winning Archimedes Waveswing technology, first deployed and tested in Portugal in 2004. A 1/9th scale prototype of the AWS-III was trialled last year (2010) in Scotland's Loch Ness and the company plans to deploy and test a full size single cell of the AWS-III multi-cell prototype in Scottish waters next year (2012) and are aiming to deploy their first AWS-III in 2013/14.

Alstom's Senior VP of Hydro and Wind, Philippe Cochet, said: "Having reviewed many different technologies, and undertaken further detailed analysis with the most promising, we are absolutely confident that AWS-III is a technology that perfectly complements our existing ocean activities in tidal energy and offshore wind."

www.awsoccean.com – www.alstom.com/power

IOTA NanoSolutions wins new funding from Unilever Ventures Ltd

IOTA, a specialist formulation company, completed the financing round to help it fund commercialisation of its proprietary nanodispersion formation technology, ContraSol. Poor solubility of active ingredients can pose formulation constraints, impair the performance of product ingredients and restrict the wide use of commercial materials. ContraSol allows the transformation of poorly soluble organic active ingredients into dry solid formats (e.g. powders, tablets or granules) that rapidly form nanodispersions on contact with liquids. This can be achieved with hydrophobic actives in water or hydrophilic actives in hydrophobic liquids. The nanodispersions aid the delivery and lead to performance enhancement of poorly soluble active ingredients.

IOTA NanoSolutions is actively exploiting its technology and expertise in collaboration with multi-national companies including but not limited to the pharmaceutical and agrochemical sectors.

Andrew Elphick, IOTA's CEO said "ContraSol is highly innovative and offers many possibilities within the pharmaceutical, agrochemical and related industries. It offers the potential for lifecycle management of existing products, progression of new chemical entities through R&D pipelines and to revive candidates that have been previously overlooked due to solubility issues. We thoroughly look forward to working with QIB and UV to further drive the company's growth and accelerate development within these key strategic sectors."

John Coombs, MD of Unilever Ventures said "ContraSol has generated significant interest from multiple leading global players in the pharmaceutical and agrochemical sectors and we remain confident the technology and company will continue to excel in these fields".

www.iotanano.com

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Thoughtified Ltd wins Best Graduate Start-up at SET Squared summer showcase

The firm, and its cloud based application **ManagePlaces**, a web application in the cloud that uses geolocation information (GPS) to remotely manage land, projects, customers – or any type of asset, with access from any device (laptops, tablets, mobile phones – with or without an internet connection).

ManagePlaces saves staff costs, resources and time, and improves outputs and reporting. ManagePlaces has generated huge interest operating as a social enterprise focusing on applying its cutting-edge technology to improve health services and biodiversity protection. Government agency **Natural England** quickly recognised its potential for the management of biodiverse sites.

It has given advice and feedback for extending the need, particularly for UK **Wildlife Trusts**, and introduced requirements for the development of this unique, easy to use, secure system.

The prototype was funded with grants from the **University of Surrey, EPSRC and SEEDA**. Discussions are underway with the **National Farmers' Union** for the use of ManagePlaces by farmers claiming **DEFRA** environmental subsidies.

As a result of targeted marketing, **Aggregate Industries plc** asked for the software to be integrated with their system. The company is working with **Central Surrey Health (CSH)** to adapt the product to manage home-care visits by its 200 nurses. CSH identify that the system will save time and money. As part of its social enterprise activities the company is researching the use of its technology in foetal heart monitoring in Ethiopia.

Thoughtified is a **SETsquared** partnership member. In its first year the company predicts sales in excess of £500,000.

www.thoughtified.com

Twickenham-based NewField IT Ltd bought by Xerox in surprise move

In June 2011 Xerox acquired growing London IT firm NewField IT, which employs 29 people in the UK and five in the US. **Robert Newry**, MD of NewField IT, which has built a flourishing export business with the help from UKTI.

Under the terms of the purchase, the Twickenham-based print consultancy and software solutions provider becomes a wholly-owned subsidiary of Xerox but will continue as an independent business, benefiting from the investment and resources of a global industry player. As well as its headquarters in Twickenham, NewField IT has an operation in Philadelphia, which will remain part of NewField IT.

Robert Newry said: "Xerox approached us with an excellent offer. As an independent unit, we can take advantage of Xerox's global presence and respected innovation in the MPS (managed print services) space to scale our business and technology. This success, and the business growth that preceded it, are a great example of what can result from effective government support for SMEs."

Ian Paterson, UKTI International Trade Adviser based in London, said the Passport to Export scheme was a valuable contributing factor in its export success. It represented 44 per cent of sales in the financial year 2010/11. It can be difficult for small firms to expand overseas without the sort of assistance available from UKTI. They provided affordable support and intelligent advice that enabled us to expand overseas rather than use expensive third-party services.

www.newfieldit.com

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North East firm ScreenReach links mobile phone user and advertising

The fast-growing Newcastle digital business **ScreenReach** is looking to expand its operations in the UK and US as major companies take advantage of its pioneering technology. Founder **Paul Rawlings** developed a system which gives customers a chance to engage with TV and digital signage on their mobile phones, and receive rewards for getting involved. The company – which moved to the North East after passing through the Difference Engine accelerator scheme – has been marked as a company to watch in 2011, and has expanded its heavyweight board in 2010.

Entrepreneur **Tom Maxfield**, who made millions with **Sage**, put £250,000 into the company and took the role of chairman, while **21st Century Media** co-founder **Sam Morton** also joined in the summer as COO. **Bob Morton** took on the financial director role for this start-up, while **Nick Imrie** of **03TALK** is a non-executive director.

From receiving rewards for voting on the X Factor to interacting with a digital sign by completing a game or quiz, users can receive discounts or prizes for participating, and advertisers and programmers can receive a more personalised impression of their customer and squeeze greater impact out of their advertising.

30-year-old Paul Rawlings started out creating EPOS, sales order processing and marketing systems for businesses including **Burger King** and **Dixons**. In 2009 he built a couple of Twitter-based businesses – these included **Twe2**, a free SMS provider for twitter sold privately by Paul in the same year and a social auction website **Tweba**, which grabbed the headlines.

www.screenreach.com

Publisher Bloomsbury revealed a further acceleration in demand for e-books

As more consumers downloaded titles to read on Kindles and other electronic devices, sales of e-books at **Bloomsbury** hit £1.5 million in 2010, against £79,000 the previous year, driven by strong growth in the US and a surge in demand from the UK, which started in the final quarter.

The growth in demand has continued, with Bloomsbury selling £1.1m of e-books in the first three months of this year. The company, celebrating its 25th anniversary, said the e-book had prompted one of the most profound changes in the publishing industry since the birth of the printing press.

Nigel Newton, chief executive, said: “Demand for digital delivery, including e-books, is increasing significantly. It will change the publishing business model creating one worldwide market.”

The group said the downloading of titles to read on Kindles and other devices showed strong growth in the US throughout the period and a leap in demand in the UK in the final quarter. It predicted Germany would see the next digital boom. The company’s best-sellers in the period included **Elizabeth Gilbert’s** *Eat, Pray, Love*, which was turned into a movie starring **Julia Roberts**, and Man Booker Prize-winning **The Finkler Question**.

Bloomsbury, which is changing its tax year, said revenues rose to £103.4 million in the 14 months to 28 February, compared with £87.2m in the 12 months to December 2009. Pre-tax profits dropped to £4.2m from £7.1m in the previous year.

The publishing world is currently handling its own revolution against the tough backdrop of major public debt and fiscal imbalances. Digital competence is undermining old business models, spawning new ones and allowing major new forces to transform – or render irrelevant – traditional relationships.

www.bloomsbury.com

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Site Intelligence gains investment with Nauta Capital and Oxford Capital Partners

The company, a provider of software solutions for multi-channel customer intelligence, received the \$7m investment, which will support the company's continued growth and global expansion. Site Intelligence will continue to build on their expertise in the data-rich world of online analytics while focusing on the growing demand for multi-channel customer intelligence and associated data integration.

Harry Wallaesa, chairman of Site Intelligence, said "This investment will greatly help us increase our sales and marketing capabilities, reinforce our development and consulting teams, and enhance our customer support services. It will further allow us to execute on our plans to expand into the North American and other European markets while offering increased focus on our ongoing operations in the UK and Asia Pacific."

Peter Ryan, recently appointed as chief executive of Site Intelligence, said "We believe our current and future technologies will bridge the gaps between existing analytics and business intelligence technology providers, therefore allowing our clients to connect multiple data sources and facilitate a single view of their customers. This results in a greater understanding of their customers' behaviour and allows them to derive insight and value from the data they collect." Site Intelligence has offices in Philadelphia (Americas), Oxford (Europe) and Sydney (Asia Pacific).

www.nautacapital.com – www.oxcp.com – www.site-intelligence.com

IT security firm NCC Group continued buying spree with buyout of US firm

Paying nearly £6m for American software company **Escrow Associates**, NCC, based on Manchester's Oxford Road, has made its fifth acquisition in just over two years.

The deal takes NCC's spending on takeovers to more than £45m since November 2008 and comes weeks after it posted a 27 per cent increase in adjusted interim pre-tax profits to £7.7m.

Escrow Associates provides data handling services to around 1,000 clients across North America, most of which are multi-national corporations. For the year ending December 2010, it recorded pre-tax earnings of around £500,000 on a turnover of £1.4m.

NCC chief executive **Rob Cotton** said: "Our stated strategy is to develop our international presence in both businesses with a combination of organic and acquisitive growth. This very exciting, earnings enhancing acquisition is another important step in strengthening our world leading position and particularly in North American – both in terms of scale and geographical coverage.

In October, NCC spent £14.1m on **iSEC Partners**, an IT security testing firm, based in San Francisco, which came on the back of three UK acquisitions, including Wilmslow's SDLC Solutions and Warrington-based **Meridian Services International**.

www.nccgroup.com

myParcelDelivery.com move up a gear with business angels investment deal

Online parcel delivery website myParcelDelivery.com completed a six figure investment deal secured from entrepreneurial investor – **Mark O'Brien**, arranged through the **Northwest Regional Development Agency's** (NWDA) business angels investor event.

David Grimes, co-founder of myParcelDelivery.com, said: "Having achieved excellent growth in just 11 months of trading, and creating 14 jobs in Manchester in the process, the cash injection will enable the company to surpass its current trading projections."

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The Manchester-based company provides businesses, eBay sellers and the general public a cost-effective and reliable means of shipping their parcels worldwide. Partnering with the leading UK courier companies such as **UPS, DHL** and **TNT**, users can book and pay for courier services at a much cheaper rate than if they went direct to the brands themselves.

Facilitated by the NWDA, Northwest Business Angels connects young and growing companies, seeking financial assistance, with investors actively looking for profitable business opportunities in the Northwest. As part of this, the **Northwest Business Link Access to Finance** team offer a free service to help entrepreneurs to become 'investment ready'.

www.myParcelDelivery.com

SME NEWS – BIOTECH, PHARMA & MEDICAL SCIENCES

Lung disease detector by Pneumascan wins Medical Futures Award

A device developed by a **University of Cambridge** spinout company, which uses video motion capture technology to diagnose and treat lung and respiratory disease, won two top prizes at the **Medical Futures Innovation Awards** ceremony, held in early June. PneumaScan came out on top in the respiratory category, and was also named as having the best business proposition of all the winners.

PneumaCare's products enable clinicians to evaluate a broad range of patients, many of whom are unable to use current techniques for monitoring lung function. Using PneumaScan, patients can be assessed while breathing naturally or performing exercises without the need to directly interact with or contact the monitoring device.

Lung disease affects one in seven people in the UK, resulting in over 24 million doctor visits each year, at an annual cost of £500 million to primary care providers and £6.6 billion to the broader UK economy. Over 300,000 specialist lung function tests are carried out each year, and yet one in three patients is unable to use a spirometer, the existing technology used to monitor lung function.

Dr Ward Hills, CEO of PneumaCare, said, "Spirometers pose problems for many patients with lung problems. For example, small children have problems blowing into standard spirometers, because when they feel resistance, they stop blowing, preventing an accurate reading of lung function. Additionally, some older patients can actually be harmed due to the physical effort required by current approaches."

PneumaScan utilises video motion capture technology in order to monitor lung function, producing accurate three-dimensional moving models of a patient's respiration. The device is simple to use for both clinicians and patients, accurate, cost-effective, and, as it is non-contact, is less likely to pass on hospital-based infections.

PneumaScan has been developed by PneumaCare in partnership with the **Department of Engineering** at the University of Cambridge, **Addenbrooke's Hospital** and Cambridge-based design house **Plextek Ltd**. In 2009, PneumaCare was the first company to receive funding from the **University of Cambridge Discovery Fund**.

Exco InTouch to become leading provider of regulatory software for pharma?

Exco InTouch provides simple, quick and non-intrusive channels of communication that enable sponsors, clinical research organisations and sites, find the right patients; keep them in their studies; motivate them to maintain full compliance and facilitate the collection of quality patient data, thus ensuring a better overall patient experience.

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Established in 2004, head quartered in the UK and with offices in North America, Exco InTouch has successfully worked with hundreds of thousands of patients in all phases of clinical and commercial development.

By June 2010 it had supported over 500,000 patients, in 60+ countries, delivering over 3m text messages. Clients include 16 of the top 20 pharma sponsors, as well as many other biopharma and CRO organisations.

Exco InTouch puts the patient at the centre of our processes and enhances many elements of the 'Patient's Journey' throughout the clinical trial process. Its approach means full engagement of the patient can be achieved early in the process and, when necessary, extended out to study closure and potentially beyond to post marketing studies.

They find the right technology that matches the right program of work and their obsession with detail and the careful deployment of our solutions.

The senior management team offer over 100 years combined pharmaceutical industry experience spanning most clinical technology software and services, wireless and electronic data capture, process re-engineering and telecommunications, as well as patient recruitment.

Exco InTouch is profitable and it is a financially sound business which is sustainable through organic growth, and not dependent on venture capital funding or angel investment. Profits are re-invested in the company for R&D purposes, keeping Exco InTouch at the forefront of patient and consumer engagement. On June 19 **William and Kate Windsor** visited the Exco InTouch booth at the 47th Annual Drug Information Association meeting in Chicago, on their honeymoon tour.

www.excointouch.com

Professor Sheena Lewis launches SpermComet – a male infertility test

A ground breaking new test for male infertility has been developed at **Queen's University Belfast**. The medical breakthrough, known as the **SpermComet**, resulted from more than a decade's research by **Professor Sheena Lewis**, who leads the Reproductive Medicine research group at Queen's.

The SpermComet provides unique information. By measuring damaged DNA in individual sperm, it can predict the success of infertility treatments and fast-track couples to the treatment most likely to succeed, leading to significantly reduced waiting times and improved chances of conception.

Professor Lewis said: "One in six couples has difficulty in having a family. In 40 per cent of cases, the problems are related to the man. Until now, there have been few accurate ways of measuring a man's fertility. Traditionally, the diagnosis of male infertility has relied on semen analysis. This provides the basic information on which fertility specialists base their initial diagnosis. However, its clinical value in predicting male fertility or success with infertility treatment is limited, particularly if the semen analysis results are normal.

Professor Lewis, in partnership with Queen's venture spinout company, **QUBIS**, has now set up a new company to market the test, which is already available through a number of fertility clinics in Glasgow, Dublin and Galway. Professor Sheena Lewis has been at the forefront of research in male fertility for the past 20 years. She has led the reproductive research team in Queen's University Belfast since 1995.

www.lewisfertilitytesting.com

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Optos plc shares soar after its eye tests linked to Alzheimer's diagnosis

Shares in Fife-based eye scanner maker Optos rose after a clinical study showed that one of its machines may have the potential to be used in the early detection of Alzheimer's disease.

Experts from **Moorfield's Eye Hospital** in London scanned the eyes of 102 patients for "drusen", tiny yellow or white spots of material that build up in the retina of the eye.

The scientists compared the eyes of 56 patients with Alzheimer's dementia and 46 of a similar age without the disease. Their research suggested a link between build up of drusen at the edges of the retina and the build-up of plaque in the central nervous system that is associated with Alzheimer's.

Dr Craig Ritchie, from **West London Mental Health NHS Trust**, who helped to run the study, said: "It is crucial that we increase our ability to diagnose dementia effectively. With this simple detection method we are making a great step forward."

Christine Soden, Optos' chief financial officer, said: "The classic eye exams tend to just look at the back of the retina at the centre of the eye, whereas as the Optos technology takes an image of almost 82 per cent of the lining, in one go. You can look at the outer reaches – the periphery of the retina – and see some of these tiny markers. And it may be possible to detect signs of Alzheimer's."

Optos continues to build the clinical data to support a move from its declining optometry business into the more discerning ophthalmology market. But the benefits of ultra-wide field imaging may be marginal, and insufficient to justify the premium pricing of the P200 range of instruments.

www.optos.com

London biotech star Dexela Ltd is sold to US healthcare giant PerkinElmer

Jubilant investor firms **Albion Ventures LLP** and the **London Technology Fund** celebrated the sale of their portfolio company **Dexela**, a developer of innovative technologies for fast, low-dose X-ray imaging.

Formed in 2005, it initially pioneered developments in breast tomosynthesis, an advanced imaging technique focused on the early detection of breast cancer. In 2009, Dexela launched a family of flat panel CMOS X-ray detectors for a range of applications including mammography, fluoroscopy, dental CT, cardiology and non-destructive testing (NDT). These products have been exported to OEMs around the world including Europe, USA, Korea and China.

Albion invested a total of £2.6m in Dexela, initially as lead investor in 2006, after being attracted to their optimised approach to digital imaging with low-dose X-Rays. Albion and the LTF led a syndicate which included **NESTA**, which invested over £3m between July 2008 and January 2009 to further exploit the growing number of commercial opportunities within the digital imaging market. Investors expect to make up to three times return on their investment.

David McMeekin, chairman of the London Technology Fund, said: "Dexela is an excellent example of the world-class young technology companies developing in London that the fund was set up to support."

www.dxelaimaging.com

Investment firm Biolink put £1m into Dundee firm Integrated Magnetic Systems

The investment will be used to further develop IMS's unique nanoparticle technology – magnetic proteins. These all-biological nanoparticles are fusion proteins comprised of a binding portion and a magnetic portion. The binding portion defines the specificity of the molecule (binding to a specific target) while the

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magnetic portion defines the utility of the molecule (ability to be moved by a magnetic field or otherwise make use of its metallic properties).

Dr Eddie Blair, CEO of IMS, said “Securing such an investment in this current financial environment validates our lean business model and confirms that there are still knowledgeable investors out there who recognize disruptive technology and want to be a part of it.”

Last year, with funding from a corporate investor, IMS acquired lab facilities and started to develop its ground-breaking technology. In January of this year, IMS received a Smart Scotland award from **Scottish Enterprise** to assist IMS in the research to develop its first product. The **High Growth Startup Unit** (HGSU) within SE provided advice and financial assistance that allowed IMS to attend conferences and meet partners and investors in Europe and the US.

The announcement represents Scottish- based private investor, **BioLink Capital LLP's** first investment, and is IMS's largest investment to date. IMS is in discussions with several biotech companies eager to use magnetic proteins and the company is on schedule to commercialise its first product by the end of this calendar year.

Contact: Dr Jamie Love: 01382 561 087 – jamie.love@integratedmagnetics.co.uk

BigDNA unveils promising results for its Hepatitis B vaccine

In an article in the FEMS ‘Immunology and Medical Microbiology’ journal, BigDNA's preclinical study compared its Hepatitis B bacteriophage (phage) based DNA vaccine with a commercially available Hepatitis B vaccine (Engerix B). Not only was an immune response generated in fewer doses with BigDNA's phage vaccine compared to Engerix B, there was also a higher antibody titre produced with BigDNA's vaccine.

Dr John March, CEO of BigDNA, said “These latest results are very encouraging. In addition to demonstrating that our phage vaccine can generate an immune response towards Hepatitis B in a preclinical setting, it was also shown to be more effective than the control used – the most frequently used Hepatitis B vaccine that is currently on the market. Granting of the patent in Europe strengthens our commercial position as we further develop this vaccine towards the clinic.”

The phage-based vaccines being developed by BigDNA are relatively cheap to produce and are also stable over a range of temperatures. This is beneficial for storage and transport, especially in developing countries where cold-chain storage can be an issue. About 2 billion people worldwide have been infected with the Hepatitis B virus and about 350 million live with chronic infection. An estimated 600 thousand people die each year due to the acute or chronic consequences of Hepatitis B (WHO 2008).

An effective vaccine that is cheap to produce and is relatively easy to transport would reduce the worldwide rates of this disease. Other human vaccines that are under development by BigDNA are vaccines against influenza and chlamydia. Big DNA was founded in Edinburgh in 2007 by **Drs John March** and **Jason Clark** as a spinout from the **Moredun Research Institute** at Edinburgh University.

www.bigdna.com

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FUNDING & INVESTMENTS

Six key projects at Harwell set to receive no less than £6m for research

The **EPSRC** has announced an investment of £6 million to fund four major research projects at the Research Complex at Harwell. The five-year multidisciplinary projects are as follows:

- Catalytic science, group of 11 research organisations led by **Prof Richard Catlow**;
- Phase modulation technology for x-ray imaging, led by **Professor Ian Robinson** and involving UCL, Sheffield and Diamond;
- Dynamic structural science, with nine research bodies, led by **Prof Paul Raithby**;
- Structural evolution across multiple time and length scales, led by **Professor Philip Withers** and involving Manchester, Imperial, STFC Laboratories and the OU.

In addition, a two-year project in in-situ processing, a consortium of seven research organisations led by **Professor Alexander Korsunsky**, has also been supported.

Research groups will be taking up residency at the Research Complex at Harwell in spring 2011. The Research Complex at Harwell offers researchers the facilities and specialist assistance of Diamond, ISIS, the Central Laser Facility and other facilities.

www.rc-harwell.ac.uk

Shell Springboard programme enters another year of supporting energy SMEs

Shell Springboard is a programme that provides a financial boost to innovative, low carbon business ideas from across the UK. Launched in 2005, it has awarded £1.92 million to 53 businesses among over 900 applications from small business owners throughout the UK.

Cella Energy Ltd was the national winner in the 2011 Shell Springboard Awards, for developing a technology which allows hydrogen to be stored in a cheap, practical way, bringing the prospect of hydrogen fuelled cars one step closer to reality.

Cella Energy's invention uses nanotechnology to store hydrogen safely in tiny micro-beads (smaller than a grain of sand) which then release hydrogen when heated, producing energy which can fuel cars, lorries, ships or planes. Storing hydrogen in this way means that it can be safely transported in micro-bead form opening the door to it being available at petrol stations for consumers.

Founder **Stephen Voller** was previously involved in fuel cell SME **Voller Energy plc**, which failed to make much of an impression after it went on the stock market in the mid-2000s.

The hydrogen micro-bead technology is compatible with standard combustion engines and can either be used as an additive to conventional fuels where it would reduce carbon emissions, or on its own to make hydrogen gas creating zero-carbon vehicles.

Vphase plc was named as the Shell Springboard runner up 2011 for its product which lowers and regulates household voltage use allowing customers to immediately cut their energy costs without changing their energy supplier or lifestyle.

The Vphase product reduces and manages the voltage coming into people's homes, to ensure most electrical appliances use less electricity and cost less to run, in turn lowering carbon emissions. This reduction of domestic voltage can lead to a decrease in household electricity bills of between six to twelve per cent.

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The three other finalists were: **Ashwoods Automotive Ltd**, which has designed a product that regulates and lengthens the lifespan of electric car batteries, which can cost up to £50,000 each; **Cambridge Carbon Capture**, which has created technology that captures and stores CO₂ from the atmosphere. The product also produces CO₂ free electricity in addition to carbonate which can be sold to the building industry; **Naked Energy Ltd**, which has developed a solar panel which is able to generate both electricity and hot water in cool climates.

The 2010 Shell Springboard award winners, **Hi Mag Solutions Ltd**, used their award to hire a new production engineer, allowing them to develop and introduce new high quality solar powered products. The recognition of winning a Shell Springboard Award has helped Hi Mag Solutions attract investment interest drawn engineering talent to their business.

Last year's runner up, **Shiplly.com**, the online marketplace for transporting goods, has saved the UK in excess of 4m kg of CO₂ since winning the award last year.

www.shellspringboard.org

From 2005-2011 Shell Springboard has supported more than 50 small businesses that have new ideas for products and services to tackle climate change. They have received no-strings-attached financial awards totalling £2m. Notable past winners include:

- **Cipher's** consumable product (OpClear) is the only complete solution to a problem in keyhole surgery – how to clear the lens of the laparoscope of fluids, blood and tissue without its removal from the patient.
www.ciphersurgical.com
- **Zeta Controls** is an awarding winning Innovative technology company that specialises in Mains and Solar powered LED Lighting. Zeta has been awarded the Ultra Efficient Lighting Award from the Technology Strategy Board and DEFRA this year and will produce the world's first LED replacement for the 60w incandescent lamp – The Zeta LifeBulb.
www.thezetagroup.com – www.zetaled.com – www.zetasolar.com
- **WheelRight** has developed an innovative road-mounted instrument – housing sensors, electronics and communication software. WheelRight aims to install 5000 devices in depots across the EU, retaining ownership and generating annuity “pay for use” revenues.
www.wheelright.co.uk
- **WatchOverMe** has created a social alarm which renders obsolete the 1.6m UK (red button) neck pendants – providing speech, falls, temperature and video from a wearable cameo broach-sized device.
alan.magill@watchover-me.com
- **Vision Shift** was established in Oxford in 2010 to develop and market clean energy technologies. The company's innovations include wireless electricity, green battery technology, carbon capture and solar thermal panels.
www.vision-shift.com
- **TwentyNinety** is commercialising a technology which makes solar panels safer and more efficient. The Begbroke based start-up has developed Active Array™, a low cost wireless technology which monitors and controls individual photovoltaic modules. The system informs owners of the performance of modules, failure modes and panel mismatch, to enable the system to be kept at peak performance and maximise return. The company has commercial relationships secured with PV module manufacturers and PV installers. Active Array™ 1.0 will be rolled out from later in 2011. TwentyNinety aims to establish Active Array™ as the generic monitoring platform in the \$billion photovoltaic market.

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www.twentyninety.com

- **Live Talkback** connects the audience on TV shows. The team use Tellybug, their free mobile application to allow the audience to interact with each other and the show leading to more involved viewing and entertaining TV. Live Talkback currently provides second screen for talkbackTHAMES Digital (Britain's Got Talent), Sky News, ESPN UK, ITV daytime and Liverpool FC TV, involving their audiences with live TV as it happens.
www.livetalkback.com
- **Historic Futures** ('HF') enables retailers to visualise their supply-chain, from finished product to primary production, using String, a secure, online subscription service producing batch-level product information. This visibility enables our customers to make considerable cost savings and measure their sustainability performance. Major clients include M&S, Speedo, the Forestry Stewardship Council.
www.historicfutures.com
- **HipSnip** is a personal shopping application for mobile phones, tablets and PCs, which solves the consumer problem of deciding what to buy by enabling access to advice through social networks such as Facebook and Twitter.
www.hipsnip.com
- **GFC Diagnostics** is a leader in the field of smoking cessation. Its principle product is the SmokeScreen urine test which is used to monitor and detect smoking, but with the help of an R&D Grant it developed a new product called SmokeScreen saliva test. This can be used to optimize nicotine replacement therapy which in turn can improve the smoking quit rate to over 60%. The company will be running a testing service for smokers at Venturefest to help them determine their individual smoking habit.
www.gfcdiagnostics.co.uk
- **FISCAL Technologies** provides world class accounts payable audit software for corporations and government organisations to reduce payments costs, protect supplier spend and improve AP processes. FISCAL's AP Forensics suite has been designed specifically for Accounts Payable staff to easily run weekly or on a constant monitoring basis. It works alongside any accounting system and has been used to scan hundreds of millions of transactions across the globe.
www.fiscaltec.co.uk – www.fiscaltec.com
- **Germ Genie** is a new and effective way using ultraviolet light to prevent germs being passed via multi-user keyboards without any need for change in the users' behaviour.
www.falconinnovations.co.uk
- **Constellation Technologies Ltd** is an IT informatics products and services company delivering solutions to the biotechnology industry sector. Its products and services are addressing customers' needs in the areas of human genome research and personalized medicine development for pharmaceutical research. Constellation is a spinout from the Rutherford Appleton Laboratory which is where it is based.
www.constellationtechnologies.com
- Clearview Traffic Group is a major player in the international traffic industry. Through their three main divisions, they deliver smart, sustainable traffic management for the 21st century.
www.clearviewtraffic.com

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GENERAL NEWS

More than 800 staff to disperse as military research centre Fort Halstead closes

The **Defence Science and Technology Laboratory** (Dstl) at Fort Halstead, near Sevenoaks, is shutting down following a 'review of operations'. The 840 employees learned last week their jobs are being relocated to Dstl's other sites at **Portsmouth West** near Portsmouth, or **Porton Down**, near Salisbury. The Fort Halstead scientists specialise in a wide range of work on behalf of the MoD, including forensic science analysis into explosives.

They are experts in battlefield technology and counter-terrorism, in particularly the bomb-making capabilities of groups like al-Qaeda and, previously, the IRA. Dstl, which is an agency of the MoD and accountable to the taxpayer, says the relocation will take about five years.

A spokesman said: "By bringing together facilities and capabilities, the programme will result in more robust and resilient scientific support to national defence and security and will offer better value to the taxpayer. About 670 jobs will be relocated to Porton Down and about 170 to Portsmouth West. A Dstl spokesman said that no jobs were being lost but it would be up to individual employees whether they wished to move.

www.dstl.gov.uk/downloads/Dstl_Fort_Halstead.pdf

Strong demand for QinetiQ's Q-NET Kevlar anti-grenade net boosts its shares

CEO **Leo Quinn** said the company had sold \$266m (£166m) worth of life-saving Q-NETs to the **US Department of Defence** and said he would "love" to begin selling them to the **Ministry of Defence** soon.

Its Q-NET Kevlar net that protects Coalition forces from grenade attacks in Afghanistan, and sales helped lift half-year sales by seven per cent to £865m. Mr Quinn said Q-NETS, which are made up of tiny threads of bullet-proof Kevlar, 'catch' incoming rocket-propelled grenades triggering detonation before they hit troop carriers.

He said "It is a real breakthrough." Q-NETS helped lift sales at QinetiQ's global products business by 65 per cent to £247m. Overall sales in the six months to the end of September were up 7 per cent to £865m, lifting profits before exceptional items by 14 per cent to £45.6m. However, £33.4m of restructuring costs and a £37.1m charge against its role in the Government's cancelled defence training review widened QinetiQ's pre-tax losses to £37.6m from £1.3m last year.

Mr Quinn said he did not expect the company's full-year profits to suffer from the Government's plan to slash the defence budget by 8 per cent.

www.qinetiq.com

RN's carrier project 'has run into serious trouble, according to reports

A conglomeration of firms based in **Bristol** is overseeing the **Ministry of Defence's** biggest scheme in a generation. However, according to industry insiders there are fears that the cost of the work could overrun by as much as £2 billion.

There were concerns that the aircraft carriers could fall victim to last autumn's defence spending review. But although the carriers were saved, there has been controversy over the kind of jet-fighters which will use the two battleships. Around 200 designers and engineers are working on the project from the MoD's procurement base in **Filton**.

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According to the reports, soaring costs are being blamed on the decision to equip the ships with the equipment needed by the American-built **Joint Strike Fighter**. The original plan was to use European jump jets but that was ditched due to cost. According to the firms building the two new aircraft carriers, the cost has risen by at least £1 billion and could eventually reach £2 billion. The increase is likely to mean the final cost of **HMS Queen Elizabeth** and **HMS Prince of Wales** will reach £7 billion – much higher than the original £5.2bn deal.

The carriers are being built by the Aircraft Carrier Alliance, a consortium which includes **BAE Systems**, **Babcock** and **Thales**. The massive turbines which will power both ships are being built by **Rolls-Royce** at its Patchway factory. The decision was taken to save the project as it would have 'cost more to scrap'.

www.naval-technology.com/projects/cvf

UNIVERSITY NEWS

Research into blood poisoning at University of Brighton reaches milestone

Sepsis, or blood poisoning, is a serious condition afflicting 20 million people worldwide each year and killing around 500,000 of them; a scale comparable to lung and breast cancers.

In 2011 a new type of filter, which can remove the chemical that causes sepsis from the blood, has been produced by the **Biomedical Materials Research Group** at **Brighton University**.

Sepsis is caused by the body's immune system overreacting to a microbe infection and releasing proteins called cytokines, which can cause a destructive chain reaction that leads to organ failure.

The team comprising **Professor Sergey Mikhailovsky**, **Professor Andrew Lloyd**, **Dr Gary Phillips**, **Dr Susi Sandeman**, **Dr Carol Howell** and **Dr Lyuba Mikhailovsky** in collaboration with clinical and industrial partners from across the UK has used the latest nanotechnology techniques to produce a carbon filter with pores that are small enough – around one hundred thousandth of a millimetre wide – to trap the specific biomolecules.

The patient's blood can be pumped through a machine containing the filter and back into the body. The filter can also remove endotoxins, which are damaging fragments left behind when bacteria that caused the original infection were attacked by the patient's immune system.

The filter has been created and tested and found to be very efficient at removing the cytokines and endotoxins. This team in the School of Pharmacy and Biomolecular Sciences, is working with the company **Mast Carbon** and two other universities and a hospital to commercialise this technology for the benefit of patients. The group's funding has included more than £1m from the EU and £750,000 from the **EPSRC**.

Carbon has been used as a substance to absorb poisons for hundreds of years, but its capacity to be used as a filter for removing small chemicals has only been made possible by advances in nano-engineering in recent decades.

The team at Brighton is also looking at other ways to use these carbon-based technologies. It sees potential use in the treatment of drug overdoses or poisoning as a 'carbon-based medicine' based on this technology as it is likely to absorb the chemicals more efficiently than current products. Another application is a special type of bandage which can absorb discharges and odours from wounds to improve performance over existing wound dressings.

www.brighton.ac.uk/pharmacy – Prof Sergey Mikhailovsky – Materials Chemistry – 01273 642 034
– s.mikhailovsky@brighton.ac.uk.

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‘Sound synchronisation’ holds the key to earlier diagnosis of heart disease

A team at **Queen Mary, University of London (QMUL)** has developed a computer-based technology that synchronises the various sounds collected by the new stethoscope and which make up a human heartbeat.

The development of a revolutionary digital stethoscope could make it easier for GPs to spot the first signs of heart disease. The sounds can then be analysed by an existing technique called ICA (independent component analysis), with data presented on a laptop or desktop computer in easy-to-understand graphs. These provide a visual representation of the heartbeat and any anomalies in it. Currently, such anomalies can be missed by doctors who aren't experts in cardiac care.

ICA can only analyse heartbeats if all the different sounds that make up an individual's heartbeat are brought together as one overall sound. Like a conventional stethoscope, the new stethoscope captures four sounds one after another.

The computer-based technology developed by the QMUL team then turns these separate sounds into one combined signal which ICA then processes. The QMUL synchronisation technology therefore plays a vital bridging role between the new stethoscope and ICA. With conventional stethoscopes, the identification of a potential heart problem is completely reliant on the expertise and listening skills of the GP.

“Heart disease is still the UK's number-one killer”, says **Professor Mark Plumbley**, who has led the QMUL work. “Our work here is making a vital contribution to an invention that will help GPs identify heart problems before they become serious – even when patients come to surgery about a totally unrelated health matter. Early interventions not only help patients but also reduce the burden on healthcare resources.”

As well as being suitable for use in GP surgeries, the stethoscope – called the **DigiScope** – will be ideally suited to outpatient clinics, accident & emergency units and other hospital departments where doctors are not necessarily cardiac specialists.

Contact: Prof Mark Plumbley, director – Centre for Digital Music, Queen Mary, University of London, 020 7882 7518 – mark.plumbley@eecs.qmul.ac.uk.

Manchester Collaborative Centre for Inflammation Research (MCCIR) established

The **University of Manchester, GlaxoSmithKline (GSK)** and **AstraZeneca** have created the Manchester Collaborative Centre for Inflammation Research (MCCIR), a collaboration to establish a translational centre for inflammatory diseases. The project starts out with an initial investment of £5m from each partner over a three year period.

Advances could potentially benefit the millions of people worldwide affected by diseases associated with chronic inflammation, including asthma, chronic obstructive pulmonary disease, rheumatoid arthritis and inflammatory bowel disease.

Dave Allen, Senior VP at GSK, said: “The translation of basic research discoveries into new medicines is challenging, but we believe we improve our chances of success through collaborative science. The MCCIR will embody this approach, and I am delighted that GSK has been able to contribute to its development.”

Professor Ian Jacobs, Dean of the Faculty of Medical and Human Sciences, said “It firmly establishes the UK and The University of Manchester at the forefront of innovative and enterprising research into inflammatory disease.”

www.mhs.manchester.ac.uk

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Materials genius Prof Derek Fray leads group in high energy batteries project

A new collaborative project between industry and researchers at the **University of Cambridge** could lead to vast improvements in the capacity and safety of lithium-ion batteries, which are already widely used in consumer electronics and are expected to power next-generation electric vehicles and large energy storage devices in the near future.

The project will build upon the research of **Professor Derek Fray** and **Dr Carsten Schwandt** of the **Department of Materials Science & Metallurgy**, who have developed a unique method for making carbon nanotubes and carbon nanoparticles that can be used in lithium-ion batteries and other applications. Carbon nanotubes consist of a special arrangement of carbon atoms. Normally, as in graphite, the atoms are arranged hexagonally and layered in sheets. In nanotubes however, the sheets are rolled up to form minute tubes, only a few atomic dimensions in diameter.

The cost of producing nanotubes is high, however, and total worldwide production is currently just 1,300 tonnes per year. Professor Fray and his colleagues have developed a unique method of producing nanotubes directly from graphite, at much lower cost and at a rate 2,500 times faster than current methods. This could make the wider use of nanotubes in various structural and chemical applications possible in the near future. In addition, it has been shown that this method can produce carbon nanoparticles that contain significant amounts of tin. This may open up new possibilities in the development of lithium-ion batteries.

“Using our method we can create a product that contains 80% carbon nanotubes or filled nanoparticles,” said Professor Fray. “We have carried out experiments that show that our material can store significant amounts of lithium with minimal change in volume, and we believe that this material has the potential to greatly increase the capacity of lithium-ion batteries.”

The project is funded by the **Technology Strategy Board** and will be led by **Morgan AM&T**, a subsidiary of Morgan Crucible Company, which specialises in the processing and applications of carbon, graphite and related materials. In this project, Morgan AM&T will optimise the graphite for use in the process, while the Cambridge team will optimise the process as well as commission and install a scaled-up demonstrator reactor. Morgan AM&T will then validate the carbon nanomaterials for routine use in lithium-ion batteries and other applications. If the project is successful, the company intends to establish a manufacturing capability at their site in South Wales.

www.innovateuk.org – www.morganamt.com

Royal College of Art wins backing from NESTA for Design London incubator

The incubator was originally created to bring together graduates in design, engineering and business from the **Royal College of Art** and **Imperial College London** to form innovative interdisciplinary teams, and work with those teams to help transform their ideas into viable companies.

After a successful trial period, NESTA has committed a further £450k over the next three years to develop a model which is commercially sustainable and has a lasting impact on interdisciplinary innovation in the UK. The newly named ‘Royal College of Art Business Incubator’ will be based at the RCA’s new Battersea campus.

The incubator will mix innovative design and business, recruiting and nurturing talented graduates with commercially viable products, technologies or services emerging from joint Royal College of Art and Imperial College London programmes. Through the incubation methods developed by **Design London**, incubatees will be able to develop the necessary proof of concept in order to raise follow-on investment at the end of the rapid incubation process.

Dr Nadia Danhash, co-director of **InnovationRCA** said: “This new Battersea incubator will provide the

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ideal environment for the commercial development of new design-led technologies emerging from Royal College of Art and Imperial College programmes.”

Over the last three years the Design London incubator has had ‘more than an 80 per cent success rate’, seeing it almost double the value of its initial stake in the enterprises it has developed. Current ventures employ over 30 people, with market capitalization varying from £800k to over £3 million.

The Royal College of Art’s Selected Works intellectual property commercialisation programme has delivered 10 licences and income greater than £900k and equity stakes in four active spinout ventures with an estimated value approaching £1000k.

www.innovation.rca.ac.uk

Kingston University assists surveillance system to track suspicious individuals

Security company **Ipsotek** recently performed a trial of its new Tag and Track system at **Manchester Airport** with support from **BAE Systems** and **Kingston University**.

The system has two main functions: for ‘forensic analysis’ to retrace a person’s steps after they have left a site; or real-time analysis for alerting security to immediate or imminent threats.

Dr Boghos Boghossian, technical director at Ipsotek, said: “When a requirement comes up to trace someone, you don’t actually need to go back to the video anymore because the video has already been analysed and all the information is stored in an easily accessible way. If you’re interested in where someone entered the network and where and when they left ‘ you click on them on the screen and the system goes back to the database and creates a full route for you immediately.”

As well as tracing people retrospectively, the system can work in real time by tagging and tracking people after passport scanning or when they exhibit certain suspicious behaviours.

He added: “In any control room, the operators spend 90 per cent of their time tracking suspects – that’s their job. All we’re doing is assisting them and giving them the capability to do it quicker and better.”

www.ipsotek.com

Middlesex University vaccine opens door to next generation of cancer drugs

Researchers from Middlesex University have developed a vaccine approach which could be the first of a whole new generation of cancer drugs with the potential to target specific cancers at source. This technique could lead to far quicker treatment of aggressive cancers, with patients experiencing fewer of the side-effects which chemotherapy often causes.

Biochemist **Professor Ray Iles**, and colleagues at **Middlesex University’s Centre for Investigative and Diagnostic Oncology**, are currently working with US pharmaceutical company, **Celldex Therapeutics**, to test the vaccine in clinical trials involving patients who have recently been diagnosed with bladder cancer.

Initial results suggest that the lives and prognoses for thousands of cancer sufferers may improve radically and it is thought that the technique could ultimately delay the onset of certain types of cancer.

Bladder cancer affects four times as many men as women, with 10,000 new cases being diagnosed in the UK each year. It is the fourth most common cancer in men and is the sixth most common cause of cancer death amongst men in the UK. At present, 75% of cases are lethal. The vaccine will be trialled over a five year period, among a group of 60 newly-diagnosed patients with the cancer.

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For Professor Iles, this is a real highpoint in a 20-year research career in biomedical science. In 1987 he discovered that certain cancers, including bladder cancer, produce a fragment of the pregnancy hormone hCG β – known in the science world as ‘HCG’ – which encourages aggressive activity by cancerous cells. Since then, a series of studies have been conducted by Professor Iles and Dr Stephen Butler, another member of the Middlesex team, culminating in the development of the vaccine by Celldex. The vaccine targets and neutralises the cells producing this hormone, before these cells have the chance to attack other, healthy cells.

www.mdx.ac.uk/research/areas/biomedical

University of Bedfordshire plans new £16m Professional Development centre

Plans for the University of Bedfordshire’s new £16m **Postgraduate and Continuing Professional Development centre** in Luton have been drawn up. Due to open in 2013, the Postgraduate centre will be built on the site of the former Students’ Union building along Vicarage Street and will house state-of-the-art teaching space over five storeys.

It will be aimed mainly at postgraduate students and delegates from local regional businesses undertaking a wide range of continuing professional development courses.

Deputy Vice Chancellor (External Relations) **Professor Ashraf Jawaid** said: “This is a very exciting project and I am delighted that plans have now been drawn up, approved by our Board of Governors and can go forward for planning permission.

“The University is going from strength to strength, investing in its facilities and new courses, growing its reputation around the word and attracting more and more students.

“Our postgraduate numbers have grown five times over the last three years with some 2850 full time overseas students and 850 home students. This new centre will build on that success.”

The centre is the third phase of a development project which started with the opening of a £34m Campus Centre in the town last October. The second phase – £40m student halls along Vicarage Street – is on schedule to be completed in time for the new academic year this autumn.

www.beds.ac.uk

LATE DATES FOR MAY 2011

31 May – 2 June 2011: CeBIT Australia 2011

Sydney, Australia.

CeBIT Australia’s technology showcase will have a strong focus on Enterprise mobility. This dynamic area has already begun to transform the way the world is doing business and will be a key technology set to drive productivity in 2011 and compliment new and existing concepts such as Cloud architecture based business. Forecast to grow 181% to 54.8 million in 2011, with 20% of those sales related to Enterprise.

www.cebit.com.au

28-29 June 2011: The Advanced Moulding Technologies Conference 2011

Le Meridien Hotel, Brussels, Belgium.

This event is for injection moulders and suppliers of moulded parts to connect, share expertise and develop more efficient, cost saving and innovative techniques.

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Sponsored by **Cinpres Gas Injection Ltd** and Maximator GmbH, topics include extrusion-blow moulding-injection; micro moulding; core back expansion process; thin-wall technologies; rapid cooling; cryogenic assisted moulding; water assisted injection moulding; variothermal technologies and fluid systems.

Speakers include Bielefeld University of Applied Sciences, A Schulman, Mazda, Stieler Kunststoff Service GmbH, Contura MTC, SINGLE Temperiertechnik, Gas Injection Worldwide Ltd, RocTool, Mitsubishi International, RMK Group, Concept Laser GmbH, MacDermid Autotype Ltd, Sumitomo (SHI) Demag Plastics Machinery GmbH, Netstal Packaging Systems, RWTH Aachen University, Ultrason, Plastia, Kunststoff-Institut Luedenscheid, Wittman Battenfeld, Roehling Automotive AG&CoKG and Bemis Manufacturing Company.

Contact: Ketty Rofallet on EPNConferences@crain.com – 020 8253 9621 – www.advancedmouldingtechnologies.com

28 June 2011: 'Tech City and the University: What Firms Want – 2', Queen Mary, University of London event

Vibe Bar on Brick Lane, East London. 5.30 – 7.30pm.

This event will focus on interactions between small, highly innovative digital media companies, private business and universities. Held at the **Vibe Bar on Brick Lane**, this will be an opportunity to find out more about what businesses want from working with universities and to have your say about what you would like from these interactions and how to make them happen.

Representatives from digital media companies and micro businesses, academics and researchers, businesses interested in investing in East London, policy makers, new media arts organisations will be in attendance throughout the event.

A detailed agenda will follow, for now, we ask you to reserve a space in your diaries for this event and to register interest through Sandra Rogat, marketing manager – s.rogat@qmul.ac.uk. 0207 882 5289 – www.qminnovation.co.uk

29-30 June 2011: In-Store Show, retail marketing trade fair

Olympia exhibition centre, London.

The In-Store Show is part of **Marketing Week Live**, the destination for the modern marketer, bringing together the best online marketing, market research and data marketing. For the second consecutive year, the French Pavilion will showcase some interesting French companies from across the in-store marketing industry.

www.instoreshow.co.uk

29 June 2011: Cambridge Product Management Network

Red Gate Software's Cambridge Business Park HQ, Cambridge. 7pm-9pm.

Technology entrepreneur **Alex van Someren** is giving a masterclass on product commercialisation in Cambridge. As a partner at Cambridge VC firm **Amadeus**, van Someren is seeding the next generation of Cambridge success stories.

Alex van Someren, who founded **nCipher** (as well as **ANT**) and took it public. His talk will mix his learnings as a technologist, entrepreneur, CEO of a PLC and now as a venture capitalist.

www.product-management.ning.com

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30 June 2011: CUTEC event: 'Advances in Allergies – The latest understanding on how allergies occur and developments in treatment',

Ramsey Moon Conference Centre, Granta Park, Great Abington, Cambridge, CB21 6AL – 6pm

The number of individuals suffering from allergic reactions to food appears to be increasing with a general increase in allergy in the UK. Common allergens are peanuts, gluten and milk, causing sufferers a variety of symptoms that vary on a scale from mild to anaphylaxis.

The first speaker, **Grant Hawthorne**, is one such sufferer. Thanks to some initial grant funding from EEDA he completed a study with the **University of Hertfordshire** looking specifically at cows' milk allergy which led to the formation of **Cambridge Molecular Research** is now continuing, in collaboration with the **University of Swansea** and others, to launch a technology that may help sufferers of food allergies more closely monitor their allergy, understand the future health implications and take corrective action. For example, children with an intolerance to cows' milk, may have a greater risk of developing osteoporosis in later life. Having developed a serious food allergy himself as an adult, he is well placed to talk about this subject. Grant is currently a portfolio CFO of various companies including: **Cambridge Temperature Concepts, 7Safe and IADP**. He is also a director and co-founder of **Cambridge Molecular**.

Second speaker is **Matthew Young**, founder of Cambridge start-up **Oval Medical Technologies**. Oval was born out of the belief that a novel primary drug containment technology could revolutionise the autoinjector market, and provide radical improvements in the safety, acceptability and reliability of needle-based self-administration. Typically Oval's technology can be used for delivery of Epinephrine for the treatment of anaphylactic shock caused by severe allergic reactions. These reactions can be triggered by a range of materials including nuts, fish, latex, eggs, insect stings etc. Matthew was also involved in the design of the latest generation of EpiPen prior to founding Oval.

www.cetc.info

4 July 2011: National Physical Laboratory – Engineering Measurement Showcase

NPL, Teddington, London

In recent years NPL has made significant investments in dimensional measurement and inspection facilities, which are housed in state-of-the-art laboratories at NPL, Teddington.

On July 4th, a programme of laboratory visits and presentations provides the opportunity to learn more about these new capabilities, which expand on NPL's traditional role in calibrations and the dissemination of measurement standards. There will also be an **Instrumentation and Manufacturers Exhibition** that will showcase the latest equipment:

- NPL's new services for the verification of portable articulated arm CMMs and laser trackers based on fulfilling the requirements of ASME B89 standards.
- The Infinity CMM – the most accurate full size CMM in the UK.
- Micro-scale measurements using the F25 CMM.
- Freeform laser scanning and fringe projection.
- Developments in microprobe technologies.
- Handling measurement uncertainties in co-ordinate metrology.
- The realisation of the metre from wavelength standards.
- Good practice in the measurement of freeform surfaces.
- New techniques for characterising surface topography.
- Measurement and inspection instruments that can make a real difference to quality and efficiency.
- NPL's satellite dimensional inspection laboratory.
- NPL's dimensional metrology training courses.

www.regonline.co.uk/engineeringmeasurementshowcase

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AND FINALLY...

>> At last – some SMEs are winning their rightful gongs...

One very late knighthood has gone to IVF pioneer **Professor Robert Geoffrey Edwards**, ‘For services to Human Reproductive Biology’. He battled colleagues, his hospital managers, bureaucracy and the medical research councils, doing research in secret, in order to reach his goal.

The chief executive of the Manchester-based **Timpson** shoe repair chain has described receiving an OBE in the Queen’s Birthday Honours as “a real privilege”.

James Timpson masterminded Timpson’s pioneering training and recruitment programme within prisons across the country, with many former inmates going on to take jobs with Timpson after release. Salford’s HMP Forest Bank is among the prisons which have signed up to the scheme, which comes with a promise that Timpson will provide interviews to a set number of inmates each year. Mr Timpson’s OBE was awarded for “services to training and employment for disadvantaged people”.

OBE winners include **Dr Sophie Churchill**, chief executive of the National **Forest Company**, a powerful ambassador for the forest, and **Christopher Schultheiss**, the owner and chief executive of **Supperletter.com**, the acclaimed e-postal system for members of the British Service community deployed overseas, was also awarded an OBE.

Other OBEs go to **Mrs Kasmin Cooney**, MD of Righttrack Consultancy Ltd, for services to Training and to Exports; **Sir Alexander Archibald Douglas Hope**, Bt MD of Double Negative, for services to the Visual Effects Industry; **Mayank Patel**, Group Chairman of the Azibo Group, for services to the financial services industry; **Dr Nasser Siabi**, chief executive of Microlink PC (UK) Ltd, for services to Disabled People; and a worthy one to **Frank Norville**, chairman of Norville Optical, for services to Manufacturing.

There are MBEs for a wide variety of people, including **Mark** and **Maria Whitehead**, directors of the **Hawkshead Relish Company**, for services to the food industry in Cumbria; to **Gilo Cardozo**, director of Gilo Industries Research Ltd and the amazing one-man paraglider manufacturer Parajet UK Ltd; **Charles Clapham**, chairman of Palace Chemicals Ltd, for services to Manufacturing; Mrs Shirley Jean Phillips, co-owner of Cosyhome Insulation Ltd, for services to Sustainable Energy, and finally for John Frank Winnard, director at ‘Uncle Joe’s Mint Balls’ manufacturer William Santus & Co Ltd, based in the North West.

www.direct.gov.uk/en/NI1/Newsroom/DG_197706

>> Thieves are stealing metal-rich **catalytic converters** from vehicles in town car parks in broad daylight. The devices, worth hundreds of pounds, are removed by criminals who pretend to have dropped items under cars while they strip out the catalytic converter. French cars seem to have converters that are most easily removed, say police, including most Citroens and Peugeot 406s.

>> Nurses are often on the frontline when patients are brought into hospital with alcohol-related illnesses or injuries – at huge cost to the NHS. This year alcohol-related admissions to hospital have topped one million for the first time. A recent **NHS Information Centre** report said that admissions had increased by 12 per cent, reaching 1,057,000 in 2009-10 compared to 945,500 for the previous year. In 2002-03, alcohol-related hospital admissions stood at just 510,800. The charity **Alcohol Concern** estimated that alcohol-related admissions would reach 1.5 million a year by 2015, representing a burden to the NHS of £3.7 billion per year.

>> One of Britain’s best selling and most iconic publications – **the Highway Code** – is 80 years-old. The first edition was published on 14 April 1931 in a bid to cut down on the number of accidents taking place on Britain’s roads. Despite the fact there were just 2.3 million motor vehicles at the time, over

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7,000 people were killed in road accidents that year. The Highway Code quickly became the 'must read' publication for those using the road and is now recognised the world over. The Code is now used by millions of drivers, motorcyclists, cyclists and pedestrians every year and has even been featured in TV drama storylines.

>> **Edinburgh's benighted tram construction project** 'may be never be completed'. Gordon MacDonald, the SNP's candidate in Edinburgh Pentlands, called on the city council to abandon the scheme and said green, eco-friendly buses would do the same job at a more modest cost. The total cost has soared past the original £500m, and may finally cost £750m – if built.

>> **Kent County Council** has more staff earning over £100,000 than almost any other local authority in the country, according to a survey of town hall pay. **The TaxPayers' Alliance** says its analysis shows KCC had 31 employees on salaries of more than £100,000 in 2009-2010 and that the number could be even higher. Only two other councils had more on six-figure salaries – **Cornwall** and **Newcastle upon Tyne**, both of which had 32. The figures are reported in the group's annual town hall 'rich list' survey. According to the survey, KCC's former chief executive **Peter Gilroy** received pay and perks totalling £299,582 in 2009-10. This was made up of a salary of £214,582, a bonus of £10,015; expenses of £18,350 and a pension of £56,223.

>> The **Local Government Association** has renewed its attack on government jargon with a revised list of 250 words that it would like to see "banned" from public discourse. The LGA may be making some progress, since a few terms – including the widely derided "indicators of beaconicity" – have been taken off this year's list. Equally, some cracking terms have been found to take their place. These include "wellderly" (a well, but elderly person) and "goldfish bowl facilitated conversation" (no idea whatsoever). On the other hand, they include "webinar", which seems like an acceptable contraction of "seminar on the web" and an example of the language keeping up with technology. Contributors to the LGA website have plenty of other ideas. One suggests "'best-of-breed' – a favourite of public sector managers intent on squandering public money on IT projects they don't understand..." The Local Government Association list of 250 words that should not be used by the public sector when providing information to the public:

www.lga.gov.uk/lga/core/page.do?pageld=9422797

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