

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

Although the **Technology Strategy Board** has had its failures – about 200 of the ‘small companies’ funded under its digital media programme are worse than useless, and it hands out far too much money to large and mid-sized firms – its **Small Business Research Initiative** (SBRI) programme has been nothing less than excellent.

Beneficiaries include Scottish micro-optics firm **PowerPhotonic Ltd**, Norfolk-based NFC firm **Proxama**, and the well-known **Cambridge Design Partnership**, for its portable oxygen pack used by **British Army** medics.

But perhaps the best one thus far is humble, distinctly low-tech, transformation of a near-derelict three-bed terrace house in Liverpool into a dwelling with very low energy loss.

As part of the **Retrofit for the Future** programme which aims to test and measure whole-house energy efficient technologies in existing housing, project leader, the Plus Dane Group, installed energy reduction components that were mostly sourced in the UK.

Nearly 60% of all the heat lost from an uninsulated home is lost through the loft space and walls. A thorough process of sealing the building is being undertaken to ensure all air paths are eliminated using the Maple ‘SupaWall’ and ‘Supafloor’ insulation system which is provided by **Maple Timberframe**, an entirely UK-based operation. The material within the panels is 140mm thick polyurethane insulation and provides exceptional thermal properties.

The SupaWall panels are designed specifically for new-build construction. These retain the heat generated within the property so effectively that it removes the need for traditional central heating. The challenge for this project is to apply the technology to a retrofit house. This is restrictive as the floor and wall cassettes have to be manufactured in smaller sizes and put together like a jigsaw puzzle inside the house.

Windows will be triple-glazed while external doors will not contain glazing. Space heating will be provided by a mechanical ventilation unit with heat recovery, to take pre-heated air from the rear, south facing conservatory. The system takes care of the ventilation requirements while also significantly reducing energy consumption by recovering otherwise wasted heat.

A small high efficiency gas-fired boiler will serve as a supplemental heat source. Water heating will be by solar water heating panels on the south-facing roof, supplemented by the boiler. Key components such as solar pumps, glazing, silicone rubber pipe, aluminium frames and absorber plates come from UK suppliers. What joy..

www.innovateuk.org/case-studies.ashx

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 48,000 UK-based technology SMEs.

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COMPANY OF THE MONTH

Global Inkjet Systems develops a single platform for driving inkjet print heads

The core of the company's success is its GIS print manager board, which enables customers to switch print head technology, using the appropriate GIS head personality board. CEO **Nick Geddes** said "With the print head manufacturers introducing new heads every year now, the lab will make a huge difference to our testing capability and accelerate our development of new head personality boards and our next generation, high speed Print Manager Board."

In August 2012 it increased and diversified its global presence with a new technical support office for the Asia Pacific region, based in **Shanghai**. The investment marks GIS's growing customer base in the region and the need for locally based technical support. The new office opening coincided with GIS exhibiting at the APPP Show in Shanghai back in mid-July.

Founded in 2006 by **Nick Geddes**, GIS has grown rapidly to over 20 employees and now comprises a strong team of software, firmware and electrical engineers dedicated to developing and delivering innovative products and strong technical support to inkjet OEMs and system builders, who incorporate GIS software and electronics in their inkjet printers.

The extra space in the new head office will allow the company to expand its engineering team and also provide a larger R&D area, equipped with print rigs for every print head type that the company supports – for **Dimatix, Konica Minolta, Kyocera, Ricoh, TTEC** and **Xaar**.

Contact: www.globalinkjetsystems.com

SME NEWS – ENGINEERING, ELECTRONICS, TELECOMS

KTP co-creates helmet-mounted heart sensor for the mining industry

In July 2012 a KTP between Derby-based contract electronics manufacturer **Tioga** and the **University of Nottingham** helped develop a head-mounted heart sensor which could save lives in the mining industry.

The penny-sized device, which can be slotted within a miner's helmet, will monitor heart rate, temperature, activity and respiration while also checking for dangerous gases. As well as providing vital real-time information it can also, using diagnostic software, monitor long-term occupational health in any high-risk industrial environment.

It was back in 2008 that academics at Nottingham began to research more innovative ways of monitoring newborn babies and came up with 'Heart Light', an optical sensor which could be fitted to the child's head.

A chance meeting with **Professor Barrie Hayes-Gill** led Tioga's MD **Warwick Adams**, to wonder if 'Heart Light' might be adapted to monitor the wellbeing of miners.

The logical step was for the business and university to sign a licence agreement to develop the technology and to form a KTP – the 60th such project undertaken by Nottingham University. A KTP Associate from the university, **Steve Jackson**, has been helping to develop a Mining Industry Mobile Sensor from the 'Heart Light' concept.

Tioga, which operates in sectors as diverse as telecoms, medical devices, security, gaming and transport, has already held successful trials in mining conditions and is aiming to launch the product in 2014.

Contact: www.tioga.co.uk

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Why didn't I think of that? Scientist launches 3D chocolate printing system

Back in March 2011 **Dr Liang Hao** was awarded the **EPSRC** Digital Economy funding to conduct a research project on 'Co-production of Physical Products and Value Co-Creation – Scalability in the Wild'.

Recently he, and the **University of Exeter**, launched a spinout company – **Choc Edge Ltd** – to exploit his development of a cutting-edge 3D chocolate printer, and its essential capabilities in machine, software and material development.

Its syringe-based chocolate deposition head allows users to rapidly install and remove syringe head units. The design enables users to refill the syringe with fresh chocolate or different types of chocolates conveniently.

Today, the world's first commercial 3D chocolate printer, Choc Creator, is available for purchase through auction and pre-order. In March 2012 the first desktop 3D chocolate printer was successfully built and tested. **Dr Choon Yen Kong** is co-founder and **Dr Mark Scibor Rylski** is its business mentor.

In addition to chocolate making, for decorative, artistic, creative and personalised chocolate product industry, Choc Edge will create new applications of 3D chocolate printing technologies for other applications.

Back in October 2009 Dr Liang Hao was awarded the 'Best Conference Paper Award' for their work on 'Extrusion behaviour of chocolate for additive layer manufacturing' at 4th International Conference on Advanced Research in Virtual and Rapid Prototyping.

Contact: www.chocedge.com

GPS jammers 'have the potential to wreak havoc with countless critical systems'

Gloucestershire-based GPS and timing specialist **Chronos Technology Ltd**, a UK leader in time and timing for fixed and mobile telecoms, is developing new technology to detect these GPS jammers in collaboration with the **University of Bath**.

Global Positioning System (GPS) technology has become an integral part of modern life. It provides location information and directions for smartphones, satnav and more complex navigation systems like those of ships and planes. GPS satellites also contain atomic clocks that contribute very precise time data, crucial for synchronisation and operational efficiency in communication systems, financial networks and electrical power grids. Any disruption to the GPS signal can have devastating consequences.

Some time ago, Chronos founder and MD Charles Curry, was speaking at a convention hosted by the university and was introduced to **Dr Robert Watson** and **Professor Cathryn Mitchell** from the **Department of Electronic & Electrical Engineering**. Chronos had identified a vulnerability to the GPS signal – jamming and interference – and, with the University, decided to seek grant money to tackle it collaboratively.

As a result, Chronos and the University of Bath applied for a **Technology Strategy Board (TSB)** collaborative funding grant. The result was GAARDIAN, a project exploring the concept of GPS interference detection.

Mr Curry explains: "A GPS satellite emits a very weak signal, equivalent to a 50 Watt light-bulb approximately 11,000 miles away, and this makes it very easy to disrupt. Logistics companies often install GPS trackers so they can follow the movements of vehicles, but drivers have started using jammers to prevent their journeys being tracked by their bosses."

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There is also evidence of jammers being used by thieves stealing commercial vehicles.

“The collaborative project set out to detect jammers as pure research,” says Curry. “We knew that there was a market opportunity but it was too early to exploit it. First we needed to prove that we could do the detection”.

Once the GAARDIAN project had proved that detection was possible, the project came to the attention of the **Association of Chief Police Officers** (ACPO) and the SENTINEL project was born. Mr Curry said “With SENTINEL we set out to do more than just detect: we are researching location techniques.” The research project has deployed a quantity of monitors relaying incidents of GPS interference to a central server on a 24x7 basis. The project has resulted in the detection and confiscation by the police of one jammer. Now the project team is focusing on fine-tuning the technology to eliminate any uncertainty about the source of the interference. For example natural events such as solar flares can disrupt GPS.

There is huge export potential for the technology. “We have created an industry,” says Curry. “We are ahead of the game, but now the world has woken up to this new market opportunity.”

Contact: www.chronos.co.uk

Coventry-based imaging company LumeJet wins £1.87m of angel investment

The firm has developed a new LED imaging technology that can provide high precision ‘printed’ solutions for a variety of specialist markets. Unlike traditional print technologies, LumeJet ‘sprays’ light on to precision surfaces and has applications in the labelling, packaging and electronic markets. LumeJet believes that its technology produces the best quality printing ever achieved from a digital file.

Accountants **James Cowper**, who have acted for LumeJet and its management team since its formation in 2010, including on previous funding rounds ensuring that investment qualifies for tax relief under the **Enterprise Investment Scheme** (EIS), also helped the firm collect more than £200,000 in R&D Tax Credits. The injection of the new capital will see the company grow substantially over the next three years, with a forecast of over 100 new jobs being created by the end of 2014.

LumeJet intends to ship ‘1,000 machines over the next five years’ from its West Midlands site, with the first available from late summer of this year. **Paul Anson**, the chief executive of LumeJet said: “Attracting investment to high value manufacturing propositions can be difficult, but our angel investors have recognised the potential of the LumeJet technology.

Coventry-based LumeJet’s most recent funding round saw them receive £1.87 million to launch an LED-based printer later this summer. The company hope to move into markets including labelling, packaging and patterning of electronics. It said it will create more than 100 jobs by the end of 2014 and intends to ship 1000 machines over the next five years.

The technology was developed over 12 years by Warwick University scientist **Dr Trevor Elworthy**, who had a vision for developing a printer that ‘sprayed’ light onto photographic paper to produce high quality print.

LumeJet secured angel investment from **Wren Capital, Qi3 Accelerator, Martlet, LBA EIS Roundtable Syndicate Fund**, private investors from **LBA** and **Cambridge Angels** and a number of independent investors.

Contact: www.lumejet.com

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Colt Technology Services buys cloud platform provider, ThinkGrid, to target SMEs

ThinkGrid's range of cloud-based services, which incorporates a turn-key management platform and commercial and technical training, aims to allow channel partners to become cloud providers in their own right.

ThinkGrid's training programme, which helps facilitate the development of resellers' cloud capabilities, will be rolled out to Colt's indirect sales team and channel partners.

Rob Lovell, CEO of ThinkGrid, said: "ThinkGrid will gain access to Colt's 20 state-of-the-art data centre facilities, extended research and development and support resources as well as an opportunity to expand into 22 European countries."

For Colt, the deal adds approximately 200 resellers and ISV's to its partner community in the UK, which it hopes will increase strength in the cloud-based services market. **Francois Eloy**, executive vice president at Colt. "The acquisition of ThinkGrid further strengthens our position with the addition of a complementary range of cloud-based services. The SME market for managed services is set to grow at 15 percent annually during the coming years. Colt is well positioned to penetrate this market through our indirect channels."

He added: "We also gain a reseller-orientated management platform and portal, which will reduce our time to market across European markets. This acquisition allows us to extend our channel community to include skilled managed services resellers who will help us to accelerate our growth."

Contact: www.thinkgrid.com

Iceni Mobile's IP bought up by Plextek and RedCloud Technology

Essex-based Iceni build and develop mobile networks that deliver financial services to the next billion, the unbanked.

Iceni was developed by the same team that brought the world's most successful mobile money service, M-PESA, to the world and which is used by 18 million people in Kenya.

Plextek and **RedCloud Technology**, a leading investor in mobile financial services in emerging markets, acquired the IP rights of Iceni Mobile, a market leading mobile payments system (the I2S platform).

Outside of M-PESA very few mobile money markets have taken off yet, say experts. That's because of the high costs and lengthy deployments from the traditional technology companies who have tried unsuccessfully to shape their products to fit the market. As a result there are still some two billion unbanked people globally.

Iceni understands this problem only too well and went back to the drawing board to deliver the technology through the cloud and create a new way in which mobile money and associated services are taken to market. It's much faster to deploy and the costs are much lower.

Over the next five years many believe the mobile handset will become the 'people's bank', giving new access as well as affordability, security and freedom over their financial needs. Now that 'branchless banking' has become the new Holy Grail of many emerging economies – banks want new customers, and want them to access their services via mobile phones.

Contact: www.icenimobile.com

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Subsea tech firm Trittech International bought New York-based Moog Inc

Moog Inc, a maker of precision control systems, paid about £21m for the Aberdeen-based firm. Trittech, which was founded in 1991, specialises in acoustic sensors, sonars, mechanical tooling equipment and video cameras. Its markets include remotely operated vehicles (ROVs) and autonomous underwater vehicles (AUVs).

Trittech will be merged into Moog's components arm, which supplies motion and fibre optic products and solutions for marine, medical, industrial, aerospace and defence applications.

Moog Components Group president **Larry Ball** said: "The acquisition of Trittech brings several very strong products to our marine portfolio, as well as an experienced team of individuals who have a reputation of delivering quality products and services to the ROV and AUV markets."

Trittech sales are expected to add about \$2m (£1.26m) to Moog's revenues for the remainder of the company's current fiscal year. Moog Inc designs, manufactures and integrates precision control components and systems. Its systems control military and commercial aircraft, satellites and space vehicles, launch vehicles, missiles, automated industrial machinery, wind energy, marine and medical equipment.

Contact: www.tritech.co.uk

Ceres Power plc 'back on track' with low cost SOFC technology platform

Having lost nearly all its stock market value in recent months, the announcements made by the company may lead shareholders to conclude it has finally won the battle for survival.

The company is aiming to deliver a mass market micro-CHP home boiler product through a field trial programme in 2014 and a launch in 2016. Ceres Power stated it had agreed consumer field trials in the UK and in the Netherlands, and that **British Gas** and **Itho-Daalderop** will purchase 174 micro-CHP units. The firm expects to receive up to £2m in funding from the European Commission's 7th Framework Programme – 'with final approval shortly to be granted'.

The company says its R&D team has implemented 'significant improvements in degradation rates' in the prototype boiler, which was the source of the company's travails. It also announced that an 'independent review' by **Booz & Company** and **AEA Technology** had 'confirmed' the low cost capability of the Ceres micro-CHP product design.

Contact: www.cerespower.com

SME NEWS – CHEMICALS, MATERIALS & ENVIRONMENT

Coda Octopus sells underwater inspection system to Port of Long Beach

Coda Octopus, the Edinburgh-based electronics firm, will supply of an Underwater Inspection System (UIS) to the port's police department. The UIS, which includes Echoscope real-time 3D sonar technology, will be used primarily for underwater inspections of the port's 10 piers and 80 berths and other critical infrastructure. It will also be used for preventative maintenance such as keeping the shipping channels clear of dangerous debris and other objects.

Blair Cunningham, head of technology at Coda, said: "We welcome the Long Beach Police Department to our growing community of UIS users. Given the sheer size of the port, the benefits of the rapid deployment and real-time 3D visualization capability will be significant to the port's security effort.

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“The Coda Octopus UIS has proven to be an invaluable tool for port security. By using its real-time 3D capabilities it provides immediate high quality images of potential hazards enabling the fastest understanding of the nature of the hazard so that appropriate resources can be mobilized without any loss of time. LBPD will also receive our advanced patented Survey Explorer software which creates in real-time 3D a very detailed image with sharp edges while discarding “noise” in the image produced by, for example, passing fish or floating debris.”

Long Beach is the second busiest seaport in the US and is a major gateway for trade with Asia, handling more than 6m containers annually. Sergeant Steven Smock of the Long Beach Police Department said: “It is state of the art technology, which gives us productivity gains, and more importantly the detailed real time data which is an indispensable requirement for security today.”

Contact: www.codaoctopus.com

Gibson Index favourite – Revolymer – steps up to an AIM listing

Revolymmer, the British polymer company co-founded by **Professor Terence Cosgrove** based on technology he developed at the **University of Bristol**, has listed on the market. The company, which GI has done much to promote in recent years – after it was treated with initial suspicion by many funding organizations who should have known better.

Revolymmer – famed for its ‘non-stick chewing gum’ that is much favoured by local councils tasked with the expense of removing urban streets of gum waste – has conditionally placed 25m shares with institutional investors at £1 a share. Revolymer will use the proceeds to expand the distribution of the group’s confectionery gum products in the US and into Europe, to fund additional regulatory dossiers in connection with its nicotine gum commercialisation, and to fund the development of its consumer specialties products.

Dr Roger Pettman, CEO of Revolymer said: “The firm has an exceptionally strong technology base and a portfolio of products that has the potential to deliver near term licences and launches of our own-branded and partnered products targeting multi-billion dollar FMCG markets.”

Contact: www.revolymmer.com

Alkane Energy continues to thrive following purchase of Greenpark Energy

In May 2012 trading was ‘in line with expectations’ at Alkane Energy, following its £6m acquisition of **Greenpark Energy**, the gas-to-power producer. The former designs, builds, operates and services methane treatment and generation plants.

The acquisition has brought with it seven new coal mine methane (CMM) and power response sites. These sites are currently being integrated within Alkane’s operations.

Chief executive **Neil O’Brien** said: “We are now fully engaged on the delivery of new sites and enhancing the facilities acquired. Power plants are being refurbished and moved with the intention that all major installation work scheduled will be completed ahead of the peak winter period. Progress to date is encouraging and we remain in line with management expectations.”

Output from the original Alkane sites for the first four months to 30 April 2012 reached 40GWh, down from 48GWh in the same period last year because of preparations to integrate the Greenpark assets.

Alkane also continued to invest in its organic CMM roll-out programme, with a 3MW facility at **Gedling** in Nottinghamshire set to open this week. The other planned new site for 2012 at **Pontycymmer** in South Wales is in the build phase and is expected to be opened in the coming months.

Contact: www.alkane.co.uk

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Materials Engineering Research Laboratory snapped up by US firm

3i was smiling recently when the US-based **Element Materials Technology Inc**, which has backed, bought Materials Engineering Research Laboratory Ltd (MERL).

Founded in 1986 **MERL** has developed into an independent company with thousands of international clients throughout the oil & gas, aerospace, and land transportation sectors. Their range of projects include ensuring the safe and reliable use of materials in offshore oil & gas exploration, new polymer material for heart valves, and composite materials in aircraft structures. The company secured \$93.25 million of new financing to support its continued buy-and-build strategy to become the recognised leader for materials testing and inspection, product qualification testing and failure analysis – servicing primarily the aerospace & defence, oil & gas, transportation and power generation industries – in the North America, Europe and Asia markets.

Element Materials stated “The addition of MERL and its world-class reputation for the evaluation, analysis and testing of polymeric materials, components and structures is further evidence of Elements resolve to providing industry-leading service for the growing implementation of non-metals.”

The acquisition is preceded by two additional high-profile acquisitions in the US – **Mar-Test** of Cincinnati, Ohio and **DTL** of Detroit, Michigan. Further to these acquisitions, very material capital investments in new capacity and technology have been made at its Charlotte, Cleveland, Huntington Beach and Wixom facilities.

George Archer, 3i banking director said: “New financing commitments were significantly oversubscribed, indicating the quality of Element’s credit. All five syndicate banks currently lending to Element participated in the transaction, joined by two new banks.”

Contact: www.merl-ltd.co.uk – www.element.com

Applied Microengineering Ltd will be 20 years old in October

The Oxfordshire-based firm was one of the first companies to take advantage of micro-nano technology for manufacturing purposes. It makes wafer bonding machines – ‘the only ones capable of in-situ alignment, activation and bonding on the market’.

MD **Rob Santilli** said the AML in-situ concept is now widely accepted as the way to ‘unblock’ the wafer bonding jam, or production bottleneck and improve throughput. Furthermore, world leading academic institutions, The **Fraunhofer Institute** in Germany, Universities of Helsinki in Finland, Changsha in China and Sydney in Australia had all invested in machines from AML.

AML also has a neat yet simple solution to the temporary bonding and/or debonding problems in the industry. The solutions currently on offer from competitors are not liked by the industry who see them as too expensive, not robust enough.

So what lessons has Mr Santilli learned in his 20 years at AML? His views are these:

- Governments don’t care or trust the opinion of SMEs.
- Blue chips and the Russell group Universities rule.
- Finding and retaining good staff is the most important thing, but they are like hens teeth. – EC don’t even know what SME means. We must leave Europe.
- You can be too early in the market – market research reports are hugely inaccurate! However, advertising is important – scientists & engineers are swayed by glossy brochures and adverts
- Export or die – there is no money in R&D services

Contact: Rob Santilli – rob@aml.co.uk

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Ceram Research tests new protective shell for Chernobyl's reactor

To ensure that no radiation will leak from the **Chernobyl** nuclear reactor for many decades to come – Ceram tested the new stainless steel shell which is due for completion in 2015.

Large amounts of radiation escaped from the nuclear plant in April 1986 following an explosion and subsequent fire in which many people were killed. To date, it remains the world's worst nuclear accident, with large parts of Europe affected by contamination.

Once completed, the shell will weigh 29,000 tonnes and will be more than 100 metres tall. The structure is on rails to allow it to slide in and out of position.

With **Ukraine's** climate always a potential construction hazard, testers in the UK have dropped heavy ice blocks on sections of the roof casing and have simulated tornado-force winds to ensure the protective layer will remain strong enough in all kinds of weather.

The project manager at Ceram's Stoke-on-Trent research facility, **Dave Dix**, said: "The implications of the design failing are extremely serious. There are still very high levels of radiation at the plant, and any escapes put people working on remediation projects at risk. It would also harm the surrounding environment further."

Ceram's chief executive **Tony Kinsella** said Ceram was helping Stoke-on-Trent become known as a new world centre for materials expertise. Shortly after the accident in 1986, a protective shell – or sarcophagus – was built to contain the radiation, but this is starting to deteriorate. The new structure has been in design for the last 10 years, and Ceram has been analysing performance for more than two years. Ceram Research has more than 140 employees and operates globally, having subsidiaries and laboratories around the world.

Contact: www.ceram.com

SME NEWS – IT, SOFTWARE, SERVICES & INTERNET

University of Ulster spinout secures funding for digital watermarking innovations

HidInImage Ltd is giving a modern twist to the ancient science of steganography. Steganography, the art of writing hidden messages so that only the sender and intended recipient know they exist, has been used in various guises for centuries. Technical Team Leader is **Dr Joan Condell**.

In 2009 it won **Invest NI Proof of Concept** funding, to help HidInImage export ideas and inventions from the laboratory. With Proof of Concept funding, HidInImage is testing commercial viability of applying steganography techniques to markets where there is a common need for undetectable but easily-retrieved authentication information. The work involves a combination of technical refinement to a stage suitable for commercial demonstration combined with market research and assessment.

Thanks to their latest innovation in image processing technology, **University of Ulster** academics have developed a way to conceal and retrieve information from within digital computer files. The digital watermarking can be used to hide personal or sensitive data in security in digital imagery. The most compelling aspect of this technology is its wide range of applications from hiding pedigree and visual cues on cattle tags as a deterrent to rustling to ensuring provenance of legal or confidential documents in an important business transaction.

Contact: www.hidinimage.com

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Scottish video-over-internet company IndigoVision set for revival

The firm enjoyed a recent 34% surge in its share price after declaring that published market forecasts 'seriously understate' its potential operating performance.

IndigoVision, which ships its technology to 82 countries and has won contracts to install video security at Chinese airports, said it had achieved a stronger profit performance 'in the first four months of its financial year to July 2012'.

This added more than £5m to its stock market worth, taking it to about £20m. The shares have been on a rollercoaster ride, having traded close to 600p as recently as February. They are, however, now well above their recent lows, with the shares having dipped towards 160p earlier in the autumn as the City focused on difficult trading towards the end of the year to July 2011.

IndigoVision had won contracts to provide video security at China's second and fourth-largest airports. These are **Shanghai Hongqiao International Airport**, the second-biggest in the Communist nation, and **Kunming Airport**, designed by UK engineering consultancy **Arup**.

Marcus Kneen, chief financial officer of IndigoVision, highlighted the current strength of trading in emerging markets, particularly in Latin America. He named Brazil as IndigoVision's biggest market in Latin America. The company is also active in Colombia, Venezuela, Chile, Peru, Ecuador, and Mexico.

IndigoVision, Mr Kneen said, had been winning business again in the US casino sector, after a pause induced by the 2008 financial crisis. IndigoVision, which has a total workforce of 150 and employs 90 people in Scotland.

Contact: www.indigovision.com

Paralant Ltd offers high-end software for computing's latest hardware

One of the most important trends in hardware over the last decade has been the advent of multi-core processors and the emergence of massively parallel co-processors and hardware accelerators.

While this has opened new possibilities for scaling of the compute capacity in a system, the software model has often struggled to keep pace. The emergence of both proprietary and open programming standards, such as CUDA and OpenCL, have enabled a widening acceptance of these hybrid and heterogeneous architectures.

Bristol-based Paralant have become leading consultants with over 50 man-years of industry experience. The firm offers high performance software expertise across the full product life cycle; in the design, implementation and product release phases. Paralant can deliver optimal solutions using both multi-core and multi-node systems as well as emerging heterogeneous platforms.

They undertake analysis of either whole or specific portions of an application, advise on algorithmic approaches and their suitability for different platforms as well as undertaking specific optimizations.

Paralant has previously provided consultancy in the areas of Code re-factoring, use of specialist and third party libraries, compiler optimizations, OpenMP, compiler vectorisation and tuning, cache use analysis and tuning, code development in C, C++, Java and Fortran on Linux and Windows platforms. Paralant have more than 30 years of combined experience of working with multi-core CPU, GPU and accelerated platforms.

Contact: www.paralant.com

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Special touch-screen system enables elderly to enjoy music, games and even videos

Greater Manchester software house **My Life Software**, of Altrincham, was founded in 2011 after **Les Stockton**, the father of managing director **Graham** and business manager **Ian**, visited a friend in a care home and found little in the way of stimulation for them.

They began research into dementia and saw an opportunity to devise an interactive system for older people living in care homes. They teamed up with medical professionals to develop the system, called **Digital Reminiscence Therapy Software**.

The system uses a touch-screen to give patients access to thousands of BBC videos, photos from the *Daily Mirror* archive and music tracks, plus a variety of games and activities designed to keep the brain active. The content has been specifically chosen for people with cognitive impairment, encouraging them to reminisce and share their memories.

Relatives can also upload family photos and videos on to the unit, which patients can also use to communicate with friends and family by text message, email or Skype.

Ian Stockton said: "People with dementia still have skills and are able to interact and engage with photos, music and videos, which help them reminisce about their past. It improves their quality of life and helps take the pressure off the care home team.

"It is all about allowing individuals to interact and engage with their care workers, family and friends. The software uses a touch-screen monitor so people with dementia are able to easily point to images, play with puzzles, paint or create pictures. By taking time to sit with them and interact with the software it helps trigger a memory. We believe that by using an engaging communication tool it helps and encourage family and friends to participate with their loved ones and to trigger memories long forgotten."

The software was designed in house and took three months and £500,000 investment to develop. So far My Life has sold around 300 units. Now My Life is working with dementia expert **Prof David Jolley**, of **Manchester University**, to add new features to the system, including ways of measuring patient's mood and well-being to improve the clinical applications of the system.

Prof Jolley said: "When people develop memory problems and may have dementia, they and their families need help and support in living well in the months and years ahead.

"Therapy of this nature is powerful and effective for the person with memory problems and for their caring family. Such therapies will surely be available on prescription in the near future and will reduce the use of medicines which can reduce unwanted side effect and be cost effective."

Contact: <http://mylifesoftware.com>

Avecto Ltd is fast becoming a global leader in 'Windows privilege management'

By helping organizations to deploy secure and compliant desktops and servers, Avecto is building a worldwide channel of partners and system integrators.

The firm, headquartered in **Manchester**, has regional offices in Andover, Mass, in the US and Munich, Germany. Its 'Privilege Guard' technology allows organizations to enable Windows-based desktop and server users to receive the privileges they require to perform their roles, without compromising the integrity and security of their systems.

Customers of all sizes rely on Avecto to reduce operating expenses and strengthen security across their Windows based environments. In July 2012 the firm released strong end of financial year results following what has been a year of great growth for the company.

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A key driver behind Avecto's success is that it helps organisations combat the threat from dangerous and persistent malware. It continues to educate organisations to the risks exposed from granting users admin rights and helps them to implement a least privilege approach to combat this challenge. Avecto's mission is to enable its customers to lower operating costs and improve system security.

Plans for the upcoming financial year include a new product upgrade, building on the new regional office in Germany and robust investments in recruiting key staff to meet growing demands in North America, where 60% of the company's revenues are currently derived.

According to **Forrester Research**, privileged user management is predicted to grow more than 50% in coming years with forecasted revenues expected to exceed \$330 million by 2014. *Red Herring* selected the firm for its 2012 Top Europe 100 Winners.

Contact: www.avecto.com.

SME NEWS – BIOTECH, PHARMA & MEDICAL SCIENCES

Stablepharma Ltd aims 'to eliminate' need for vaccine refrigeration

It is estimated that about half of the world's vaccinations are currently wasted because of exposure to high temperatures.

This Bath-based biotechnology firm has developed a technique for drying and stabilising vaccines inside a disposable syringe which can be stored at any temperature and rehydrated for immediate injection.

The **Stablevax** syringe eliminates the need for an expensive and often ineffective "cold chain" of refrigerators to store and transport vaccines. Stablevax has been developed by the firm's chief scientific officer **Dr Bruce Roser**, who is a world authority on drug stabilisation and delivery and who has published more than 100 scientific papers.

The company is now seeking investment of £200,000 to pay for medical certification of the new vaccine delivery product. Stablepharma MD **Nick Child** said: "This technology represents a major breakthrough in the delivery of vaccines to the developing world. I'm immensely proud of the fact that this life-saving medical invention has been developed by a Bath company."

Dr Roser added: "Far too many people, particularly children in developing parts of the world, are dying needlessly from common diseases that should be easy to protect against.

"Stablevax has been developed to make life-saving vaccines much more widely available in poorer countries and represents a unique and exciting investment opportunity."

The firm was launched two years ago to develop and market Stablevax to drug manufacturers and international development organisations. **Quartzsite Medical** is a global distribution company focusing purely on the supply of active pharmaceutical ingredients of the highest purity. Quartzsite distributes products which are used primarily for the pharmaceutical, biotechnological, diagnostic, and cosmetic industries; these substances are available in bulk, not as finished preparations.

Mr Child added that Stablepharma has agreed a contract with an **approved EU laboratory** that is run by one of Roser's former students to handle the final certification of the Stablevax syringe. The syringe design was completed and successfully tested in 2010 and the product should be available for distribution to the market once the 12–14 month trial-to-approval period is completed.

Contact: www.quartzsite.co.uk

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Stem cell storage company Pharmacells snaps up fellow Scottish firm Immunosolv

It bought the assets of Edinburgh-based biotech firm Immunosolv in a deal bosses believe will propel it to “world-leader” status in the supply of stem cells for research.

Pharmacells, which is based in Newhouse, North Lanarkshire, confirmed it had completed a successful takeover of **Immunosolv**, which went into liquidation in mid-March.

The deal, which was officially accepted by liquidators at the end last week, has given Pharmacells the rights to potentially lucrative intellectual property, including research and product patents, as well as gaining access to valuable hi-tech equipment – some of it designed and trademarked by Immunosolv.

It is understood that Pharmacells is also retaining one Immunosolv employee, described as a “highly-qualified” specialist researcher. The acquisition was completed in partnership with Aberdeen-based **Grampian Biopartners**.

Among the prized assets in the takeover is access to ‘Dead-Cert’, a method of cell extraction developed and patented by Immunosolv which will play a crucial role in improving Pharmacell’s productivity. The Lanarkshire firm has already patented its own technique for isolating, harvesting and storing a newly discovered type of blood-derived adult stem cell, which can be used to generate lines of any other cell type in the body, from brain cells to liver cells.

The technology has already been used to create a private stem cell bank where members of the public can pay around £3000 to store their blood-borne stem cells for potential, personalised medical therapies in future, as well as providing an ethically sound supply of stem cells to researchers.

Atholl Haas, chief executive of Pharmacells, said he looked forward to being able to getting access to a raft of high-quality products, research and equipment and apply a stronger business model to their use.

He said: “Immunosolv has been around since the mid-1990s, and it had around £1 million of venture capital funding on its books at the time it went into liquidation, so we will get access to that as well. It had great products but a bad business sense. It was driven by academics and academic research grants, which is great for science but not so great for a viable biotech company.”

Contact: www.pharmacells.co.uk

Rapid Rhythm received £50,000 funding from North West Fund for Biomedical

The company invented a device to help diagnose a heart condition affecting up to half a million people in the UK has secured a £50,000 funding boost. Rapid Rhythm, based at the Manchester Science Parks, will develop its hand-held device to diagnose atrial fibrillation (AF).

Rapid Rhythm Ltd is a spinout jointly owned by **Trustech Smart Healthcare Ventures Ltd** (SHV) and **Central Manchester University Hospitals NHS Foundation Trust** (CMFT).

AF is a condition that causes an irregular and often abnormally-fast heart rate and is traditionally diagnosed by carrying out an ECG, which involves applying electrodes to the skin to measure the electrical activity of the heart in a hospital.

Rapid Rhythm’s device can diagnose AF far quicker and could be used a GP’s surgery.

The investment will be used to improve the design of the device to help improve its accuracy. It also means Rapid Rhythm will be able to make prototypes, run trials and gather data needed to get regulatory approval for it.

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Dr Adam Fitzpatrick, consultant cardiologist and company founder, said: “AF carries with it a high risk factor for stroke, which is the third largest cause of death in the UK and many other western countries. For patients in AF, their risk of stroke can be substantially reduced using anti-coagulant drugs but there is currently no device available which enables healthcare professionals to quickly test patients for the presence of AF, prescribe anti-coagulants and reduce the incidence of stroke.”

Rapid Rhythm is the 17th investment to date for The North West Fund for Biomedical, which is managed by **SPARK Impact**. The Fund is part of the £185m **North West Fund** that is jointly financed by the **European Regional Development Fund** and the **European Investment Bank**.

Dr Fitzpatrick said the portable ECG analyser for GPs could provide an automatic diagnosis of AF at the point of care. It is intended to be used to check for the presence of AF each time an elderly patient visits their GP, in the same way that they have their blood pressure checked on a regular basis. This would identify more patients in AF and could reduce the number of AF related strokes. If 30% of GPs were to use the device it could potentially save the NHS £64m in stroke care costs.

Contact: www.medtechcentre.co.uk

Reinnervate founder recognised with award from the Royal Society of Chemistry

Prof Stefan Przyborski, CSO and founder of **Reinnervate Ltd**, received the Rita and John Cornforth award for his inter-disciplinary work at the boundaries of physical chemistry and biology, and his development of the Alvetex scaffold for 3D cell culture.

For the last 10 years, Prof Przyborski’s work at the **University of Durham** and as CSO of Reinnervate Ltd, has led to the development and commercialisation of solutions for scientists who wish to culture cells in a way that better mimics the in-vivo growth of cells. **Alvetex** scaffold 3D cell culture protocols and application guides are being used in areas such as 3D cancer cell biology, stem cell science, in-vitro skin modelling and 3D liver cell toxicity testing.

Prof Przyborski said “The work we are doing in providing scientist with models that get them closer to in-vivo growth conditions is vital for the enhancement of both basic and commercially-focused life science research.”

Reinnervate has extensively tested and validated Alvetex scaffold with a large number of cell types, including liver, skin, cancer and stem cells, all of which have important applications in basic research into cell development, disease modelling and drug safety screening. Alvetex was voted among the winners of *The Scientist* magazine’s ‘Top 10 Life Science Innovations’.

Contact: www.reinnervate.com

FUNDING & INVESTMENTS

NESTA report claims economy has experienced a ‘lost decade’ of innovation

Observers have grown tired of those who have turned NESTA from a nimble investor in growth SMEs to a mere research agency – posing as the centre of all knowledge on the UK’s innovation centre.

If Jonathan Kestenbaum didn’t do enough damage during his tenure as CEO at NESTA, his replacement, **Geoff Mulgan**, has sadly not yet steered the organization back to its roots – as many had hoped.

NESTA’s ‘report’, apparently, compiled by eggheads at **Imperial College’s** business school, states that ‘businesses had a crisis of confidence in the 2000s, prioritising cash and concrete over investment in

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innovation’.

It also claimed that its in-house **Innovation Index** showed that investment in innovation by British businesses ‘had fallen by £24bn’ since the recession began and has not recovered.

Far from being a lost decade, **Gibson Index** research reveals a completely different picture: of a generation of *tens of thousands* of young SMEs, across all 58 main sectors of the economy, exporting worldwide and building on the UK’s global reputation for producing hi-tech goods and services.

NESTA claims its index is ‘the most authoritative source of how businesses in the UK invest in innovation’. It also claims that ‘only 13% of innovation investment now takes the form of R&D. Other important types of innovation investment captured in the index include design, software development, innovative training and organisational development’. This is nonsense, of course. If software development is not R&D then perhaps **IBM, Oracle** and **Autonomy** should be removed from the **Department for Business’** annual R&D Report – itself considered the most authoritative status report of its kind?

Worse still, NESTA’s report defamed the UK’s construction industry by stating the sector had a ‘*low level*’ of innovation. Has NESTA not heard of the UK’s multitude of new products and designs, world-leading engineering consultants, of bridges, deployable structures, radiator valves, high-performance insulation materials, et al??

Made aware of the NESTA claim, **Sir John Armitt**, chairman of the ODA, which built the London 2012 Olympic venues on time and on budget, commented: “Few are aware that one of the UK’s best construction innovations is... new piling technologies!”

Contact: www.nesta.org.uk

Aberdeenshire-based mini-sub supplier Rovop wins ‘£8m’ funding boost

In a sign of investor enthusiasm for the oil and gas and energy sectors – the Scottish firm that supplies remote-operated submarines for use in the North Sea secured £8 million funding in its first 14 months.

Private equity lawyer **Steven Gray** established the company with **Scott Freeland** and **Mark Vorenkamp** – two veterans of the oil services business. The company supplies unmanned vessels used to complete work on installations underwater. Its services range from inspecting oil and gas platforms to laying wind farm cables.

The company announced it has been awarded £60,000 by **Scottish Enterprise** and **Scottish Development International** to support growth at home and overseas. The money will allow Rovop to hire a manager for international business development opportunities. Mr Gray said: “We are seeing significant growth in challenging subsea environments, such as deepwater and offshore wind farms, where strong currents and constant scouring provide a completely different set of challenges to our clients.”

While the company has only been trading a short time, Rovop has already won business and backing from around the world. The company won £1.6m investment from the **Scottish Loan Fund**, with an option to draw down £5m in total.

Rovop said the funding will allow it to buy more vessels after it won long-term contracts with major marine contractors. The subsea specialist was one of four companies selected for support by the manager of the **Maven Capital** fund. The firms were awarded £5m in total with the option to draw down £9m in total.

Contact: www.rovop.com

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Glasgow-based mLED wins 150,000 of seed funding

The **Strathclyde University** spinout firm, whose technology could feature in the next generation of smartphones and barcode scanners, raised £378,000 for the next stage of its development.

mLED emerged from the **Institute of Photonics** at the University of Strathclyde. Launched in June 2010, with £150,000 of seed funding, it forms the route to market for the institute's tiny light emitting diodes (LEDs) from which the firm takes its name.

Nick Kuenssberg, chairman of mLED, said: "We now have some customers who are seriously interested and we need to scale up the operation accordingly."

He said the company's micro LEDs are not just smaller than those generally in use today, but provide high levels of brightness and definition with very little heat output, and can be programmed to read signals coming back to them. Possible applications include medical devices, mobile internet technology and a new generation of barcode scanners.

"It's a very exciting technology which we believe is going to be a game-changer in a number of sectors," Kuenssberg added.

Perth-based investment management firm **Braveheart**, headed by chief executive **Geoffrey Thomson**, led the latest round of fundraising for mLED, tapping its network of private clients and the **Scottish Enterprise Co-Investment Fund**.

Contact: www.mled-ltd.com

Sixteen of the UK's 'most innovative and fast growing' cleantech companies?

The group all earned a place on an entrepreneurial trade mission to San Francisco earlier this year, with the aim of opening up their business to the US market.

The chosen companies are:

- Aeristech www.aeristech.co.uk
- Cella Energy www.cellaenergy.com
- Energy Deck www.energydeck.com
- Green Structures www.greenstructures.co.uk
- G-Volution www.g-volution.com
- Highview Power Storage www.highview-power.com
- Moixa Technology www.moixatechnology.com
- Naked Energy www.nakedenergy.co.uk
- Oxford Photovoltaics www.oxfordpv.com
- RE Hydrogen www.rehydrogen.com
- SAVortex www.savortex.com
- SEaB Energy www.seabenergy.com
- Seawater Greenhouse www.seawatergreenhouse.com
- VerdErg Renewable Energy www.verderg.com
- Whitefox Technologies www.whitefox.com
- Zeta Controls www.zetaled.com

Contact: <http://cleanandcoolmission.com>

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Risk software firm OpenGamma gains £10m in equity financing

This was led by new investor **ICAP plc**, the world's leading interdealer broker and provider of post trade risk and information services, joined by **Euclid Opportunities**.

OpenGamma provides technology for financial institutions to improve analytics calculation and delivery to front-office and risk users – and now has 20 staff.

The round also includes follow-on investments from previous investors **Accel Partners** and **FirstMark Capital**. OpenGamma will use the funding to drive continued product innovation, expand geographically to support its growing global client base, continue to support its active and growing open source community, and meet the significant market demand for advanced risk management and analytics systems.

Demand has increased dramatically as regulation and growing data volumes push hedge funds and investment banks to explore flexible open source alternatives to traditional, proprietary, and costly risk analytics tools. Firms are increasingly turning to OpenGamma to help them customize their risk analytics systems, build custom real-time trading applications, and maximize IT resources to reduce costs.

Contact: www.opengamma.com

Cambridge University finalises two new funds for emerging SMEs

The two funds – the Seed Enterprise Investment Scheme (SEIS) and Enterprise Investment Scheme Fund (EIS) will support new companies connected to the University. The fund has been closed and Cambridge Enterprise, the university's commercialisation arm, is ready to begin using it to assist University entrepreneurs.

Additionally, the funds must be fully invested before the end of the 2012/13 tax year. Over the next seven months, Cambridge Enterprise intends to make investments in five to six companies, whether they are new or established. Investments will typically range between £50,000 and £200,000, and can be used for proof of market, seed funding or follow-on funding.

The team is happy 'to meet with anyone who is interested in starting a business, no matter what stage their idea is at'.

Contact: cesf@enterprise.cam.ac.uk – 01223 763 723 – www.enterprise.cam.ac.uk

East of England Co-operative Society to back 'good ideas and opportunities'

Small businesses with ethics and ambition are being invited to brush up their business plans to apply for backing from a new **Regional Investment Fund** being launched by the East of England Co-operative Society.

The fund value is understood to be substantial, as the society is more interested in backing good ideas and opportunities than setting a cap on investment. Investments could range from a few thousand to hundreds of thousands of pounds or more.

Doug Field, executive officer – finance and technology, at the society, said: "We know how tough it is for growing businesses to get the finance and support they need to flourish. We want to find the great businesses of the future where we believe we can make a positive impact and help them to grow."

He continued: "The society has a broad range of business interests – with the launch of this Regional Investment Fund we are not only looking for more of the same but also new areas of interest."

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The criteria for a successful application for funding will be linked to the society's ethical code and its support for businesses based in the region with the potential for growth. Sectors of particular interest include existing and potential suppliers to the Society and organisations involved in renewable energy, e-commerce, technology and the environment.

Contact: www.eastofengland.coop/investment

Billionaire philanthropist Bill Gates invests £6m in UK GM research

Billionaire philanthropist **Bill Gates** has backed his support for genetic modification (GM) techniques with a £6.3m grant for research led by the **John Innes Centre** in Norwich.

The five-year study will look into the feasibility of engineering cereal crops that could get nitrogen from the air – as peas and beans do – rather than needing chemical fertiliser.

John Innes staff said the focus of the research was on Africa, because of the difficulty for poor farmers of buying fertiliser, but it could have applications for all producers. Fossil fuels are used in the production of fertilisers and cause pollution.

The initial stage was a study into whether the technique was possible and if it proved successful full-scale production was still years away. Previous GM research by other organisations has been disrupted by protesters. John Innes hoped the nature of its goals would not generate similar opposition.

Earlier, Bill Gates said that GM techniques had a place alongside more conventional methods, particularly if they prevented many people dying of starvation. He said: "Some of the work we [**The Bill and Melinda Gates Foundation**] are doing to create new seeds involves GM techniques, but a lot of it does not. What we end up with is a set of products with which African countries can decide what they want to use."

Contact: www.gatesfoundation.org – www.jic.ac.uk

UNIVERSITY NEWS

University of Edinburgh staff or students created 35 new companies in 2011-12

Derek Waddell, CEO of **Edinburgh Research and Innovation**, the University's research and commercialisation office, said: "These record figures again show the strength and depth of the University's research excellence, as we continue to maintain our position as one of the leading research universities in the UK. They demonstrate the vital role we play in helping to foster growth in the nation's economy as we transfer academic knowledge, skills, expertise and intellectual property into the wider community."

The 35 companies was the same total as those started in the previous year – 2010/11.

The firms include **EoSurgical**, a medical student start-up company that designs and manufactures training tools for surgeons to improve their operating skills. The company has won numerous entrepreneurship awards.

Edinburgh filed 62 patents to protect new inventions by research staff, and a total of 51 licence agreements to allow commercial use of technologies developed on campus.

EoSurgical, founded by **Paul Brennan** and **Roland Partridge**, both PhD students and trainee surgeons at the University of Edinburgh, landed the £20,000 first prize – the latest in a series of awards for the firm.

Contact: www.research-innovation.ed.ac.uk

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Imperial College spinout Ervitech Ltd is one of the recipients of Eli Lilly prize

“This is an enormously exciting prospect,” said **Dr Esther Rodriguez-Villegas**, of Imperial College London, who is leading the response to the **Eli Lilly** challenge, started by the pharma firm – known as CRACK IT, and run by the National Centre for the Replacement, Refinement and Reduction of Animals in Research, or **NC3Rs**.

“It is going to require the close integration of many innovative technologies. We need to devise state-of-the-art low power amplifiers and new wireless communication circuits. Lilly has set some ambitious specifications for us to meet, but if successful we can have a huge impact on mouse welfare.”

Lilly scientist **John Huxter** said: “The wireless recording project will be underway by April 2012 with Lilly providing in-kind contributions to support the funding from the NC3Rs.”

The Ervitech team fought off competition from five other groups, in a ‘Dragons’ Den’ style research competition, to win the £500,000 grant which will be used to meet a challenge that has been posed by the pharmaceutical company Lilly.

Over the next three years, experts in low power electronics for monitoring human patients are going to use their skills to benefit the mice used in laboratory tests of psychiatric diseases. Their goal is to create wireless equipment for recording brain activity that will weigh less than a 5p coin. This will make life less stressful for the mice and pave the way for better understanding and treatment of schizophrenia and Alzheimer’s disease.

The 2011 panel included **Prof Richard Bayford** of Middlesex University, **Prof Paul Bolam** of Oxford, and chair **Dr Ian Ragan**, of NC3Rs.

Contact: www.imperialinnovations.co.uk – www.crackit.org.uk – www.nc3rs.org.uk

Industrial Doctorate Centre established by EPSRC at the University of Bristol

Funding of £3.8 million for a new Industrial Doctorate Centre will provide the composites manufacturing industry with elite research engineers of the future. The facility will be based at the **National Composites Centre**, a research centre led by the University of Bristol and industry.

The Industrial Doctorate Centre (IDC) aims to provide the composites manufacturing industry with engineers equipped with the necessary advanced technical and leadership skills required for effective adoption of new knowledge and technologies in composites manufacture.

The IDC is integral to the EPSRC **Centre for Innovative Manufacturing in Composites** (EPSRC Centre) and will support over 30 EngD programmes, of four years duration, where selected research engineers will undertake specialist training and conduct an industrially-focused research project, spending 75 per cent of their time at a company.

The IDC will have access to a complete range of equipment and techniques required for composites manufacturing research. It is open to all UK industry and academia and will eventually offer wide access to its bespoke taught modules.

Professor Michael Wisnom, director of the University’s Advanced Composites Centre for Innovation and Science (ACCIS), said “The new IDC based at the NCC and in industry will focus on applied research at technology readiness level 3-5, and will be highly complementary to the Bristol ACCIS Doctoral Training Centre, where PhD students work on more fundamental research topics at TRL 1-3.”

Contact: idc@epsrc-cimc.ac.uk

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Nottingham University and its spinout Promethean Particles Ltd secure EU cash

The project, known as **SHYMAN** (Sustainable Hydrothermal Manufacturing of Nanomaterials), will take place over the next four years and includes partner universities and businesses from 12 European countries – is a nanotechnology research project with an overall value of €9.7 million.

In May 2012 Nottingham was the base for the world's first Liquid Phase Photoelectron Spectroscopy (LiPPS) machine, a high performance tool that will increase the UK's competitiveness in a range of high-value industrial sectors including semiconductors, aerospace, pharmaceuticals and automotives.

Funded by a £675,000 grant from the **EPSRC**, LiPPS is a unique X-ray Photoelectron Spectroscopy (XPS) machine which allows researchers to take atomistic measurements of the surface of liquids for the first time. Current instrumentation in the XPS field allows only for the analysis of solid substances. LiPPS will be easier to operate, able to deal with a wider range of sample types and to acquire data autonomously.

The facility will open up an entirely new sector for the research community, generating new avenues for research and supporting training of early stage career researchers.

The potential applications of this technique are vast. Solute composition and interfacial structure are dominant in a wide range of processes including catalysts and electrode-related systems. Insight into interfacial regions in these systems is crucial to the design of more efficient energy storage/conversion devices.

It underpins the knowledge of solution-based processes including electroplating and polishing which are key to high tolerance engineering processes throughout the automotive and aeronautics industries.

Contact: www.prometheanparticles.co.uk

University of Leicester given a £7m donation – its biggest ever

The donation, which has come from the **John and Lucille van Geest Foundation**, will be used to build a new £2.5m Biomarker Facility next to the University's **Cardiovascular Research Centre** at Glenfield Hospital.

In this facility, University of Leicester scientists aim to discover new biomarkers – unique chemical traces that can be used for the diagnosis and prognosis of disease, as well as monitoring of treatments given to patients. It will be equipped with three mass spectrometers to measure proteins, lipids and other molecules that may be involved in cardiovascular disease, as well as powerful computers which are able to handle the large amounts of data for each patient, to find those particular features that are associated with the disease, thus paving the way for the development of personalised medicines.

Initially the research will be concentrating on heart failure and coronary artery disease.

In addition, £4.5m will be used to create the **van Geest Foundation Heart and Cardiovascular Diseases Research Fund**, which will allow researchers from the University of Leicester to compete for funding for studies that will advance research into cardiovascular disease.

Leicester University VC **Professor Sir Robert Burgess** said: 'We are delighted that the trustees of the John and Lucille van Geest Foundation have chosen to support the University with this transformational gift which will benefit society through new advances in research knowledge.'

Professor Nilesh Samani, British Heart Foundation Professor of Cardiology and Head of the **Department of Cardiovascular Sciences** at the University of Leicester, added: 'In Leicester we are very fortunate to have a world class genetics approach to understanding the fundamentals of cardiovascular disease. This gift will enable us to understand what happens beyond the genome and hopefully combine these

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technologies to yield novel tools for clinical use which ultimately benefits patients.'

Cardiovascular disease is a major health problem in the UK causing nearly 200,000 deaths annually. In the East Midlands, this problem is about 25% higher than the national average.

Contact: www.le.ac.uk/departments/cardiovascular-sciences

Wellcome Trust and MRC 'invest £8m in a new stem cell research centre'

The facility will be based at **Cambridge University** and will be called (God help us!) the 'Wellcome Trust-Medical Research Council Cambridge Stem Cell Institute'.

The Institute will build on existing investment by the Medical Research Council (MRC) and the Wellcome Trust, uniting 30 leading research teams with expertise across the three main types of stem cell: embryonic, adult and induced pluripotent cells. Research scientists will work alongside technology specialists and doctors to develop new therapeutic approaches and this will be underpinned by stem cell biology.

The Institute will eventually be housed in a purpose-built 8,000 square metre facility to be built on the **Cambridge Biomedical Research Campus**. Key areas of research will include pluripotency, haematopoiesis, epithelial tissues, and neural and cardiovascular stem cells.

Professor Austin Smith, director of the new Wellcome Trust-MRC Cambridge Stem Cell Institute, said: "Our aim is to close the knowledge gap and drive stem cell research forward towards clinical applications. The world-class facilities will attract the best international talent from the fields of stem cell biology and regenerative medicine to pursue this goal."

Contact: www.cambridge-biomedical.com

Anglia Ruskin University launches Enterprise Fellowship scheme

Up to £35,000 is being made available to Cambridgeshire-based startups through Anglia Ruskin University via its new Enterprise Fellowship scheme, said **Lester Lloyd-Reason**, Professor of International Enterprise Strategy.

While the money is likely to be split between a number of applicants, the chance exists for a single venture to take the entire money on offer, according to the University.

It is the second year of the scheme run by Anglia Ruskin's **Centre for Enterprise Development and Research** (CEDAR), which last year shared £50k between three businesses.

Made possible by the generosity of a private benefactor and supported by the **Lord Ashcroft International Business School**, Anglia says the Enterprise Fellowship is open to anyone in the county with a bright business idea who is looking for financial backing.

In addition to a share of the £35k, successful applicants will receive mentoring support, specialist training and development, legal support and advice, and access to the **StartupLab**, the new business incubation centre at Anglia Ruskin. Prof Lloyd-Reason said the hope was that the scheme would help more local entrepreneurs convert their ideas into real businesses.

Contact: www.anglia.ac.uk

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LATE DATES FOR SEPTEMBER 2012

12 September 2012 – Funding Opportunities from the Technology Strategy Board

The Watershed, Bristol. Time: 6pm.

The TSB is highlighting opportunities; connecting partners and networks; and distributing funding – helping businesses of every size to transform great ideas into future growth products and services. This meeting will provide an overview of the tools and programmes available from the Technology Strategy Board, with a focus on SME support. Delegates are also invited to stay on for the South West Founders meetup from 7.30 pm with free food and drink – register at SW Founders.

Contact: www.meetup.com/sw-founders

19-22 September 2012 – 3rd MADE 2012 Festival

Sheffield, South Yorkshire.

This is the UK's biggest entrepreneur festival – with 3,000 guests, 50 high-profile speakers, at 10 venues across the city of Sheffield. The festival, now in its third year, will bring together great British inventors, designers, manufacturers, business owners, budding entrepreneurs and UK policy-makers. Described as 'the Davos for entrepreneurs', the latest programme and speakers will be announced shortly.

Contact: www.madefestival.com/programme

24-25 September 2012 – Magnetolectric phenomena and devices

The Royal Society, Carlton House Terrace, London.

Organised by Cambridge scientists Dr Neil Mathur and Professor James Scott FRS – in the last decade has there been an explosion of activity into materials and devices that interconvert magnetic and electrical signals. The magnetolectric coupling required for this may arise in a single material or at the interface between two materials. Bulk samples, thin films and devices will be discussed.

Other UK speakers include Prof J Marty Gregg, of Queen's Belfast, and Dr Finlay Morrison, St Andrews, Scotland.

Contact: events@royalsociety.org

24-27 September 2012 – Autonomous Underwater Vehicles AUV 2012

National Oceanography Centre (NOC), Southampton, Hampshire.

Contact: www.auv2012.org

25-26 September 2012 – Micro Manufacturing – six shows in total – TCT Live, Mediplas, MM Live UK, MEMS Live UK, NANO Live UK and Sensing Technology

NEC, Birmingham.

The International Forum for Micro, Precision, MEMS and Nano Manufacturing has grown to be one of Europe's leading events dedicated to Micro, MEMS and Nano manufacturing. Exhibits cover the full spectrum of technologies from laser micromachining through to micro injection moulding and from MEMS fabrication, through to assembly, inspection and test equipment and offers visitors a one-stop shop for small and ultra precision part technology. Over 2,000 attendees came in 2011 and many exhibitors have

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reserved their space for the next show, which signals continued growth for 2012.

Contact: www.micromanu.com – www.tctshow.com

28 September 2012 – Near Field Communications – Now and Beyond

IET London, Savoy Place, London.

Who will benefit from NFC? The latest report by Juniper Research says that the NFC retail payments market will be worth more than \$180bn globally by 2017, marking a seven-fold increase to the value of the market in 2012. NFC is apparently gaining momentum but is it only retail payments that will benefit from this new technology? If you are looking for an answer make sure you join the IET for a one day seminar bringing together those in mobile payments and those looking towards potential future NFC uses. Speakers will be from Consult Hyperion, NFC Forum, Proxama, Orange, Connectthings, and Research in Motion (RIM).

Contact: <http://conferences.theiet.org/nfc/registration/index.cfm?origin=NFCemail>

AND FINALLY...

>> Some 10 years ago a new spinout at Sheffield University, **Pictorial Meadows Ltd**, was featured in The Financial Times, as one of the best and unique examples of early UK academic enterprise.

London's **Olympic Park**, at just under a square mile, is the largest new park in the city for more than 100 years. **Prof Nigel Dunnett**, Professor of Planting Design and Vegetation Technology and the brains behind Pictorial Meadows, made a huge contribution – widely reported in the media – by carefully selecting colourful annual seed mixes and planted drainage “swales”. A swale is a shallow depression designed to capture and hold water temporarily after heavy rain, allowing it to soak into the ground, rather than run off and cause flooding.

While the overall design has been carried out by a consortium of two landscape companies, British LDA Design and the American-led **Hargreaves Associates**, the planting design has been led by two professors at the University of Sheffield Department of Landscape: **James Hitchmough**, who has a special interest in perennial planting, and Nigel Dunnett, whose focus is on annuals.

The Olympic Park is noted for its extensive and dramatic perennial planting, designed to be part of a permanent legacy. Around 45 hectares (111 acres) of planting and habitat will be created.

Much of what can be seen at the Olympic Park is revolutionary and could change the face of public parks in Britain – not just in the scale and nature of the plant combinations used, but in the way they are created and the ideas behind plans for their future maintenance.

Contact: Prof Nigel Dunnett, Department of Landscape, University of Sheffield – 0114 2220611 – n.dunnett@sheffield.ac.uk

>> While police called off the search for ‘Essex Lion’, it is good to remember the incident in **Grimsby** (it would be Grimsby) when four lions ran away from a circus in March 1991.

The resulting mayhem was reported as follows...

The four roamed the streets for more than an hour before they were caught and returned.

However, one Michael Strandt was mauled by one of the beasts – he needed 24 stitches after a lion

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pounced on him and sunk its teeth into his neck. Mr Strandt said “The next thing, this lion was pounding after me. It leaped up to me, grabbing the top of my shoulder, and pulled me down. I thought I was never going to get up. I rolled into a ball to try to protect myself.” He owes his life to heroic policeman Ron Harrison, who rammed the animal with his patrol car.

The ‘circus’ continued... At one point a red-nosed clown was hailed a hero after he chased after one of the lions. The clown, complete with red nose, big feet and ridiculous costume trapped one of the lions in an alley at the Victoria Street bus station.

The clown had earlier rushed into the nearby Grimsby Police Station to alert the force about what had happened. Along with Sgt Stewart Bellamy, the clown used the stick and chair to keep the animal at bay until help arrived.

Sgt Bellamy said: “I was absolutely terrified. The clown was very, very brave. I was outside the police station in a car when I saw a clown and a lion.” The sergeant then blocked the passage with his car, and the clown used the chair and stick to ward off the lion before some gates were shut to trap the animal.

>> Research by **Bitdefender**, who specialise in security software, has shown that thousands of **iOS** apps are accessing personal information, such as address book details and location information, without the express permission of the user. Bitdefender researched more than 65,000 apps using its own Clueful app, which allows iPhone and iPod Touch users to see how other apps are using their data. The research showed that two in five iOS apps can track a user’s location and one in five can access a user’s iPhone address book, all without the user’s agreement.

Contact: www.bitdefender.co.uk

>> A London council tried to fine a motorist £120 for parking illegally by using a photograph of a different car to prove his ‘guilt’. **Camden Council** sent a ‘penalty charge, notice to owner’ to a member of the **MoneySavingExpert.com** team last month but his car was nowhere to be seen at the time of the ‘offence’.

The photographed vehicle was similar – a grey Volkswagen Golf – but the victim, **Dan Plant**, drives a blue Golf. The car was also a newer model to Dan’s.

He was parked in the vicinity before this picture was taken. Crucially, he left his spot before the photo taken at 8.40am – ten minutes after restrictions begin on that street on weekdays. No ticket was issued on the day.

Camden Council, which issued 320,304 tickets during the 2008/09 tax year (the last count), nearly got away with it. As Dan had parked in the area that morning he initially thought he may have accidentally overstayed his welcome.

When the light bulb moment arrived, he took a closer look at the picture by zooming in with the help of design manager **Darren Gough**... *which revealed a different car.*

He immediately appealed and a begrudging Camden gave in but astonishingly still threatened to reject a future challenge if it ever tried to issue a ticket based on the whereabouts of a different car.

>> Car park giant **NCP** hit Londoners and would-be Games guests with huge price rises to coincide with the Olympics. It raised prices at the 38 of its 104 London car parks that are closest to Olympic venues. Other UK car parks are not affected. A day’s parking at NCP in Shepherd’s Bush doubled in price to £40.

>> In the autumn, ‘The View from **The Shard**’ will offer visitors – for £24.95 a head – the highest

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viewing point from any building in western Europe, nearly twice as high as any other view in London.

There is a two-stage lift – complete with music and light effects, arriving at Level 69, a triple-height, light-filled main level. It will be open from 9.00am to 10.00pm to enable guests to enjoy the experience by day and night.

Contact: www.shardlondonbridge.com

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