

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

The news that **Hewlett Packard**, the world's biggest manufacturer of personal computers, has agreed to buy the Cambridge software firm **Autonomy** for up to £7bn was a tribute to the extraordinary success of the company and its founder **Dr Mike Lynch**.

While the **BBC** always manages to attend a mass of American and other foreign trade shows without mentioning a single British company – almost as a matter of principle – Autonomy plc's rise to fame has gone almost without notice.

While Autonomy is hardly a household name, it earns close to \$1 billion each year from software that can turn huge volumes of images, text and video into useful statistics and insights for businesses.

Acquiring that technology will enable HP to expand its business software products, and put it in a good position to exploit a trend dubbed 'big data'. Businesses are increasingly interested in finding ways to distil meaning from the growing piles of digital information – from Tweets to video – flowing through our lives at work and at home.

Whit Andrews, analyst with **Gartner**, said "Autonomy have had this vision for over a decade that there was immense value in being able to do statistical analysis for data like audio and video that conventional technology cannot handle."

Autonomy's products enable companies to do things like analyse transcripts from call centres; discover which sales strategies work best; and process troves of emails and other documents to match what is being said and done against a company's legal responsibilities. Acquiring the company could enable HP to take a dominant position in the growing market for what Autonomy's Lynch dubs "meaning-based computing".

He stands to earn £500m from the deal. He deserves every penny.

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

Experienced team at Sub10 Systems maintains world lead in MMW telecoms

Sub10 Systems design, develop and sell class leading Millimetre Wave (MMW) wireless Ethernet bridges. Sub10 has been in operation since 2010. All members of the team have a background of senior leadership positions with premier telecommunications manufacturing and sales companies.

Design and development is the responsibility of a team of vastly experienced wireless industry professionals. Incorporation of sophisticated techniques and components into the core design delivers a product able to meet or exceed expectations for functionality, features and longevity.

Its wireless links are fed into the market via proven global distribution channels. Sub10's locally based channel teams work closely with their partners at all levels, top down and bottom up, in order to present the end user with a second to none customer experience.

Their first system, the Liberator-V320, available in volume with effect February 2011, delivers an excellent balance between performance and cost effectiveness. A warranty of 24 months illustrates our confidence in the quality of Liberator.

In August 2011 millimetre waveband and wireless Point-to-Point specialists, **Sub10 Systems**, reached an agreement with **Huber+Suhner**, a leading global supplier of components and systems for electrical and optical connectivity.

Production of the SenCityLink range will move from Switzerland to Sub10's headquarters in Devon in the South West of England. Sub10 Systems CEO **Stuart Broome** said: "These are exciting times at Sub10. Hot on the heels of our announced EMEA expansion, this agreement with Huber+Suhner will allow us to further develop and grow our business. We believe that the time is right for Millimetre Waveband (MMW) products and our single minded focus and approach to market will enable us to maximise the potential for the technology."

Eleven years ago, **Mark Stevens**, now CTO, was a key member of the team that started **PipingHot Networks**. His primary role was Director of Product Management, but on a 'spare time' basis Mark managed acquiring premises, procuring equipment, recruiting staff and driving initial direction. After re-investment, PHN was re-born, in 2002, as the hugely successful **Orthogon Systems**, eventually acquired by **Motorola** in 2006. Mark continued working for Motorola in various senior technical roles until the end of 2010.

Contact: www.sub10systems.com

SME NEWS – ENGINEERING, ELECTRONICS, TELECOMS

Energy Technologies Institute signs two new technology research projects

Two £4m projects have been launched by the **Energy Technologies Institute** (ETI) to reduce the impact of faults on electricity distribution networks, helping the growth and increased flexibility of distribution systems and with more low carbon electricity generation installed in the distribution system.

These new projects will also help minimise the costs of upgrading the UK's electricity distribution network over the next 20 to 30 years, says the ETI. Each project will develop and demonstrate a fault current limiter device, which will reduce the damaging currents resulting from network faults and increase electricity network reliability for the future.

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Part of the ETI's Energy Storage and Distribution Programme, the projects will also accelerate the development and demonstration of two of the most promising fault current limiter technologies from around the world.

One project involves the design, development and demonstration of a Resistive Superconducting Fault Current Limiter. It will be developed by **Applied Superconductor**, based in Blyth, Northumberland, with technical input from Rolls-Royce, and will be installed on the network at a **Western Power Distribution** substation in Loughborough, Leicestershire.

The second will design, develop and demonstrate a Pre-saturated Core Fault Current Limiter. It will be developed by **GridON**, based in Tel Aviv, Israel, manufactured by **Wilson Transformer Company** and will be installed at a **UK Power Networks** substation in Newhaven, East Sussex.

Contact: www.appliedsuperconductor.com

Naval design firm wins order to design a battery-powered passenger ferry

Southampton-based **BMT Nigel Gee Ltd** said construction of the 25m electric ferry, capable of carrying 150 people, will begin shortly for trials and delivery next year to a customer in **China**. The new ship is being designed for use in estuaries and coastal waters, based on BMT's low resistance catamaran hull technology.

VRB batteries will power electric drive motors to achieve a ten knot service speed.

Solar cells incorporated into the roof structure will top up the batteries whilst the vessel is in use.

In addition to the naval architecture design, BMT will develop the layout and styling of the vessel providing an "elegant, yet simple design that reflects the vessel's modern green credentials and practical functionality as a passenger ferry".

Ed Dudson, technical director at BMT Nigel Gee, which is based at Shamrock Quay, said: "This design has been an interesting challenge as we needed to balance the weight of the batteries against the vessel performance in order to ensure that a practical ferry service can be provided.

"Winning this contract further strengthens our commitment to developing innovative solutions for customers around the world, helping them to overcome their unique design challenges."

BMT Nigel Gee is one of the world's leading independent design consultancies for advanced and specialised ships and boats, from initial concept to detailed design. It is a subsidiary of **BMT Group Ltd**, which employs 1,300 people across 24 countries.

Contact: www.ngal.co.uk

Breakthrough in Ricardo's Kinergy High-Speed Flywheel Technology

Following intensive research and engineering development, Ricardo says its sealed high-speed flywheel energy storage device has achieved 'significant improvements' in the magnetic coupling and gearing system.

The firm believes this has now taken its efficiency to 'better than that of a conventional geared drive', consolidating Kinergy's position as perhaps the most promising high speed flywheel concept currently available.

The subject of nine Ricardo patent families in application, **Kinergy** represents a step-change advance in mechanical energy storage technology. It is based on a high-speed carbon fibre flywheel operating within

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a hermetically sealed vacuum chamber at speeds of up to 60,000 rev/min.

But unlike current devices in which energy is imported and exported via a drive shaft operating at flywheel speed, Kinergy transfers torque directly through its containment wall using a magnetic gearing and coupling system. This new breed of high-speed flywheel technology offers the prospect of enabling the unit to be sealed for life, thus avoiding the need for high-speed seals and a vacuum pump, and hence reducing costs and maintenance requirements. The consequent weight and space saving potential provides for a competitive packaging envelope, while the ability of the efficient magnetic coupling to incorporate a high gear ratio makes the input and export of torque significantly more manageable than would be the case in a more conventional direct driven high speed flywheel design.

This first Kinergy prototype has resulted from a fast-track engineering development process intended to deliver the unit that will be at the core of the Flybus high-speed flywheel mechanical hybrid powertrain demonstrator vehicle.

Contact: www.ricardo.com

Vauxhall Vivaro van produces 'three-fold fuel economy performance'

The van is equipped with fuel-saving electric wheel motors developed by **Protean Electric**, a supplier of automotive in-wheel electric motors, and **Millbrook Proving Ground**, the vehicle test and demonstration centre, partnered to produce the Vivaro diesel hybrid. Protean outfitted the front-wheel-drive vehicle with a through-the-road hybrid conversion kit of two Protean Electric PD-18 motors attached to the rear axle. These two motors together provide torque assist of up to 1650Nm peak and 1000Nm continuous at the rear wheels.

Protean CEO **Bob Purcell** said "This Vivaro through-the-road hybrid vehicle demonstrates a practical, cost-effective and efficient way to retrofit a commercial vehicle into a plug-in parallel hybrid by simply adding two in-wheel motors and a battery.

"Our technology is uniquely designed for high-output, high-efficiency operations. Our in-wheel motors are unique in that they have the rotor on the outside and each motor's electronics on the inside. That simplicity of design creates more power density per motor and much simpler vehicle integration. It's the closest thing to a bolt-on hybrid system."

In addition, Protean added a 21kWh battery, giving the vehicle more than 55 miles (90km) of electric propulsion range and plug-in hybrid and electric vehicle capabilities. While operating in hybrid mode, the Vivaro measured 114mpg operating over the **New European Driving Cycle (NEDC)** — over three times the fuel economy of the conventional vehicle. The vehicle will be displayed in North America at the **Center for Automotive Research Management** in Traverse City, Michigan.

Contact: www.proteanelectric.com

UK's first privately funded nationwide electric vehicle charging network announced

In July 2011 EV charging infrastructure provider, **Chargemaster plc**, is to start the UK's first privately funded nationwide electric vehicle (EV) charging network next month.

By the end of 2012 the scheme, named POLAR, will be in around 100 towns and cities across the UK, with approximately 40 points in each area, providing a total of 4,000 charging bays.

The scheme will launch in more than half of the target areas within the next nine months. Chargemaster is working with the **Office for Low Emission Vehicles (OLEV)** to ensure its network complements the government-supported Plugged-In Places charging areas. Chargemaster will provide '4,000 privately-funded charging points across the UK'.

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Paul Everitt, SMMT chief executive, said “Combined with the 9,000 points to be delivered under government’s Plugged-In Places scheme, it sends a strong message to motorists about the strength of the emerging electric vehicle market.”

The technology used in POLAR has been developed and manufactured by Chargemaster in the UK and is designed to cater for the very latest in EV charging technology. Every location will enable cars to use the latest Type 2 connectors providing a 7kW fast charge. All units are three phase 21kW ready, which will enable users to charge some future models in about one hour.

Contact: www.chargemasterplc.com

New high performance compressors unveiled by Corac plc

The past six months have seen a major difference in Corac, particularly the increased strength in depth and breadth of the engineering teams and improved production engineering delivering higher quality and reliability. This strengthens the company’s strategy to extend the range of applications for Corac’s technology.

Corac plc has developed high performance compressors using a unique combination of technologies, underpinned by patented IP and internal know-how. The company intends to sell or licence this core IP.

Results for the six months to 30 June 2011 were in line with expectations, with strong evidence of the rigorous approach to managing costs. The period saw significant progress made in terms of commercialising the core technology and broadening the network of new opportunities, particularly through the development of existing partner relationships.

The management team has considerably broadened Corac’s technology landscape, with the DGC programme (of which ENI is one project) now having two DGC field trial development projects and a third DGC feasibility study, the IGC, possible in-pipe gas boosting and compression applications, subsea and offshore gas, long reach power and industrial compressor activity.

In May 2011 it signed a development agreement with **Aramco Overseas Company BV**, a part of **Saudi Aramco** for the development of an in-line gas compressor (IGC) utilising Corac’s unique compact high speed compressor technology; Secondly, a business update following the AGM on 19 May 2011 reported significant progress across its portfolio of development programmes over the last six months.

Contact: www.corac.co.uk

Finalists for the SMMT’s Award for Automotive Innovation announced

Motor industry trade body, the SMMT, called on automotive innovators to finalise their submission for SMMT’s Award for Automotive Innovation.

Sponsored by **GKN Driveline**, the award recognises innovations within UK automotive manufacturing, retail, design and engineering, acknowledging ideas that have already benefited, or have the potential to deliver, automotive excellence.

“This Award sets the standard in innovative design, engineering and technology, highlighting the capabilities of UK automotive,” said **Paul Everitt**, SMMT chief executive. “Innovations in safety technology and fuel efficiency have transformed our sector and through this award; SMMT is seeking to demonstrate the contribution the UK makes to this diverse global sector.”

A panel of leading industry experts, which includes; **Jerry Hardcastle**, vice president, vehicle design and development, **Nissan**; and **Ralph Hosier**, chartered engineer and motoring journalist, and SMMT chief executive Paul Everitt, will judge this year’s award, following presentations from the shortlisted entrants.

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Last year's Award was presented to **Gordon Murray Design** for iStream, which wowed judges with its innovative approach to manufacturing. It uses disruptive technology for large-scale vehicle production, reducing costs and its environmental impact and has since gone on to form the basis of the T.25 and a prototype electric vehicle, the T.27, which was unveiled earlier this year.

The winner will be presented with the Award at **SMMT's 95th Annual Dinner** on 22 November 2011 at the London Hilton, Park Lane.

Contact: innovationaward2011@smt.co.uk

New electric vehicle transmission to go on display at September show

Transmission engineering and control specialist **Vocis** is to give its novel twin speed electric vehicle (EV) transmission its first public demonstration at LCV2011 (the Low Carbon Vehicle show) on September 7-8, at **Rockingham Motor Speedway**. Technical specialists from the company will be on hand to provide an insight into the technology and the efficiency, performance and range benefits it offers for the next generation of EVs.

The new transmission will be demonstrated in a prototype electric minibus developed with powertrain supplier **Zytek**, giving visitors an opportunity to experience first hand the refinement and smooth operation of the system. Other Vocis technologies on show will include low-cost data logging for the monitoring of large fleets, plus a rapid prototyping tool for control system development, now in small batch manufacture, that uses cutting-edge CPUs and highly versatile software tools.

Contact: www.vocis.co.uk

Barclays Corporate funds £1m expansion at SE Controls Ltd

SE Controls supplies smoke and natural ventilation systems. Turnover at the company has increased to £10m and it is now preparing to expand its 75 staff to more than 100 over the next three years.

The company will now expand into its 21,000 sq ft property at Fradley Park, Lichfield, adjacent to its existing site. **Will Perkins**, MD of SE Controls, said overseas expansion had helped boost revenues at the company. Perkins said: "The expansion into the new premises will provide much needed warehousing and increased production facilities but will also enable us to create a research and development centre which will allow our continuous and innovative new product development program to flourish.

"The group is now operating on a truly global basis having offices in the Far East, the Middle East, Southern Africa, India and Brazil and our new facilities and IT infrastructure are essential to support our growing export business. We fully expect non-UK sales to account for an increasing percentage of our business in the coming years."

Contact: www.secontrols.com

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Walker Filtration gains top prize at the NE Business Awards

Washington-based air filter manufacturer Walker Filtration beat Fishburn-based stairlift maker **Meditek** and Darlington-based subsea cable specialist **Tekmar** to the top prize.

It is the second time the 28-year-old firm has won the title in the awards. The firm, founded by husband and wife team **Brian** and **Carol Walker** and headed by their daughter **Lianne Walker** as group general manager, also won in 2008.

The company sells compressed air filtration and drying equipment for compressed gas, vacuum and medical work, and it has won national recognition for exporting. It sells about 90% of its output overseas and is the only firm in the UK to have won the **Queen's Award for International Trade** three times.

In 2009 Lianne Walker got an MBE for her services to manufacturing and international trade in the 2008 New Year's Honours List. She was following in her father's footsteps for he was awarded an MBE in 2001.

The business, which sells to more than 60 countries, has expanded its Washington factory and aims to record revenues of more than £25m in the next few years. Past finalists have included Newcastle-based de-icer manufacturer **Kilfrost** and Stockton-based car part maker **Nifco** for the title of North East Company of the Year.

Contact: www.walkerfiltration.com

'Made in Britain' initiative selects some SMEs among its manufacturing champions

Wireless energy management company WEMSinternational has been chosen as one of a select number of UK manufacturers to be included in the government's new 'Made by Britain' initiative.

The Stockport-based company was nominated by town MP Ann Coffey, as an example of 'British design and manufacturing ingenuity'. The firm manufactures and installs wireless building energy management systems for multi-building operators.

The company said its technology – which was launched in 2007 – delivers energy savings of between 15 and 30 per cent for UK companies, while also reducing carbon emissions.

It joins the likes of McVities, Land Rover and Rolls-Royce as part of the new government-backed drive to celebrate British manufacturing in the last 160 years.

Steve Dillon, chief executive and founder of WEMSinternational, said: "As a company, we made a strategic decision to only manufacture in the UK, as transferring the business overseas would go against the whole premise of the business – saving energy and reducing carbon emissions. Following significant investment, we're now successfully competing against global giants by focusing on innovation – we strongly believe that cutting-edge research and development can thrive right here in Stockport."

In recent months, WEMSinternational, whose clients include BT, Marks & Spencer, Fitness First, Rank and Boots, has grown its workforce by over 60 per cent, creating 30 jobs. Last month it installed a record 300 systems.

Contact: www.wems.co.uk

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Largest investment so far into an SME in 2011 – emerges at Nexeon Ltd

Rechargeable lithium-ion battery technology has received a boost with the investment of £40m in **Nexeon**, a company pioneering the use of silicon anodes in place of carbon.

The Series C investment was led by existing investor **Imperial Innovations Group** and included **Invesco Perpetual**. Nexeon plans to use the new funding to establish a world class manufacturing facility, scaling up the production of its latest silicon anode materials to 250 tonnes per annum, representing a commercial supply level.

Use of silicon anodes in Li-ion batteries produces a significantly higher performance and overcomes the limitations of present-day technology. Batteries with higher energy density can offer longer time between charges, higher power output, smaller size or a combination of these benefits. They are eagerly awaited for application in cell phones, laptops and many other consumer devices, as well as having important application in electric vehicles and in storage of renewable energy.

The latest funding brings the total raised by Nexeon to £55 million, and will allow the company further to accelerate application development and to increase support to its customers.

Nexeon's technology has reached unprecedented levels of performance in the last year, and the company recently announced that it had produced sample cells with significantly higher capacity for their size than the best current commercial equivalents. As Nexeon expands the scope of its activities it will be looking to create and fill a number of key commercial, technical and supply chain positions.

"This is the next step in an amazing journey for this exciting UK start up", says Nexeon chairman **Dr Paul Atherton**, who founded the company back in 2005 with **Professor Mino Green** of Imperial College. "It's a superb example of UK high value manufacturing involving sophisticated advanced materials, and this funding will enable Nexeon to establish the first in a series of manufacturing plants that will be needed to serve demand worldwide."

Contact: www.nexeon.co.uk

Nanoco plc sees future in LED lighting partnership

Nanotechnology firm Nanoco has announced a joint development agreement with 'one of the world's largest lighting companies' – not named – to develop the next generation of LED lights.

Nanoco is a world leader in the development and manufacture of cadmium-free quantum dots, fluorescent particles that light up with just a small amount of energy and can be made to generate an infinite number of colours. Manchester-based **Nanoco** is currently the only company in the world which can manufacture them on a commercial scale.

The new development agreement will aim to incorporate Nanoco's quantum dots into the lighting company's LEDs to create LED lighting with high performance characteristics.

LED lighting has many advantages over traditional lighting – including long service life, reduced power consumption, compact size and shock resistance – but the light it produces is harsh and unappealing to the human eye.

Nanoco's quantum dots have the potential overcome this limitation, opening up the possibility of more widespread use of LED lighting. The 12-month agreement with the unnamed lighting company is expected to be followed either by further development work or by new product launches.

Contact: www.nanocotechnologies.com

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National Archives hands out ‘tracing your ancestors’ contract

In August 2011 **Brightsolid**, the online ancestral information and technology firm owned by **DC Thomson**, was appointed by the **National Archives** to transcribe, digitise and publish three million records from its crime, court and convicts collection online.

Brightsolid said the project will be both labour and time intensive, involving manual scanning with around 1.84 million pages of records. The conservation and scanning stages are expected to take around 18 months to complete with the first tranche of records scheduled to be published by December 2012.

The company, which won the contract after an open tender process, said the work will cover 150 years between 1782 and 1932, and includes records from the **Home Office, Prison Commission, Metropolitan Police, Central Criminal Court** and the **Admiralty**.

The content ranges from “petitions for clemency”, where friends and family of people sentenced to death would amass evidence and references to plead for a lesser sentence, to entry books, judges’ reports, prison registers, transfer papers and jailers’ reports.

Caroline Kimbell, head of licensing at the National Archives said: “By making these important sets of historical records available online, more people than ever before can uncover hidden stories of crime and punishment from the archives.

“Being able to add these popular records to the growing list of National Archives resources available digitally is yet more evidence of the importance and effectiveness of forming partnerships across the public, private and not-for-profit sectors.”

Contact: www.brightsolid.com

Spider Online, one of Scotland's top digital agencies, nominated for major award

At this year’s Drum Awards for Digital Industries (DADIs) the agency was nominated for a national award. Spider Online was the only Scottish agency to have been nominated for a UK Marketing Society’s e-commerce Award in April, where they were up against international brands including Marks & Spencer, Aviva and LoveFilm.

Spider Online’s client Golden Charter, one of the leaders in funeral services planning, was nominated for a DADI in the ‘Financial Services’ category. The agency’s redesign transformed Golden Charter’s website from an online brochure into a complete funeral planning facility, delivering vastly improved commercial performance via sales and enquiries.

Spider Online’s MD John Campbell said “We have always worked hard to provide our clients with digital solutions that are imaginative, efficient and effective. We also aim to underpin each project with the best research available and then marry high quality digital design with our innovative technical approach”.

Spider Online were also heavily involved in COSLA’s myjobscotland portal for local government jobs in Scotland, their second digital project shortlisted at this year’s DADIs. The agency were commissioned to work closely with the Lumesse ATS (Application Tracking System) to improve site navigation and user perception, with a strong emphasis on search results, layout and vacancy pages.

Contact: www.spideronline.co.uk

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Clearer Partners Ltd offers a cloud-based video collaboration platform

Start-ups working in the **TechHub** office space in the Silicon Roundabout area of London have been praising the 1.5Gbit/s connection being trialled by **Virgin Media**.

The companies that the superfast connection allows them to send large files at lightning speed and enjoy high-quality online video conversations.

Dagmara Kodlubanski, chief operating officer at **Clearer Partners**, a firm that offers a cloud-based video collaboration platform, explained that working online with video content demands a very fast connection.

“Being in the business of online video production means that reliable and fast broadband can make a difference between a good service and a great one,” she said. “It is key for the service to our clients as it means they can conduct their business effectively, work together, reach the market and focus on what they do best: create high-quality content.”

Andrew White, founder of **FundApps**, which provides hedge fund companies with cloud-based software, explained that the global nature of the industry makes a fast, high-quality connection vital.

Contact: www.clearer.tv

SME NEWS – BIOTECH, PHARMA & MEDICAL SCIENCES

Medicina eyes Europe to fulfil £20m revenue targets in summer of 2011

The firm, which designs and sells medical products to the NHS and wholesalers, is targeting expansion into more European countries as it looks to double annual revenues to £20m following a management buyout.

MD **Ken Harrison**, who became the sole owner of Bolton-based Medicina after buying the balance of shares from co-founder **Mark Graham** for an undisclosed sum, said it would launch sales in Germany next month and will target Italy and Austria after that.

Medicina currently sells to Australia, New Zealand, Holland and Norway, and the company has recruited a new export sales manager to drive overseas revenue growth. Its best-selling products include syringes.

The company, which was established in 1992 and employs 26 people. It has appointed four more sales staff to start in September. Turnover in the year to October 2010 was £10m.

Mr Harrison said: “We want to consolidate in the UK market first and then push our sales strategy overseas. With the launch of new products in the next six months and with a dedicated sales team who will be pushing our growth strategy, we are confident we will be able to reach our target.”

A long time ago, the **DTI** spotted its potential and gave it a Smart award in 1998 for its project – a continuous cardiac output monitor for neonates. The firm is involved in developing a neo-natal heart rate monitor – a complex endeavour but a worthy one

Contact: www.medicina.co.uk

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Oxford spinout to begin manufacturing of 'self-inflating tissue expanders'

For the first time, surgeons will be able to accurately and predictably control the direction, the timing, and rate of in vivo expansion. This will significantly reduce the risk of soft tissue damage and associated complications. The level of control makes them ideal for use in delicate anatomical locations, particularly in the treatment of children.

The innovative hydrogel is the result of a unique collaboration between two materials scientists – **Jan Czernuszka**, Lecturer in Materials at the **University of Oxford**, and **David Bucknall**, currently Professor of Materials Science at the **Georgia Institute of Technology**, USA) and two plastic and reconstructive surgeons – **Marc C. Swan** and **Tim Goodacre**, based at the **John Radcliffe Hospital** in Oxford).

The technology is based on hydrogel technology which provides novel soft tissue expansion solutions that address a wide range of clinical applications across reconstructive plastic surgery and restorative dentistry. In August 2011 **Oxtexs** secured £500,000 of seed funding.

The market for the product – which can be shaped by the surgeon prior to implantation – is broad. It includes scar reconstruction following trauma, burns or cancer surgery. It also includes the treatment of congenital craniofacial conditions and limb deformities. However, the largest market may prove to be in restorative dentistry. Trials in this area are scheduled to begin at the **Harvard School of Dental Medicine** in the US.

Marc said: "There is always a clinical need for extra soft tissue in reconstructive plastic surgery, but until now there has been no reliable method of attaining the optimal amount through hydrogel technology. This device will allow clinicians to treat more cases, at a lower cost, and hopefully with a better patient outcome. We also expect new procedures and clinical indications to arise as a result of this breakthrough technology."

Contact: www.oxtexs.com

AstraZeneca to develop new drugs with Heptares Ltd

Heptares, a biotechnology company founded by **MRC** scientists, has signed a multi-million pound, four-year deal with AstraZeneca to discover and develop new drugs targeting an important family of proteins called **G-protein coupled receptors** (GPCRs).

GPCRs are integral components of cell membranes and help the cell to receive and respond to external signals, including those from drugs. But these receptors become highly unstable when removed from their natural cell membrane environment. To date, this has hampered scientists' efforts to understand their structure and design medicines that work on GPCR targets.

The collaboration brings together Heptares' GPCR expertise and its StaR technology – which stabilises membrane proteins, allowing GPCRs to be investigated – with AstraZeneca's capabilities in drug discovery, development and commercialisation.

The two companies will focus on several specific GPCR targets linked to the central nervous system, cardiovascular system, and metabolic and inflammatory disorders from projects in AstraZeneca's portfolio.

This research will act as the starting point for drug discovery by producing the first stabilised forms of GPCRs. **AstraZeneca** will have worldwide development and commercial rights to any drugs which emerge from the deal, but Heptares will receive £3.78 million up front, and potential future payments of up to £115 million.

Contact: www.heptares.com

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Microvisk introduces 'world's first diagnostic' smart strip system in the US

The firm introduced its unique handheld devices which monitor the blood clotting status of patients to the US market. Unveiled at the **American Association for Clinical Chemistry** annual conference, the Microvisk devices attracted strong interest from distributors and potential partners ahead of clinical trials in major US medical centres this autumn and product launches in 2012.

The devices branded as 'CoagMax' and 'CoagLite' are a point of care test and a home use test respectively that clinicians and patients can use to establish the correct dosage of anti-coagulation medication such as Warfarin and to monitor treatment. The devices are set to be trialled with 250 patients in three major cardiac centres in **Florida** from October with product launches scheduled for mid-2012.

Multi-centre European clinical trials are already under way in the UK and Germany. The devices will be introduced to the German market in November at **Medica**, the world's leading medical trade fair which attracts over 137,000 visitors. Product launches in both countries are scheduled for early 2012.

Microvisk's manufacturing and INR application specific research facility is located at **St Asaph Business Park** in North Wales. The company also has a non-application specific technology research laboratory in Chipping Warden, Northamptonshire and an operation in Florida, USA.

Contact: www.microvisk.com

ValiRx plc sees good news in its latest cancer diagnostics results

The cancer diagnostics and therapeutics company says that a late preclinical study into the development of one of its lead therapeutics, VAL201, carried out in collaboration with **Oxford University**, has 'firmly established' a potentially important role for VAL201 in treating hormone induced refractory prostate cancer and other conditions of hormone induced uncontrolled cell growth including breast and ovarian cancer, among others. These conditions currently have high medical needs,

This progress follows on from ValiRx's agreement with Oxford University, as announced on 14 April 2011, to accelerate the development of this lead therapeutic and to study VAL201's therapeutic potential for additional indications.

In the studies thus far, VAL201 has been shown to prevent cancerous growth in live models, with two proliferative conditions and in a further three conditions in cancer cell lines. The response has been shown to be dose dependent. Furthermore, ValiRx is also pleased to note that those models treated with VAL201 remain fertile and produce normal offspring and, unlike many other traditional therapies, no serious side effects have so far been seen.

In the models seen thus far, treatment with VAL201 potentially leaves other hormone induced activities working normally, therefore reducing side effects such as lowered sexual function and infertility. As such, VAL201 shows promise for superior therapeutics for hormone induced abnormal growth in a number of conditions.

CEO Dr Satu Vainikka said: "The market for treatments against hormone induced tumour growth and associated conditions is huge, and these conditions have significant unmet clinical need."

Contact: www.ValiRx.com – 020 3008 4416.

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FUNDING & INVESTMENTS

Up to 100 SMEs in Greater Manchester benefit from a £10m government cash pot

The **Greater Manchester Local Enterprise Partnership** has submitted a package of bids in round two of the Regional Growth Fund. Included in it is an application for £10m, which the LEP would then allocate to a series of firms in the region.

Companies are being urged to put themselves forward for a slice of the cash, which can be used to help fund capital projects that will create or safeguard jobs. The bid has been compiled on behalf of the LEP by Business Support Solutions, an arm of the Greater Manchester Chamber of Commerce.

Geoff Hancock, of Business Support Solutions, said: "We need businesses with high quality projects that will create jobs to come forward. We should hear in September whether we have been successful and, in the meantime, we want to work on identifying projects and getting them to the point where they are ready for investment."

Led by chief executive **Mike Blackburn**, the LEP has compiled a single package of RGF bids, which includes **Manchester Airports Group's** application for £10m to kick-start its £650m Airport City scheme.

A number of other bids have been submitted for other individual projects, details of which are commercially sensitive. The value of the overall package is not known.

However, one key feature of it is the move to access the £10m, which would then be distributed to the firms identified by Mr Hancock and his team.

Companies can compete for grants of £10,000 or more, with the average award being between £140,000-£160,000. The cash can go towards capital projects, such as factory developments. Mr Hancock said around 20 projects that could qualify for funding have already been identified.

Contact: geoff.hancock@business-support-solutions.co.uk

Online IPO dubbed 'Equity for Punks' raises £1m for drinks maker BrewDog

Scotland's largest independent brewery raised more than £1 million of investment in less than two weeks – a figure that outstripped expectations after private investors and fans of the firm promoted the scheme widely through social media websites such as Facebook and Twitter.

At the current pace of investment, the brewer estimates it will raise its target of £2.2m by the end of August, four months ahead of schedule.

James Watt, co-founder of BrewDog said: "Reaching the £1m mark so quickly with Equity for Punks demonstrates that people are not only looking for an alternative to mass market beer, they are looking for an alternative way to invest their money; a way that bypasses banks, brokers and global mega corporations.

"BrewDog was always intended to spark a step-change in the evolution of the UK beer market, so we looked for a way to raise capital that looked to shake up finance in the same way." The Fraserburgh-based firm, which produces hand-crafted beers, including some controversial ultra-strong varieties, launched the second-round "Equity for Punks" scheme in July.

Contact: www.brewdog.com

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Technology Strategy Board gives millions to ‘weather risk’ consortium

In spite of the significant disquiet over the performance of the UK’s Met Office and many University climate change-related research institutions – Technology Strategy Board is to fund a group led by the **Met Office**, and including **IBM**, **Imperial College Business School** and **Grantham Institute for Climate Change at Imperial College London**.

It will undertake a 15 month programme to prove the concept of Open Platform, which seeks to create an ‘online marketplace’ to exchange knowledge, data and modelling techniques between the government, disaster risk reduction and insurance sectors. It is anticipated that this will enable innovative solutions for managing risk and adapting to environmental change and extremes.

Sam Nixon, project director of the Open Platform consortium said “The Open Platform will initially address the needs of the aid, disaster reduction and insurance communities, and their requirement to understand past, present and future environmental impacts in their management of risk.”

The project aims to address the fundamental barriers to effective risk management including allowing different types of data to be combined, exchanged and modelled with other types of data to understand impact; and provision of information about the quality and provenance of data to enable informed decisions to be made.

Individuals involved include **Phil Evans**, Government Services Director at the Met Office, **Nick Appleyard**, the Technology Strategy Board’s Head of Digital, **Professor David Gann**, Head of Innovation and Entrepreneurship and Director of the Digital Economy Lab, Imperial College London; and not least **Sir Brian Hoskins**, head of the Grantham Institute for Climate Change.

Contact: www.innovateuk.org

GENERAL NEWS

CIP Photonics set to be sold to either Indian or Chinese ‘investors’

After the DTI and EEDA had poured a sum in excess of £25m into the East of England photonics research hub as a ‘photonics centre of excellence’, the centre has failed to achieve any ‘real world’ credibility, say its critics.

This has led to rumours that the hub is to be sold to Indian or Chinese companies, which the UK Government has labelled as ‘investors’, though their actual role is unclear.

Recent photonics SMEs have not got a good survival track record in the UK, in spite of the many millions which have been invested in them by both private investors and government agencies alike.

Failures include **Ilotron** (£14m lost), **Bath University** spinout **Blaze Photonics** (£6m lost), **Oxford Fibre Optic Tools** (about £4m), **Polatis Systems** (unknown), Scottish firm **Terahertz Photonics** and **Essient Photonics**. This does not include the £50m lost in the two hugely unprofitable spinouts from **Glasgow** and **Southampton Universities**, in spite of their considerable promise.

Contact: www.ciphotonics.com

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Hargreaves Report on Intellectual Property gets backing of UK Government

The UK Government says it broadly supports recommendations made in May 2011 by Professor Ian Hargreaves in his report, '*Digital Opportunity: A review of intellectual property and growth*'. Business secretary Vince Cable said the Hargreaves review highlighted the potential to grow the UK economy by creating a more open intellectual property system that will allow innovative businesses to develop new products and services.

Among the recommendations that have been accepted is the proposal for a **UK Digital Copyright Exchange** – essentially a digital market place where licences in copyright content can be readily bought and sold. The review predicted that a Digital Copyright Exchange could add up as much as £2bn a year to the UK economy by 2020. A feasibility study will now begin to establish how such an exchange will look and work, and the government says it will report on progress later in the year. A raft of exceptions to copyright has also been mooted.

A new intellectual property crime strategy and international strategy for intellectual property have been published alongside the government response. The crime strategy outlines how the **Intellectual Property Office** will continue to enforce IP crime issues domestically, while the international strategy sets out the UK's five-year plan to get the international IP framework in the best possible shape to support innovation and growth – particularly important when you realise that patent backlogs are costing the global economy as much as to £7.4bn a year.

Intellectual property is a key UK export and global trade in IP licenses alone is worth more than £600bn a year. IP minister **Baroness Wilcox** says UK businesses need to have confidence in the international IP framework so they are able to create and exploit value from their ideas.

Contact: www.ipo.gov.uk/preview

Sir John Parker is elected president of the Royal Academy of Engineering

Fellows of the Royal Academy of Engineering have confirmed Sir John Parker FREng as the Academy's new president, succeeding **Lord Browne** of Madingley who steps down after five years in office.

Sir William Wakeham KB FREng, Emeritus Professor at the University of Southampton, was also confirmed as the Academy's senior vice president. And among the new Fellows elected this year were the UK's top female defence engineer, a Nobel Prize winner and a racing Peer. A total of 59 new Fellows joined the Academy.

Included in the list are nine women, more than in any previous election in the Academy's 35-year history. **Ann Lauvergeon** has been elected as an International Fellow for her leadership and vision in creating **AREVA** and developing it into the world's largest builder of nuclear reactors, while **Frances Saunders**, Chief Executive of the Defence **Science and Technology Laboratory** has been made a Fellow for driving the creation of state-of-the-art equipment designed for the modern battlefield.

Elected as an International Fellow is **Steve Chu**, Secretary of State for the US Department of Energy and winner of the Nobel Prize for Physics in 1997. Dr Chu has spent much of his career advocating for alternative energy and nuclear power research, arguing that these are vital for combating 'climate change'.

Also named as a new Fellow is **Lord Paul Drayson**, distinguished for his contributions to science policy as Science Minister, renowned as an entrepreneur, a role model for promoting engineering as a career, and now the owner of **Drayson Racing**. In total, 50 UK Fellows have been elected with six International Fellows and three Honorary Fellows.

Contact: www.raeng.org.uk

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World pharmaceutical R&D spending experiences 'first ever decline'

Falling from \$68 billion in 2010 from \$70 billion in 2009, the trend may continue as multinationals such as **Pfizer** and **GlaxoSmithKline** continue, say analysts. After decades of relentless increases, the pace of decline looks set to quicken this year.

Overall expenditure on discovering and developing new medicines amounted to an estimated \$68 billion last year, down nearly 3% on the \$70 billion spent in both 2008 and 2009, according to **Thomson Reuters** data.

The fall reflects a growing disillusionment with poor returns on pharmaceutical R&D. Disappointing research productivity is arguably the biggest single factor behind the declining valuations of the sector over the past decade. "For the first time, drug companies are reducing costs in their R&D organisations and I believe we will see that trend continue," said **Hans Poulsen**, head of life sciences consulting at Thomson Reuters.

Traditionally, R&D laboratories have been largely immune to cost cutting but that has changed in the past year or so, and in recent months the pace of cutbacks has increased.

Pfizer, the world's biggest drugmaker, has taken the most dramatic steps under new chief executive **Ian Read**, with plans to slash around a quarter of its R&D budget over the next two years. Other companies have also made smaller cuts.

The winding back of research budgets represents a major change for an industry that has ploughed billions of dollars into the hunt for new drugs, often with little to show for it.

Last year, 21 new molecular entities were launched on the global market, down from 26 in 2009, and only a third of those were from major drugmakers with annual research budgets of at least \$2 billion, according to the **2011 Pharmaceutical R&D Factbook**.

Between 2008 and 2010 there were 55 terminations of projects that had already reached the final Phase III stage of clinical testing, more than double the level of 2005-07, reflecting the growing difficulty of developing new drugs that are better than existing ones.

Faced with the loss of exclusivity on more than 110 products in the key US market between 2012 and 2014, the industry has stepped up its drive to buy in promising experimental medicines from small biotech companies.

Contact: <http://lifesciencesconsulting.thomsonreuters.com>

Once a threat – now an opportunity? Methane in coal mines – the new eco-source

CBM could easily contribute to the UK's energy needs over the short, medium and long term but it needs investment and government support. When the North Sea runs dry, exploiting this home-grown supply could contribute to keeping the lights on at a cheaper cost than imported gas.

In the UK, government incentives for alternative energy source through the Renewable Obligation Certificate, or ROC system, do not apply. By its nature, CBM is a finite resource and therefore not renewable. However, it is a substantial source of potential energy in a world where power prices are soaring.

Extracting gas from coal beds still involves the **fracking process**, but to a lesser extent than with shale operations. That's because coal is much more porous than shale rock formations.

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The gas produced can be put into the national transmission system for sale but there is a problem with this pressure. CBM gas is under low pressure and the distribution pipelines run under high pressure. This means that some of the gas will have to be used to generate electricity to run a compressor.

Instead, it would make sense for CBM to be used to generate electricity at the site which can be used locally. All the big oil and gas companies are involved in the shale gas industry to some degree or other, but there are no big names involved in CBM in the UK. It needs a first mover to prove its viability.

China recently revealed plans to more than double production over the next five years to cut reliance on oil and coal. The industry is set to be massive in Australia, where it is known as coal-seam gas. China recently formulated plans to increase output to 21bn cubic metres a year, up from 8.6bn in 2010, according to state-owned **China Petrochemical Corp**. This is part of a strategic plan to triple gas usage to 10% of consumption by 2020.

Contact: <http://coal.decc.gov.uk/en/coal/cms/publications/mining/methane/methane.aspx>

UNIVERSITY NEWS

University of Aberdeen spinout provides new 'tools' to help medical researchers

Vertebrate Antibodies (VAb) Ltd will produce and commercialise antibodies – which are created within the laboratory and mimic antibodies produced naturally in our own bodies – for life sciences researchers.

The antibodies will allow scientists to undertake new research and could also help with the development of new diagnostic and therapeutic strategies for the treatment of human and animal diseases.

The body's immune system protects itself naturally from disease by producing antibodies which detect foreign proteins produced by harmful bacteria, fungi and viruses.

These antibodies detect proteins – which are the major component of the invading organism – and bind to those foreign proteins preventing the foreign invader from causing harm.

Over the last two years, a trio of researchers at the University of Aberdeen – fish immunologist **Steve Bird**, experienced antibody developer **Beatriz Cash** and biotech commercialisation expert **Ayham Alnabulsi** – have honed the technique of antibody production to make it cost effective, less complicated for researchers and applicable to a range of different animals as well as people.

Dr Bird, one of the founders of VAb said: "The tools we produce will have a massive impact on the research which today is underpinning the development of new drugs and therapies, which has enormous economic as well as health benefits. We are already talking to colleagues working in veterinary, agricultural and aquaculture research and management, about their priorities, and how we can develop the species-specific antibody tools they desperately need for their valuable research."

The company is being supported by a private investor, **Mohamed Saleh**, an engineer and entrepreneur with investments within the Middle East, who said: "VAb is within a niche that remains largely unexploited and represents an exciting opportunity for future growth. Additionally, I have a strong network of collaborators within the Middle East & North Africa where research is expanding and these links will strengthen VAb's prospects."

Contact: www.vertebrateantibodies.com

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Manchester's computer program could 'revolutionise the world's healthcare'

A massive network of computer programs co-created by University of Manchester scientists could revolutionise healthcare around the world, saving countless lives and billions of pounds.

Working with a number of partners, the academics have been awarded funds from a huge European research programme to create "virtual patients" – computational models of individual people – which could lead to everyone having their own individually-tailored health system based on their genetic and physiological make-up.

Under the system, doctors would be able to have an instant, in-depth knowledge of an individual patient's health needs and medical history at their fingertips.

This will allow GPs to correctly and quickly diagnose illnesses and conditions, saving patients from potentially-deadly side effects of wrongly-prescribed medicines and saving huge amounts of money on drugs.

The University of Manchester researchers are part of a pan-European, 10-year project, called **IT Future of Medicine** (ITFoM), costing €1bn. This project has been allocated €1.5m preliminary funding. A consortium of more than 25 academic institutions and industrial partners with expertise in ICT, the life sciences, public health and medicine have come together to begin the process of bringing the project to life.

The first goal is to give each GP the power to use a person's individual genome to inform every stage of disease management – through diagnosis, treatment and follow-up. This will require a revolution in ICT technologies so that relevant computing, storage, networking and modelling technologies are developed. The IT systems will create mathematical models using vast amounts of data – our knowledge to date about how humans work.

ITFoM will also provide scenarios – such as what would happen if a patient takes a certain medicinal drug, what would happen if they started running three times a week?

Through genome sequencing and clinical information gathered, the general model will be able to be adapted to suit the particular health demands of any individual, including such issues as allergies, congenital defects and current treatment.

Professor Hans Westerhoff, who is leading the Manchester part of the project, believes computer models will fundamentally change the way healthcare is provided. ITFoM will make general models of human pathways, tissues, diseases and ultimately of the human as a whole. These models will then be used to identify personalised prevention and therapy schedules, and the side effects of drugs. The models will be there to help diagnose a particular problem and provide solutions. Obviously this would need to be done in conjunction with a person's GP depending on the gravity of the situation. Making personalised medicine a reality will thus require fundamental advances in the computational sciences."

ITFoM is one of six pilot projects in the **European Future and Emerging Technologies** flagship scheme. These projects are vying for €1bn funding over ten years to in order to generate a scientific revolution.

Contact: www.itfom.eu

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Royal Academy of Engineering and Tata Steel establish new Chair

Tata Steel RD&T and the **Royal Academy of Engineering** are jointly funding a new Chair for research into Low Carbon Materials Technology at WMG at the **University of Warwick**, spending £600,000 into the new Research Chair.

WMG Director **Lord Kumar Bhattacharyya** said: "This announcement not only allows us to create a crucial new Chair to research this vital area, it is also wonderful recognition by the prestigious Royal Academy of Engineering and the renowned Tata Steel Group of the significant work WMG is already undertaking in low carbon vehicle technology.

"This research has already produced vital research for major manufacturers and has also helped many SMEs in the West Midlands region."

Robert Barrett, Head of Research Programmes at the Royal Academy of Engineering, said: "This new professorship at the WMG is an example of the Academy's commitment in supporting areas of strategic importance to the UK economy and we look forward to appointing a world-leading individual to this post."

Dr Debashish Bhattacharjee, Group Director for Research, Development and Technology at **Tata Steel**, said: "We will be using this to spearhead our strategic work in steel-based low carbon solutions for the automotive and other related sectors to show that steel is very much part of the solution to the environmental challenges facing our society."

The announcement is particularly timely as WMG held a special event last week for SMEs to showcase the new research and technical support in low carbon light materials already available free-of-charge to West Midlands SMEs. This new Chair will undoubtedly lead to the development of even more low carbon materials technology that will benefit manufacturers large and small.

Contact: Bob Jones, Tata Steel, +44 (0)207 717 4532, bob.jones@tatasteel.com – www.raeng.org.uk

StartUp Britain's summer bus tour to tour 14 UK's entrepreneurial hot spots

SETsquared Business Acceleration has been asked to provide expert business mentoring support for the **Bristol**-leg of StartUp Britain's summer bus tour of 14 UK's entrepreneurial hot spots in a bid to celebrate, inspire and accelerate Britain's start-up talent.

StartUp Britain is the major enterprise initiative for entrepreneurs by entrepreneurs and throughout this August and September, the StartUp Britain bus tour's aim is to encourage more people to start and grow their own business.

SETsquared is the enterprise collaboration between five universities: **Bath, Bristol, Exeter, Southampton and Surrey**. It supports new businesses – both university spin-outs and from the wider community. Through its business incubation and acceleration centres, entrepreneurs can come and tap into services and accelerate the growth of their businesses. SETsquared has an excellent pedigree in providing support for high tech, high growth startups and step-up businesses. It currently supports over 250 early stage high-tech, high growth potential businesses, and 88% of its incubated companies are still in business three years on. At the Bristol centre alone, SETsquared have helped its members raise of over £53m investment funds in the last four years.

The bus will be visiting regional enterprise and innovation centres, as well as schools and universities. The tour kicks off in Bristol on Monday 22nd August 2011 at **The PaintWorks Bristol**, Bath Road, Bristol BS4 3EH, from 9am to 11.30am.

Contact: www.startupbritain.org – Lorna Bladen, info@startupbritain.org

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City University London's sensor research aims to make rail travel more reliable

The disruption to rail travel caused by the breakdown of overhead power lines could become a thing of the past thanks to a new research project at City University London to develop an early warning system to detect defects before they escalate and cause major failures – so-called 'dewirement'.

City's Professors **Ken Grattan** and **Tong Sun** received £102,000 in **EPSRC** funding to develop a prototype sensor system with a range of industrial partners. The project involves the use of novel optical sensors attached to the pantographs, which measure critical strain and temperature parameters in real time.

This has not been feasible before since traditional electrical sensors would be affected by the high voltages present. **Professor Sun** said "Significant dewirements occur approximately five times a year in the UK, rendering tracks unusable until the overhead system is repaired. The resulting interruption to journeys costs many millions of pounds, both to the rail industry and the wider economy. Our aim is to spot when a failure is likely and enable rail operators to carry out preventative maintenance."

The University's interdisciplinary network on transport challenges, the **City Collaborative Transport Hub**, will play an important role in the research, with Hub advisor and rail expert, Visiting **Professor David Johnson**, bringing crucial links with industry. These include manufacturers, **Brecknell Willis** and **Morganite Electrical Carbon**, which will provide staff hours and resources, as well as **Network Rail** and the **Rail Safety and Standards Board**.

City University London recently launched a Masters in **Transport Strategy and Systems** to help create a new generation of professionals who can deliver the smart, sustainable and integrated transport infrastructure that the future will demand.

Contact: www.city.ac.uk/engineering-maths

World's first 'printed' aircraft claimed by University of Southampton engineers

The SULSA (Southampton University Laser Sintered Aircraft) plane is an unmanned air vehicle (UAV) whose structure has been printed, including wings, integral control surfaces and access hatches. It was printed on an EOS EOSINT P730 nylon laser sintering machine, which fabricates plastic or metal objects, building up the item layer by layer. No fasteners were used and all equipment was attached using 'snap fit' techniques so that the entire aircraft can be put together without tools in minutes.

The electric powered vehicle aircraft, with a 2-metres wingspan, has a top speed of nearly 100 miles per hour, but when in cruise mode is almost silent. The aircraft is also equipped with a miniature autopilot developed by Dr Matt Bennett, one of the members of the team.

This media-savvy project has been led by Professors Andy Keane and Jim Scanlan from the University's Computational Engineering and Design Research group. Professor Scanlan says: "The flexibility of the laser sintering process allows the design team to re-visit historical techniques and ideas that would have been prohibitively expensive using conventional manufacturing. One of these ideas involves the use of a Geodetic structure. This type of structure was initially developed by Barnes Wallis and famously used on the Vickers Wellington bomber which first flew in 1936. This form of structure is very stiff and lightweight, but very complex. If it was manufactured conventionally it would require a large number of individually tailored parts that would have to be bonded or fastened at great expense."

SULSA is part of the EPSRC-funded DECODE project, which is employing the use of leading edge manufacturing techniques, such as laser sintering, to demonstrate their use in the design of UAVs.

Contact: www.soton.ac.uk

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University of Edinburgh records another strong year of creating new companies

The University formed 35 new firms in the 2010-2011 academic year. This follows on from the record 40 companies created in 2009-2010.

New companies created by **Edinburgh Research and Innovation (ERI)** – the university's commercialisation arm – in the past year include Speech Graphics, which develops software that realistically creates speech-synchronisation for video games. This recently won a John Logie Baird award for innovation.

Another new firm is **DestiNA Genomics**, which has developed a chemical test that quickly detects genetic mutations.

Derek Waddell, CEO of ERI, said: "The strong number of companies formed in 2010/11 is further testament to the University's expertise in creating businesses, even in difficult economic times. The high quality of the companies formed is a tribute to the entrepreneurship and creativity of the University's staff and students. These firms have real potential to contribute to the economy of Scotland and the UK, creating growth as well as new jobs."

In the past five years, the university has formed 143 companies. Around 75 percent of the companies are still in operation, and currently employ more than 300 staff.

In the past academic year, **Old College Capital**, the University's new investment arm was launched. This will inject investment funding into some of the University's leading spin-out and start-up companies.

In February, Old College Capital made its first investment of £200,000 into **NGenTec**, a renewable energy spinout firm formed from the University's School of Engineering.

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

AND FINALLY...

>> The **BBC** has hit back after internal memos appeared to suggest its **Salford** move risked becoming an expensive 'white elephant'. Documents drawn up by BBC managers highlight a catalogue of potential pitfalls associated with the transfer of 2,300 jobs to **MediaCityUK**.

The reports raise concerns the move will not deliver the promised savings and could lead to a decline in quality as experienced staff and well-known presenters refused to re-locate. The 'risk register', which was released through a Freedom of Information request, was created by senior managers in charge of the relocation. But BBC North director **Peter Salmon** said the register was simply a catalogue of 'worst-case scenarios', rather than real-life problems.

One document, written by managers responsible for Children's programmes, expressed concerns the move north 'could turn out to be an £877m white elephant responsible for a decline in programme quality'.

The Beeb boss added: "It would be nice to hope that even our harshest critics could take a step back and look at the bigger picture, to stop their hectoring and begin to embrace a future that isn't London-centric."

The broadcaster is in the process of relocating employees from London to the north.

Staff from five departments – including Five Live, children's programming, and sport – are switching to Salford. But some big-name stars, such as Five Live presenter **Gabby Logan** and BBC Breakfast host **Sian Lloyd**, will give up their jobs, rather than move. Earlier this month, **Jeremy Clarkson** pitched into the row, saying he would 'resign in a heartbeat' if asked to re-locate, labelling Salford 'a small suburb with

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Starbucks and a canal with ducks’.

Contact: <http://www.telegraph.co.uk/culture/tvandradio/bbc/8414403/BBC-Breakfast-move-to-Salford-in-crisis.html>

>> **E-blog helps those climbing on to the eBook bandwagon...**

As authors and amateur writers seek to gain a presence on the new e-book platforms, **Steven Hutchinson**, a 20 year Manchester based university student, announced a successful blog offering help and advice to people wishing to make money from their own business.

Hutchinson made his findings available to those purchasing his new e-book ‘*Stop Dreaming it Start Living It*’. Online retailing has become the fastest growing market in the world and in the UK alone the annual spend online by consumers is soon to reach a staggering £100m. Many people have chosen to leave their job, use their redundancy payment or retire early to seize the opportunity and start their very own online business. Whilst some are indeed successful, the vast majority are not armed with the experience or tricks of the trade that will see their business grow and succeed in a short space of time.

Steven Hutchinson, is in his third year at University studying aviation technology with pilot studies.

Contact: <http://stopdreamingitstartlivingit.blogspot.com> – steve.hutchinson15@googlemail.com
– 07546 863 225.

>> **Jellyfish** are definitely fascinating creatures – almost hypnotizing to watch. They are the lava lamps of the animal kingdom. Unfortunately for aquarists, however, they also can’t be kept in a regular aquarium, as they’ll get sucked into the water filtration intakes. That’s why **Duke University Biology and Environmental Science** alumnus **Alex Andon** started experimenting with adapting regular aquaria to make them jellyfish-friendly. After having some success with selling these converted tanks online, he decided to start making them from scratch. His San Francisco company **Jellyfish Art** is now marketing them as the ‘**Desktop Jellyfish Tank**’.

For a marine aquarium, the tank is fairly simple. Water is pulled through a layer of rock on the bottom, and is channeled up one side of the acrylic cylindrical aquarium (along with diffused air supplied by a pump) to the surface. From there, it goes back down the other side, and is once again sucked down through the rocks. This creates a circular flow, which is said to keep the jellyfish centred in the middle. Great fun.

Contact: www.kickstarter.com/projects/1497255984/desktop-jellyfish-tank

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