GIBSON INDEX NEWSLETTER

MAY 2014: Issue No. 100

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

One surprising niche in the digital era – where the UK surpasses the US...

They are growing fast, have excellent business reputations and might well expand to become world leaders in the field. Who are they? British-based on-line financial firms, such as **Funding Circle** and **MarketInvoice**. Little recognised by the Press – itself obsessed with the often flaky start-ups in **London's Tech City Quarter** – the real tech boom is occurring in the distinctly unsexy world of Internet-based finance houses. Indeed, a report by **Accenture** started that British financial technology firms were 'the fastest growing in the world'.

Both Funding Circle and MarketInvoice are building a high-grade clientele and validating their business models amid a disintegration of trust in mainstream banks. Oddly, the regulatory climate in London has been highly favourable to their rapid development.

Why? The archaic US banking system – and its 14,000 banks – frequently demands that financial products be approved and regulated in all 50 states before they can be launched.

As a result, **Silicon Valley** has not produced a world-beater in this sector – leaving the arena neatly free to London. Funding Circle alone has lent £247 million to 3,000 businesses; MarketInvoice has lent £145 million to almost 500 firms. Both were started in 2010. MarketInvoice's MD **Anil Stocker** has moved offices for the third time in three years, to make space for the extra staff they are hiring to cope with demand. MarketInvoice were neighbours of ours in South Audley Street until recently.

More and more London firms are creating new and clever ways of using the Internet to get money to people and businesses. **Zopa** is a world leader in peer to peer personal lending, **Seedrs** and **Crowdcube** have made the Kickstarter model work as an investment platform.

Lastly, **Transferwise** is shaking up foreign exchange. This week **Richard Branson** gave £15m to the firm – perhaps hoping to recover some of the millions he has lost on space and airlines.

Luckily the **UK Government** has, for once, helped support these firms and build trust in them. It invested directly in these platforms through the **Business Finance Partnership**. In the budget, **George Osborne** pledged new measures to force banks to pass businesses rejected by traditional banking on to the new players, and also pledged to force banks to co-operate with new lenders. Good news with which to celebrate our 100th issue?

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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

Manchester's postal firm My Parcel Delivery secures £1m+ investment

myParcelDelivery.com Ltd, which was founded by entrepreneurs **David Grime** and **Paul Haydock**, just three years ago in Manchester, acts as a postal price comparison website aimed at individuals as well as small retailers and **eBay** sellers. It works with in partnership with a host of courier companies to deliver customers' parcels including **DPD, City Link, Parcelforce** and **Hermes**.

The investment has been secured from Manchester-based **Praetura Capital**, and will see partners at Praetura, **Mike Fletcher** and **David Foreman**, both join My Parcel Delivery's board.

The firm, which plans to double staff numbers to 20 this year, will use the fund to develop its technology including providing new online tools to customers such as a mobile device application and enhancing its eBay shipping tool, which automates data entry and delivery bookings for eBay sellers.

My Parcel Delivery's bulk shipping service, which allows customers to ship multiple parcels in one transaction, will also be developed further to improve its functionality.

Since launching in June 2010, the business has increased its turnover year-on-year, with revenues growing 46 per cent last year, and is on track for 50 per cent growth for the current financial year.

MD **David Grime** said: "This new investment will enable us to accelerate our growth plans, to offer creative parcel delivery services and tools to expanding e-commerce businesses and to give the rapidly growing parcel delivery market the innovation it needs. Businesses need an alternative to **Royal Mail** that's cheaper, more efficient and more in tune with the way they operate modern e-commerce enterprises."

Contact: **www.myparceldelivery.com**

SME NEWS – ENGINEERING, CONSTRUCTION & ENERGY

Fabweld Steel Products to invest almost £500,000 in new machinery

The Telford manufacturer is overhauling its fabrication facility as it bids for a slice of emerging markets worth more than £6m a year. Fabweld Steel Products will develop two new product lines after buying the new £385,000 laser cutting machine. The investment will also create two apprenticeships and "at least" nine jobs over the next two to three years.

Fabweld won the £80,000 grant from the Green Bridge Supply Chain Programme, a scheme backed by the Marches Local Enterprise Partnership and funded via the government's Regional Growth Fund.

The bespoke steel access covers and drainage products maker has won a grant of £80,000 towards the cost of the new machinery and will also invest about £100,000 at its Telford site.

MD Richard Hilton said: "Without a doubt, this new machinery will make us even more efficient. The new cutter will provide sufficient capacity to double the current turnover levels as we capitalise on projects in the power and energy sectors. Three years of hard work by our design team has culminated in this exciting opportunity to enter new markets and these developments are a testament to that team. The achievement has given me confidence to invest in further research and development, with another £50,000 earmarked for 2014."

Contact: **www.manholes.co.uk**

Well-backed underwater energy firm Pulse Tidal enters liquidation

The firm had invented an innovative underwater energy generation technology on the Advanced Manufacturing Park (AMP) in Rotherham.

The company raised equity from local incubator funds and successfully developed a prototype system whereby tidal streams move horizontal blades up and down to drive a generator.

In 2009 Pulse Tidal saw the first fully predictable electricity generated by tidal power in shallow waters come ashore with a prototype pulse generator installed at Immingham Dock capable of generating up to 0.15MW.

The firm, established by CTO Marc Paish and commercial director Howard Nimmo, secured funds for the prototype from IT Power, Marubeni Europe plc, Shell Springboard, LIFE-IC and The Viking Fund, as well as Yorkshire Forward and was all set for a bright future.

It led a successful bid for €8m from the EU's technology R&D FP7 fund to begin work on developing its first fully commercial tidal energy generator. Alongside this finance, the company signed contracts with a group of international companies to develop the commercial device and form a secure supply chain for volume production.

Contact: **www.pulsetidal.com**

Corac discloses research on energy recovery from pressurized gases

Corac Energy Technologies, part of **Corac Group plc**, completed a landmark test of a new renewable energy system that generates electricity from non-combustible industrial gases.

The pioneering trial was run over an extended period, and successfully demonstrated output, reliability, performance and endurance. Slough-based Corac Energy Technologies spent 2013 investigating ways to recover useful amounts of energy from pressurised industrial gases. The team has developed a micro-turbine generation system based on their patented gas bearings and permanent magnet motor technologies, used in this case as an expander generator.

Philip Nichol, chief engineer on the project said: "The opportunities for renewable energy from these sources are great. CET's engineers have taken our unique and proven compression technologies, adapted them, and opened a source of valuable renewable energy to industrial plants around the world."

Pressurised gases are used for many purposes in public buildings, hotels and hospitals, industrial, oil refining, petrochemical and pharmaceutical plants. It is usually controlled by pressure reducing valves which can be replaced by expander generators to turn unused energy into real value.

The **CET system** generates power from high pressure gas, which passes through a compact and high efficiency turbine that spins at around 60,000rpm. This micro-turbine expander is attached to a generator which efficiently produces 50kW (net) of electricity. The CET system is about the size of a cylinder vacuum cleaner, and is at the heart of an installable unit about the size of a **Smart** car that can fit into many industrial settings.

The business benefits of using this micro-turbine expander are clear. Based on current electricity rates of around 9p/kwhr, this small test system can generate more than £100 worth of electricity per day, or around £40,000 per year. These milestone tests are a step on the path to a wider range of commercial systems, with more powerful versions generating even greater returns.

Contact: **www.coracenergytechnologies.co.uk**

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Advanced Plasma Power leads project to turn waste into energy

Fired up by £1.9m of funding from **Ofgem's** Gas Network Innovation Competition, the Swindon-based demonstration project – managed by **National Grid, Advanced Plasma Power** and **Progressive Energy** – will use waste as a feedstock to produce low carbon methane, or bio-substitute natural gas (Bio-SNG).

The plant will take household waste which would otherwise be incinerated or go to landfill, and turn it into gas suitable for injection it into the gas network. This method could play a crucial role in the decarbonisation of heating by unlocking previously untapped sources of low carbon gas and help reach the UK's binding carbon reduction targets. As part of its work on future energy scenarios, National Grid has identified that decarbonised gas could be a vital part of the energy mix in the coming decades.

Marcus Stewart, Energy Demand Manager, National Grid, said: "This £1.9m of funding will be a massive boost to the project, which aims to develop a cleaner way to heat our homes and businesses. We see this as a very important development in the decarbonisation of heat and are pleased that Ofgem share this view."

Rolf Stein, CEO of Advanced Plasma Power, said: "Green gas, produced using our Gasplama technology, is a viable, cost-efficient and green alternative to natural gas."

APP has developed the **Gasplasma** process, a clean, modular and scalable advanced waste to energy and fuels technology which delivers high efficiencies whilst minimising visual and environmental impact. The Gasplasma process is an innovative combination of two well-established technologies – gasification and plasma treatment, both of which have decades of proven commercial operation.

Contact: **www.advancedplasmapower.com**

Spencer Ashley Ltd develops motorbike driven by hydrogen fuel cell

In May 2014 it joined with **Birmingham City University's Faculty of Technology, Engineering and Environment** to create a super bike fuelled by a hydrogen fuel cell that runs a 500 Watt electric motor. This gives the bike a top speed of more than 40mph.

Because of the efficient delivery system and drive unit, the bike can reach top speed in less than 10 seconds.

MD **Spencer Ashley** said the bike can travel at top speed for over two hours before needing a fresh fuel cell. Replacing the fuel cell takes less than 30 seconds. The hydrogen gas is stored at low pressure within a metallic hydride substrate.

Mr Ashley, the lead inventor, said: "This invention will shape the future of personal transport in cities and the suburbs. It is speedy, safe and totally green. Not only that but it can be used as a power-platform for things like personal devices and other equipment.

"Repair tools, medical rescue kit and so on. We see something like this being used by the emergency and rescue services in the very near future."

The engineering and design team also included **Parmjit Chima**, head of the School of Engineering, Design and Management Systems at Birmingham City University and associate head **Alan Pendry**.

Spencer Ashley Ltd is a family-run business operating from an 8,000 square feet factory equipped with versatile machinery allowing for contract machining of turned parts, presswork, tube manipulation and sheet metal fabrication using a mix of new technology and traditional engineering, including on-site powder coating and surface finishing.

Contact: **www.spencerashley.com**

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Anti-fouling equipment from Cathelco protects Royal Caribbean's new fleet of ships

The hull and seawater pipework systems on the company's next generation of Quantum class cruise ships will be protected by **Cathelco** pipework anti-fouling systems.

Launched in 2014 *'The Quantum of the Seas'* and *'Anthem of the Seas'* can each accommodate more than 4,000 guests in **RCCL's** largest staterooms. At 348 metres in length and with 16 passenger decks, the new ships will offer the latest in entertainment.

Both vessels are being built at the **Meyer Werft** yard in **Papenburg** where the **Quantum of the Seas** is currently under construction in the building dock.

The Cathelco anti-fouling systems will protect a total of 20 seachests on each vessel serving extensive shipboard equipment, including freshwater evaporators, reverse osmosis systems, air conditioning chillers and sea water cooling pumps. The AF system will also protect a number of fire fighting pumps and their associated pipework.

The flow rates through the seachests serving the air conditioning system are up to 4,730 cubic metres per hour. For these seachests Cathelco are supplying pairs of our largest copper and aluminium anodes measuring 1100mm in length and 140mm in diameter.

The ships are also being supplied with Cathelco impressed current cathodic protection systems (ICCP) which will safeguard the hull surfaces against corrosion.

Cathelco are also supplying ICCP systems for two cruise ships for **Carnival** and **Holland America Line** which are being constructed by the Italian shipbuilder **Fincantieri**.

Contact: **www.cathelco.co.uk**

Cube Precision Engineering mulls measures announced in Budget

Chancellor George Osborne recently visited Cube Precision, supplier of tools to **Jaguar Land Rover** and **Rolls-Royce**, to see how the Budget may benefit the company.

West Midlands-based Cube Precision Engineering supplies tooling and component parts for a range of commercial and military aircraft, including the new Eurofighter. They produce composite tooling, jigs and fixtures for the automotive, aerospace, defence, rail, white goods and auto sport industries. 65 per cent of materials are sourced locally within a 35 mile radius of the factory and the annual turnover is £3.5m.

Under new measures that will see the doubling of loans available to businesses for exports, Cube Precision Engineering Ltd could access up to £400,000 additional finance to expand their component supply business to global car, aero and defence industries in Europe, China, India and North America.

They have already received £200,000 worth of support from the Government's **UK Export Finance** scheme which has helped them increase revenue from exports to 38 per cent of their business.

Owner **Neil Clifton**, 36, who has grown the business from six to 37 staff since 2009, said: "The Export Credit Guarantee scheme is directly responsible for over £1,000,000 of our Export revenue in 2013. Growing the whole fund to £3bn gives us a greater chance of accessing affordable lending to help grow our exports.

"The doubling of the capital allowances helped us decide to set up a new, state of the art £325,000 machining centre and this additional capacity will be a welcome relief for our customers as demand is currently outstripping supply in this sector."

Contact: **www.cubeprecision.com**

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In just 12 months Hymec Aerospace doubles in size – with more to come

The Devon-based firm is planning on further growth on the back of a surge in air travel.

It is recruiting another 30 engineers, and it is predicting it will need to engage an additional 30 staff every six months 'for the foreseeable future'.

Hymec moved from a 16,000sq ft plant to a 60,000sq ft factory, doubling the number of computer-controlled machines it uses to cut, drill and shape metal into aircraft seating components.

The company saw turnover hit £6.2m in 2013 as a result. "We have doubled in size from 50 employees to 109 in just a year," said MD **Martin Knight**. "We are looking at another 30 people over the next six months – and then every six months after that."

He added: "An average of two machines have arrived every month, costing £65,000 to £95,000 each. And there's room for expansion here; the facility has the infrastructure to expand. Our assumption is to grow by 30 per cent every year."

The huge expansion comes off the back of a hike in demand for the firm's high-quality seat components, used in plush first-class and business-class cabins in the world's major airlines. With global air traffic predicted to grow by about five per cent a year for the next 20 years, Hymec is already making plans for future enlargement.

Hymec was formed in **Plymouth** in 1978 as a precision engineering company with just three employees. Hymec then became a long-term supplier of major aircraft seating firms such as **Zodiac**. The firm flourished and also acquired an R&D arm in Newton Abbot and set up operations in **Mauritius** and **Thailand**.

Hymec sells directly to airlines such as **Virgin, British Airways, Qatar** and **Emirates**, and firms such as Zodiac which supply them with seating. The Plymouth factory takes aluminium and turns it into components for the seating pods.

Contact: **www.hymec.net/aerospace**

Flybrid's economy-boosting system is fitted to Volvo test car

In April 2014 Flybrid Automotive joined with Volvo and helped the Swedish company's engineers to test the systems at a Northamptonshire circuit.

The compact device, designed on the **Silverstone Technology Park**, uses a small spinning flywheel to save energy when the car slows down and then releases it to help the vehicle accelerate when the throttle pedal is pushed down.

Volvo, which has spent €2m on the project to date, believes economy in town would be improved by 25 per cent with the flywheel fitted. The technology was developed for the 2009 **F1 season** but never adopted by any **Grand Prix** team, who all decided instead to use batteries to store extra power during a racing lap.

Volvo and Flybrid insist that the flywheel approach makes more sense for road cars. **Dr Tomas Hanne**, Volvo's director of transmission engineering, said a production version of the device could cost less than a comparable battery set up found in hybrid passenger cars like the **Toyota Prius**, which has sold widely around the world.

It works best in slow moving traffic, with the six kilo flywheel spinning up to 60,000rpm and helping the car slow as the throttle is released. The stored energy can then either help the car move away with the engine switched off for short stretches or can boost the power from the engine itself, for better acceleration.

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The **Kinetic Energy Recovery System** (KERS) adds up to an extra 80 horsepower for an appreciable extra punch of overtaking power. For short bursts it is also capable of driving the car with the engine revs at zero, saving fuel.

Tobias Knichel, commercial manager of Flybrid, said "we are currently investigating the technology' surrounding a KERS system, without making predictions about the device going into production. But all car makers have to meet tougher tailpipe emission laws by 2020 or face big cash penalties for every car sold." It is thought Volvo believes the Flybrid system is a promising option to take.

Contact: **www.flybridsystems.com**

Satellite data to be used to pinpoint best sites for future hydropower

The **University of Leicester** is to work with British firm **High Efficiency Heating UK Ltd** in a project that will use satellite data to locate the best sites to deploy micro-hydropower turbines.

The **Technology Strategy Board** awarded a £120,400 grant to the University and HEH for a 10-month research project. The project will utilize the expertise of the University of Leicester in geographical information systems (GIS).

Andy Baxter, MD of HEH said "Currently, to determine the viability of a stretch of river or stream for micro-hydro power, the process is expensive and complex. At present there's a significant fee to pay to determine whether a particular stretch of river will yield hydropower - and this is before socio-economic factors and due processes such as planning application are taken into account."

HEH has developed a long-term strategy to develop greener energy solutions around micro-hydropower generation. An initial engagement with the University's Chemistry Department's part ERDF funded **G-STEP Project** led to project definition and a successful collaborative research and development funding application for the UK's innovations agency Technology Strategy Board's recent 'Solving Business Problems with Environmental Data' competition.

Dr Kevin Tansey, from the University's **Department of Geography**, who is leading up the research team, said: "During the ten-month project life the research group will develop a GIS prototype and combine as many as two dozen data sets to evaluate sites. Some of these data sets will come from satellites or aircraft. A GIS is a very powerful tool as you can simulate the optimisation process multiple times until you get the right answers."

www.hehuk.co.uk

Altec Engineering to supply engineering services to Extremely Large Telescope

It is one of only two UK companies aiming at to be recommended by the **Science and Technologies Facilities Council** (STFC) to represent the UK's bid for the supply of engineering services for the M1 Mirror Segment Support (M1SS) components of the Extremely Large Telescope (E-ELT).

The company and **Durham University's** CfAI (Centre for Advanced Instrumentation) have visited the Munich-based **European Southern Observatory**, representing the UK on the E-ELT M1 Mirror Segment Support (M1SS) components bid. ESO will issue the call for tender sometime in June 2014, with the contract award announced around the end of November 2014 (it is possible that two contracts could be awarded) – there is international competition for this work. The project duration is 30 months.

The design and sub-systems assembly work will be project managed through the company's special-purpose equipment division, while the complex CNC precision machining content will be delivered from Altec's AS9100 Rev C manufacturing division. Durham University's CfAI, with its extensive experience in space instrument design and integration, will undertake the final assembly and environmental testing prior

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to shipment.

Altec Engineering is a recognised and accredited supplier to the aerospace and space science industry and already has an ongoing working relationship with STFC. The company recently secured a new four-year contract with the organisation, the second in succession, under which the company will provide a wide range of precision machining services to the STFC's **Rutherford Appleton Laboratory** – Oxfordshire, **Daresbury Laboratory** – Cheshire and the **UK Astronomy Technology Centre** in Edinburgh.

The E-ELT, to be built in Chile, will see first light in early 2020 and will make possible huge strides in mankind's understanding of the universe, the effects of dark matter and energy and planets outside of the solar system.

Contact: **www.alteceng.co.uk**

SME NEWS – CHEMICALS, MATERIALS & ENVIRONMENT

Velocys plc's techniques may make gas flaring a thing of the past

The company, the former **Oxford Catalysts Group plc**, is engaged in the designs and development of technology for the production of clean synthetic fuels from both conventional fossil fuels and renewable sources such as bio-waste.

Business development director **Dr Neville Hargreaves** said the company is primarily focused on the production of synthetic fuels via Fischer-Tropsch (FT) synthesis, a market that has the potential of producing as much as 25 million barrels of fuel a day.

Created from 15 years R&D, Velocys has perfected a system of micro-channel reactors and super-active catalysts that will form the basis of a new generation of small-scale gas to liquid (GTL) plants. The significance of being able to build modular GTL units is probably lost on most rank and file investors.

Currently it costs the likes of **Sasol** of South Africa and **Shell** several billions pounds to build giant GTL plants that have the scale to make them economic. In addition, Velocys' technology has the capacity to transform any carbon source, which is the reason **British Airways** is keen to use it to help convert biomass into jet fuel.

Dr Hargreaves said "We are leaders in small-scale gas to liquids." The technology, spun out of the **University of Oxford** and the **Battelle Memorial Institute**, has benefited from some $300m-worth of investment and is protected by over 800 patents.

The company's four major engineering partners – **Petrofac**, **Toyo Engineering**, **Ventech** and **Hatch** – haven't been slow to spot its potential. The firm is probably 2-3 years from production, but that final investment decision for one of the planned plants is just over the horizon and could sensibly occur next year.

"The task now is to get the early adopters through to that point," adds Hargreaves. "We are really close to the first one or two getting over that hump, either from the ones that have been announced, or from the many that haven't been."

In early 2013 Velocys tied up a £30.6m share placing that will allow it to more than meet its immediate funding needs. The hugely successful cash call also provided validation of the company's strategy to monetise the technology.

Contact: **www.velocys.com**

Drug delivery firm Nanomerics starts EPSRC-funded collaborative research project

The firm is a speciality pharmaceutical and UCL spinout. In April 2014 it began research project with **UCL, Exeter University** and the Danish pharmaceutical company **H Lundbeck** to develop drug delivery methods to the brain.

Nanomerics is using its patent-protected 'molecular envelope technology' to develop new medicines and is currently developing a neuropathic pain therapeutic, NM0127. Nanomerics' technology will be used in the antibody delivery project, titled **'Nano-enabled Peptide Pill'**. With funding of £1.6m, co-funded by the **Technology Strategy Board**, the objective is to develop the supply chain for polymer based nanoparticles for drug delivery to the brain barriers.

Earlier, in September 2013, Nanomerics CSO, **Professor Ijeoma Uchegbu** became an Eminent Fellow of the UK's **Academy of Pharmaceutical Sciences**. The fellowships are awarded based on a significant contribution in the pharmaceutical sciences.

The new therapeutic aims to overcome current barriers which make it exceptionally difficult for antibodies to be used to treat brain diseases such as Alzheimer's disease and brain tumours – diseases which are becoming more widespread in the population, with half a million sufferers of **Alzheimer's** disease in the UK alone.

It is thought that antibodies, which are currently used to treat a range of conditions, could also be used to successfully treat neurological conditions. However, if administered orally they can be destroyed in the stomach and intestines and cannot cross the intestinal wall to get into the blood.

Contact: **www.ucl.ac.uk/enterprise**

Graphene company Moorfield wins £90,000 from Technology Strategy Board

Moorfield and its UK distributor, **IDB Technologies**, have been able to promote UK graphene capabilities to international audiences, resulting in a number of new UK and international projects. Their product, the **nanoCVD**, was developed using a TSB Smart Award 'Proof of Concept' grant.

Dr Jon Edgeworth, product manager at Moorfield Ltd said "Working with the Technology Strategy Board, **NanoKTN, JEMI** and **IDB Technologies**, we have been able to demonstrate the strength of UK graphene expertise and in particular how our nanoCVD system can enable companies to manufacture graphene themselves, quickly, easily and in a cost-effective and repeatable manner."

The Moorfield nanoCVD system is also being used by **Prof Monica Craciun** at **Exeter University** to deliver a significant rise in productivity in the research of her group and of the **EPSRC Exeter-Bath Centre for Graphene Science**. She said "Typically graphene films used to take 8 hours to produce but using Moorfield's nanoCVD system, we have been able to reduce this to about 30 minutes and on substrates which are around 1-4 cm2."

Dr Edgeworth said "The nanoCVD system brings graphene capability into a lab or company very quickly for their own research purposes. The system is very easy to use and delivers very reproducible production, not only for academic use but also for our growing commercial clients. Chemical vapour deposition (CVD) is an excellent method for the synthesis of high-quality graphene and carbon nanotubes (CNTs). Of various methods available, CVD approaches are considered particularly promising for future industrial production given their scalability."

Contact: **www.moorfield.co.uk**

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AESSEAL Ltd boss takes stake in flagging Surgical Innovations Group plc

Chris Rea OBE, founder of Rotherham success story **AESSEAL** acquired an 8.9% stake in **Surgical Innovations Group Plc** (SI), the Leeds firm that specialises in the design and manufacture of creative solutions for use in minimally invasive surgery (MIS) and industrial markets.

AIM-listed Surgical Innovations Group said in a statement that it raised approximately £1.6m from Mr Rea by way of a subscription for 39,459,190 new ordinary shares of 1p each, at a price of 4p per share.

The group said that the funds raised will provide additional working capital for its strategy for growth and strengthen its ability to move rapidly and effectively into two key areas of minimally invasive surgery: the offering of a unique clinical solution for 3mm surgery and a resposable universal seal port access system that together support an enhancement in the group's revenues per surgical procedure.

With **Doug Liversidge CBE**, a former master cutler, as non-executive chairman, SI increased revenue to £8.55m for the financial year ended December 31 2013 with EBITDA (earnings before taxes) of £2.51m, slightly down on the £2.89m reported in 2012.

Contact: **www.sigroupplc.com**

Surface Generation signs a landmark deal with Japanese engineering firm

In April 2014 Surface Generation MD **Ben Halford** agreed a five-year deal with Japanese engineering giant, IHI Corporation, to mass produce lightweight jet engine parts for a major next generation single aisle commercial aircraft program..

The firm is using advanced composite manufacturing to make anything from tablets to space helmets, as worn by **Sandra Bullock** in a scene from the Hollywood film *Gravity*.

The British company now has a partner in **Taiwan** and is opening demonstration centres on the west and east coast of the US. Other clients include **Boeing** and the **Warwick Manufacturing Group.**

Based in a converted barn in Oakham, Surface Generation started life as a spin-off company from a Cambridge consultancy and specialises in composite manufacturing – where the mixing of two constituents is stronger than its component parts. An early example of this is a mud hut or, more relevantly, carbon fibre.

In 2007 he was on the brink of signing a deal that would put the fledgling business on the world map, selling into the US, Japan and Switzerland, among other export nations.

Bailed out by its backers, technology firm **Oxford Instruments**, the 20-strong workforce at Surface Generation continued to improve its technologies and secure more patents, refining the capital intensive composite process to make it more efficient.

The company nearly sank when the world plunged into global recession. It was only an unrelenting focus on product development and an ability to build technology on a shoestring that kept his firm afloat.

Halford spent £7m in research and development and patents and is now well positioned for the global surge in the demand of carbon fibre. Surface Generation's annual revenue has risen from £600,000 in 2013 to £2m this year, and generates 90 per cent of this turnover from exports.

"By precisely controlling temperatures up to 1000°C, powered by only using air heating and cooling, we have produced the first digital moulding environment to mass produce composites in an energy efficient way," he explains.

Contact: **www.surface-generation.com**

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Green Fuels Ltd marks up an 'astounding' export success story

Based in Stonehouse, Gloucestershire, the firm is the world's leading and longest established manufacturer of biodiesel processors. **Green Fuels** export 90 per cent of its products overseas. Seeing the emerging markets as a huge potential, it recently set up a plant in Bali, **Indonesia**, following its recent successes in **Australia** and **South Africa**. It provides turnkey solutions for biodiesel, bioethanol and biogas.

They have also established an engineering base in the **Environmental and Bio-Energy Technology Park**, Adlershof, in **Berlin**. Their engineers have been working on biofuel technologies for the past 10 years and they now have the capability and experience to meet all of your requirements in this rapidly expanding market.

With a new range of proven biodiesel technologies; ranging from 1,000-150,000 litres per day it enables those looking to increase production to provide a guaranteed EN14214 fuel. The laboratory is within the **Centre for Sustainable Technologies** at Adlershof in Berlin, where they can test oils and fuel to enable the optimisation of your process and to ensure quality standards are consistently achieved. All these new technologies are specifically designed to be modular to enable economic production close to the source of input oil with minimal environmental impact.

Unlike older technology that requires large refinery-like plants to be constructed, our technology is compact and capable of transfer to other locations as the industry develops and matures. This has proved of significant interest where financial backers of projects have required a residual value which can not be provided for large, site specific installations. The design also ensures minimum operating costs with exceptionally low energy consumption.

Contact: **www.greenfuels.co.uk**

Econic named finalist in the RSC Emerging Technologies Competition

With its finals event being held at Burlington House in Piccadilly, London, the RSC contest will take place on June 25th. Econic's 'breakthrough' catalyst technology builds CO2 into the 'polymers of tomorrow'.

In February 2014 Econic was granted a large, £447,000 TSB grant for a Collaborative R&D project in Material Innovation. The two-year project is a collaboration between Econic Technologies, **Imperial College London, Alfa Aesar,** a **Johnson Matthey** company, and a multinational polymer manufacturer. Some £277,000 of the grant will go towards Econic's R&D expenditure, the remaining £170,000 will co-fund the collaborating participants' UK-based R&D activities. The project, entitled Development and scale-up of novel catalysts for manufacturing polyols from CO2, will cost £642,000.

'Utilising Carbon Dioxide' as a chemical feedstock for polymers is an attractive proposition that scientists have investigated for 40 years. Whilst CO2 is an abundant natural product and a problem waste emission from many chemical and energy production processes, it is in a very low energy state and difficult to react.

Econic Technologies Ltd, an Imperial College London spin off, has developed a catalyst technology that enables co-polymerisation of CO2 into polymers, with low energy requirements in a low pressure process.

Kelsey Lynn, director of technology ventures at **Imperial Innovations plc**. It is a £230m venture capital and technology commercialization business associated with the UK research universities. She currently sits on the boards of Econic Technologies and **Aqdot Ltd** and looks for new investments in materials, IoT and enabling technologies.

Contact: **www.econic-technologies.com**

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Waste management company Cleveland Biotech grows workforce by 35%

Ben Hoskyns, MD of Cleveland Biotech, is growing its workforce by 35% after securing five contract extensions worth £2.25m. The Stockton-based firm announced ambitious expansion plans last July following a successful £4.4m management buyout backed by Newcastle-based **NVM Private Equity**, a move which ploughed around £3m into the business.Those plans are coming to fruition now as the firm invests in staff, adding five new employees to the 14-strong workforce, including a new commercial manager who aims to double sales by 2017, two new engineers and a marketing assistant.

Cleveland Biotech, which has a turnover of around £2m, creates bacterial-busting products which can break down organic pollutants including oil, grease and limescale, which are found on supermarket shelves in the UK and Europe.

Exports have also been made to **Poland, Australia, New Zealand** and the **Baltic States**, but Hoskyns' focus is firmly fixed on the UK where gains are to be made from tightening UK hygiene and health legislation. Now the company has announced lucrative repeat business with five of its biggest clients, all UK retail giants.

It has agreed contracts with supermarket stalwart **Morrisons**, the hugely successful pub chain **Marstons** and retail and fashion department store **House of Fraser**, clients it aids by installing and maintaining grease management equipment in their commercial kitchens and catering areas which can prevent the growth of 'fatbergs' like the 15 tonne one discovered in a London sewer last summer.

Contact: **ben.hosykns@clevebio.com**

SME NEWS – BIOTECH, PHARMA & MEDICAL SCIENCES

Bridgend-based TrakCel active in emerging regenerative medicine sector

The **Welsh Government** has provided £125,000 in repayable business finance towards work required to support the development of the platform, which will also safeguard five skilled jobs.

TrakCel was founded in 2012 as a joint venture between **Biotec Services International, AwenID** and **Scalaris Technologies**. Under a collaboration agreement with **GSK**, TrakCel is now evaluating the system alongside a paper based tracking system to co-ordinate and record the supply chain of one of GSK's cell therapies.

It is designed to meet the highly specialised data management, reporting and analysis needs of complex clinical trials. The technology records and documents the transport and temperature of personalised regenerative and cell-based therapies following derivation from the patient, and coordinates logistics between manufacturing sites and treatment sites in real time.

The system has been under development for two years and incorporates technologies such as biometrics and radio frequency identification to ensure the correct patient gets the correct therapy at the correct time and location.

A successful trial may see TrakCel's systems being adopted to manage other cell therapy pro-ducts and enable the company to commercialise its product next year. The results will be discussed throughout the industry providing an opportunity for TrakCel to demonstrate potential value to the industry. TrakCel is also working with **Oxford BioMedica** on their manufacturing and supply chain project as well as other companies in the UK and USA. Cell therapy is a rapidly growing field and regenerative medicine is fast becoming an emerging area for **Wales**.

Contact: **www.trakcel.com**

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Medical imaging technology pioneer Objective Imaging starts production

In March 2014 it began to produce its revolutionary new tissue scanner – the Glissando.

With cash from RBS, the Glissando is essentially a scanner optimised for use with histological sections – the common method of preparing glass slides for pathology. Objective Imaging Ltd's MD, **Maurice Bowe,** said the system is designed for use in pathology laboratories – a tissue sample is taken from a patient and prepared as a slide the Glissando scans the tissue sample, creating a massive, high resolution digital image.

A single scan can result in an image of over 5Gb and means the sample can be shared electronically so opening up the opportunity to share with consultants immediately and over the web giving access to specialist expertise across the UK and worldwide.

Initially a prototype was unveiled at the **Digital Pathology Conference** in **San Antonio, Texas** in September 2013. Although not the first product of its kind available to the medical profession, the technology used to develop the Glissando gives superior price and performance and as a result is set to revolutionise work in this area.

Its affordability means that consultants will have more ready access to the technology, making it much easier and quicker for them to share digitised scans worldwide via the internet and so opening up the opportunity for consultants overseas to share expertise.

Objective Imaging Ltd was founded in March 2000. The company specialises in automation controllers, high-speed mosaic imaging solutions, and advanced software tools, for imaging and microscopy.

The company's flagship **OASIS** controller products and **Turboscan** fast scanning solutions are widely recognised throughout the industry for their excellence in performance and as such Objective Imaging are the industry leader in high-performance hardware and software.

Contact: **www.objectiveimaging.com**

PrimeVigilance wins a Queen's Award for Enterprise 2014 in International Trade

PrimeVigilance has grown organically since 2008 and now has over 100 staff employed in its main offices in Guildford, Surrey, and Zagreb, Croatia, as well as an international network of consultants. PrimeVigilance is currently providing services across more than 100 countries.

Neil Clark, CEO, of PrimeVigilance said the specialist pharmacovigilance service provider received the accolade in recognition of achieving substantial overseas earnings with growth and commercial success for the last six years – growth in overseas earnings of 173% over the last three years alone.

PrimeVigilance is a leader in providing pharmacovigilance and medical information services for national and multi-national pharmaceutical companies worldwide. It has clients based in Europe, North America, Australia and Asia/Pacific Rim providing a global service that currently covers more than 100 countries and over 150 medicinal products.

The services offered cover all the regulatory and scientific elements of PV required to obtain and maintain product licences for medicines within Europe: Qualified Person, Risk Management Planning (RMP), and a compliant PV system with consistent adverse event data capture, robust quality management, expedited reporting, preparation of periodic safety update reports, literature screening, safety signal detection and evaluation, benefit-risk assessment, compliance auditing, and support during crisis.

Contact: **www.primevigilance.com**

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MGB Biopharma awarded £1.3 million conditional grant from TSB

The Glasgow-based biopharmaceutical company is developing novel anti-infectives. Its £1.3 million conditional grant from the **Technology Strategy Board**, the UK's innovation agency, was given under its **Biomedical Catalyst** programme.

The grant will help fund a Phase I trial of the oral formulation of MGB Biopharma's lead investigational drug candidate, MGB-BP-3 for Clostridium difficile. Approximately 40 subjects are expected to be enrolled into the single centre, double-blind, placebo controlled, crossover Phase I trial to determine the safety and tolerability of single ascending doses of oral MGB-BP-3.

Dr Miroslav Ravic, CEO of MGB Biopharma, said: "The oral formulation of MGB-BP-3 has shown promising efficacy and good safety results in preclinical tests in C. diff. This grant, along with the funds we are looking to raise, should allow us to start this first-in-man trial by the end of 2014 or start of 2015.

"Despite a renewed interest in developing new antimicrobials, there is still a clear need for truly novel and differentiated products to tackle the growing concern of antimicrobial resistance. We believe that MGB-BP-3's novel mechanism could, for the first time in a decade, provide a meaningful breakthrough in the development of antimicrobials for hospital-acquired infections in particular."

Professor Iain Hunter, Dean of the Faculty of Science at the **University of Strathclyde**, said: "We are extremely pleased that MGB Biopharma has received this grant funding to progress MBG-BP-3. It is a significant achievement for a drug designed and initially developed in an academic lab to reach Phase I trials. MGB-BP-3 is based on our (DNA) minor groove binding technology platform that was licensed to MGB Biopharma. We are optimistic that this novel antimicrobial will play a role in the treatment of C. diff."

Contact: **www.mgb-biopharma.com**

EKF Diagnostics snaps up US firm Separation Technology for £2.4m

Point of care diagnostics firm **EKF Diagnostics** has acquired Florida-based in vitro diagnostics devices company **Separation Technology Inc** (STI). EKF, based in Cardiff, said the acquisition is expected to boost earnings in 2014 and complements the company's existing offering in the haemoglobin testing market place.

STI develops, manufactures and markets specialty IVD devices including ultrasound instruments and table top centrifuges for the haematology testing market. It also has an in-house engineering capability, including product design, production support and new product development with revenues currently concentrated in the US market.

The business has sought to expand its offering into markets outside of the US and has recently registered products in Brazil (UltraCrit) as well as Kazakhstan, Russia and Thailand. It employs 15 staff in **Sanford, Florida**. STI's primary instrument is the ultrasound based UltraCrit haematocrit measurement device, which is FDA cleared for blood donor screening.

Julian Baines, CEO of EKF, said: "The acquisition of STI is a great natural fit with our existing point-of-care business, and UltraCrit provides us with a leading product for measuring haematocrit during blood donor screening with huge potential. The acquisition has been funded from our own resources and we expect it to be earnings enhancing from day one; so I am very confident that this acquisition represents a good value opportunity for EKF shareholders."

Contact: **www.ekfdiagnostics.com**

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University of Manchester spinout completes £350,000 funding round

Gelexir Healthcare Ltd has been backed by funds from the **University of Manchester,** the **North West Fund for Biomedical**, managed by **Spark Impact**, **Central Manchester Foundation Trust** and business angels. The company was founded on the back of discoveries made at the university over the past 10 years and plans to use the backing to continue its programme of advanced clinical trials. Gelexir has created a treatment for chronic lower back pain caused by degenerative disc disease which does not involve surgery.

Chief executive **Dr Philippe Jenny** said: "This funding is a great step forward as it provides the resources to transfer the discovery from the bench to the industrial world and pushes the technology through the demanding validation tests, heading towards the first patient."

Professor Tony Freemont, head of Manchester Medical School, and Gelexir board member, added the funding will allow Gelexir to get nearer to taking its product closer to clinical trials. UMIP, the university's agent for intellectual property commercialisation, has provided IP and business development assistance as well as early-stage proof-of-principle funding and seedcorn funding from its UMIP's **Premier Fund**. Translational funding has also been provided by the **EPSRC**.

Contact: **www.gelexir-healthcare.co.uk**

UNIVERSITY NEWS

Designer Carbon Materials Ltd spun out from Oxford to focus on fullerenes

In early 2014 the company took a market lead in the production of materials that can improve the efficiency of solar cells and be applied to biomedical imaging.

Isis Innovation, **Oxford University's** technology commercialisation company, established Designer Carbon Materials to manufacture commercially useful quantities of fullerenes, which are spherical carbon cage-like structures into which atoms or atomic clusters can be inserted to give them unique abilities.

Designer Carbon Materials will focus on the production of these materials that are currently employed as electron acceptors in polymer-based solar cells, and could be developed as MRI contrast agents for medical imaging and as diagnostics for Alzheimer's and Parkinson's.

In solar cells, the company's endohedral fullerenes could potentially lead to efficiencies exceeding 10 per cent, and in medical imaging the materials are able to detect the presence of superoxide free radical molecules linked with neurological disorders.Designer Carbon Materials is based on research from the **Department of Materials' Dr Kyriakos Porfyrakis** and the manufacturing process, patented by Isis Innovation, will continue to be developed by the company.

Dr Porfyrakis said the challenges facing the up-scaling of endohedral metallofullerenes are: reducing the down time between vaporising graphite rods, collecting the soot and reloading the system; and maximising the anaerobic collection of endohedral metallofullerene-containing soot as some metallofullerenes are air-sensitive.

Oxford Technology and the **Oxford Invention Fund** led the investment in Designer Carbon Materials, which is believed to be the only entity that can reliably produce high-purity endohedral and higher fullerenes.

Contact: **www.materials.ox.ac.uk**

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University of Leeds spinout Quantum Imaging gains £1.6 million investment

The investment, announced by **IP Group plc** and the **University of Leeds**, will enable the company to build on its research to develop a medical imaging device, to be used in a clinical setting.

The core technology allows a non-invasive test to accurately detect and display minute magnetic signals that are present in both healthy and diseased organs.

The behaviours of these signals vary depending on the viability and composition of the tissue they pass through, and early clinical studies have shown that analysis of these signals can detect a range of potentially life threatening medical conditions in healthy, as well as acute and chronic, patients.

Professor Ben Varcoe, Chair of the **Quantum Information Group** at the University of Leeds, who has directed the research, said: “Medical magnetometry has been used in imaging for some years, but has been restricted in the past, because of the need to use liquid helium cooling systems, highly controlled environments and specialist staff. With this investment, we can develop a fully portable device capable of using this technology in a routine clinical environment.” The investment will also enable further studies to better understand the full diagnostic capabilities of the device.

Steve Parker, CEO of Quantum Imaging, said: “The simplicity of this test and the ease and speed with which it can be deployed means that for the first time it can be used in an acute environment. It can very quickly detect potential life threatening conditions, such as heart attacks, better triage patients and better utilise scarce hospital resources. This is a very exciting technological advance.”

Contact: Steve Parker – CEO – **b.varcoe@leeds.ac.uk**.

Lancaster University spinout exploits research in materials analysis services

The new company will offer services based on a proprietary technique, beam-exit cross-sectional polishing (BEXP), at lower cost than conventional methods such as transmission electron microscopy (TEM).

Developed over four years in Lancaster University’s **Department of Physics** – the top-ranked physics department in the country for research (RAE 2008) – BEXP could benefit manufacturers of a wide range of high-technology devices, such as lasers, processors, solar cells and LEDs.

BEXP was developed by Lancaster **University’s Dr Oleg Kolosov, Dr Manus Hayne, Dr Ilya Grishin** and **Dr Alex Robson**. Rather than producing a conventional cross-section that is perpendicular to the surface of a sample, BEXP uses a modified ion-beam polisher to create a shallow-angled slice through the sample. The cut can be hundreds of micrometres wide, whilst maintaining sub-nanometre roughness right across the area of interest.

This innovation allows a relatively low-cost branch of microscopy techniques, known collectively as scanning probe microscopy (SPM), to be used for cross-sectional analysis of samples with thin layers, a task which is generally performed by TEM. Adoption of BEXP+SPM can reduce the costs of cross-sectional analysis by up to 50 per cent.

Dr Alex Robson, CEO of Lancaster Material Analysis said “Our research has demonstrated that when measuring thin layers, BEXP and SPM analysis has a similar precision to standard TEM.

“The technique can also be used in combination with other kinds of analysis, such as X-ray diffraction, to extract even more information. Lowering the cost of materials analysis is clearly advantageous for the development of the next generation of devices, while the introduction of quality control procedures using this technique at early stages of the production process reduces waste and lowers costs.”

Contact: **www.lancastermaterialanalysis.co.uk**

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Strathclyde's Dr David Heath awarded joint winner of ERA Award

The **ERA Foundation Entrepreneurs Award** was established to identify entrepreneurial electro-technology researchers in UK universities with great ideas, and support them to commercialise their research.

The **University of Strathclyde's** Dr David Heath was awarded as joint winner of the ERA Foundation Award for 2014. Dr Heath has developed a new anti-aging skin cream applicator that uses electrical energy to increase absorption at deeper skin levels, allowing results to be achieved quicker and more effectively, providing greater value to users.

Secondly, **Dr Mark Symes** of the **University of Glasgow** received the runner up prize of a £2,000 grant for his integrated platform to monetise intermittent renewable energy.

The winners will be the latest to be inducted into the **Royal Academy of Engineering's Enterprise Hub,** a new national resource for the UK's most promising technology-intensive SMEs and entrepreneurs that provides support and networking opportunities from the Academy's Fellowship and entrepreneurial network.

The joint winner, an odd choice for some, was **Dr James MacFarlane** and his team at the **University of Bristol**. They developed a system to assess radiological hazards at nuclear sites, 'using a UAV equipped with a lightweight gamma spectrometer and other positional sensors'. Field demonstrations of the prototype have already been performed at a uranium mining site in **Banat**, south-west Romania, and validated against traditional surveying methods, attracting strong support from all areas of the UK nuclear industry.

Contact: **www.raeng.org.uk/prizes/era**

Portsmouth regeneration report calls for 'Large Structures Composites Centre'

Industry contributors are wanted to scope the demand for a UK-based large composites structures centre as part of a study for the Department of Business.

The **National Composites Centre** (NCC), in conjunction with the **University of Southampton, Solent LEP** and partners, is investigating the need for a centre to research and develop the use of advanced materials in the manufacture of large structures needed by sectors such as marine, oil and gas and construction. The study follows a **Solent Maritime Forum** report which cited a national need for a 'Large Structures Composites Centre'.

The plan to foster growth in the marine and maritime industry in the Solent was commissioned by **Michael Fallon MP** following the decision by **BAE Systems** to end shipbuilding operations in **Portsmouth**.

'Transforming Solent' was produced by **Rear Admiral Rob Stevens CB** and, amongst a number of recommendations; it suggested that the feasibility of establishing a national Large Structures Composite Centre in that region be investigated in partnership with local Universities including Southampton and regulators. The draft **Solent LEP Growth Plan** published in January 2014 highlighted as one of its key proposals the creation of such a centre in the **Solent Region** aimed largely at the marine and renewables sectors.

The study is being conducted between May and July 2014. Companies and individuals with an interest in large composites structures should contact **Graham Harrison**: **consult@nccuk.com**.

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University of South Wales lecturer speaks at Unmanned Cargo Aircraft Conference

Lecturer **Dr Alex Chong** worked with students on the design identification of a suitable glide mechanism for a launch pod off an Unmanned Cargo Aircraft (UCA), development and subsequently testing of a scaled down model at the **University of South Wales**.

They undertake a technical design analysis of the said gliding system including a cost estimation of the scaled down model. In addition the conceptual design of an on-board UCA launch mechanism is proposed. Finally, a brief plan of work is presented to describe the remaining work packages that need to be completed.

Since 2003 Dr Chong has been involved in research, teaching and course management. He is the subject leader in aeronautical engineering and his main research interest is in the application of AI techniques to the diagnosis/control of engineering systems which include industrial combustion systems, and more recently high strength structures.

Dr Chong has also been involved in a long list of important research projects that involved collaboration with high profile companies, including **Airbus at Filton, Econotherm, Research Fund for Coal & Steel (RFCS), British BioGEN and James Proctor Ltd, Gaz de France and Global Combustion Ltd, Foseco Ltd** and **Hotwork Combustion Technology Ltd.**

Contact: **http://staff.glam.ac.uk/users/685-azschong**

Founder of Civil and Marine Ltd bequeaths £40m to Imperial College London

Michael Uren OBE, a 1943 Imperial graduate in Mechanical Engineering, founded **Civil and Marine Ltd** and built it into one of the UK's foremost innovators in cement manufacture.

He is already regarded as one of the UK's most generous philanthropists in the fields of medical research, education, the armed forces and conservation of wildlife. His previous multi-million support for Imperial includes the College's **MSk Lab** under the leadership of **Professor Justin Cobb**, whose focus is joint disease and the surgery needed to restore function.

In May 2014 the founder's gift of £40m will lead to a new biomedical engineering centre at Imperial College London. Michael Uren's donation will support the construction of the **Michael Uren Biomedical Engineering Hub**, a building at **Imperial West**, the College's new 25-acre research and innovation campus in White City, west London. The centre will house life-changing research into new and affordable medical technology, helping people affected by a diverse range of medical conditions.

Contact: **www.civilandmarine.com**

AND FINALLY...

>> Online retailer **Amazon** paid a UK Corporation Tax bill of just £10m last year, in spite of its 56% rise in profit to £17m during 2013, on a turnover of £4.3bn. The tide of goodwill in the US might finally be changing. Amazon has been undertaking a secret campaign to discourage customers from buying books by **Hachette**, one of the big **New York** publishers.

Amazon has been charging more for Hachette books and even suggesting that readers might enjoy instead a book from another author. If customers for some reason persist and buy a Hachette book, Amazon informed the buyer it would take weeks to deliver.

The scorched-earth tactics arose out of failed contract negotiations. Amazon was seeking better terms, Hachette was balking, so Amazon began cutting it off. Writers from **Malcolm Gladwell** to **J. D. Salinger**

are affected, although some Hachette authors were unscathed. In **Brad Stone's** book on Amazon Inc, *'The Everything Store'*, the company's negotiations with publishers were so hostile that a veteran of its book group suffered a level of stress that forced him to leave the company.

>> Chinese investors are gaining ground in London. Anyone riding the London Underground would instantly have recognised the much larger numbers of Chinese visitors. It underlines the significant burst in China's investments in UK firms.

In mid-2013 **Dalian Wanda** bought a 92% share of **Sunseeker Yachts** for £320m. Over the past four financial years, 105 Chinese companies have invested in the city, and 20 per cent of those are in the creative industry, says **London & Partners**, the city's official promotional organization.

China's leading mobile gaming company, **Rekoo**, opened a London office in 2013 with a view to market its games to Europeans and bring games from European game developers to China. The Chinese companies include major real estate firms such as **ABP (China) Holding Group**, which is developing the £1bn **Royal Albert Dock** project. **Dalian Wanda** is also investing £700m to build a five-star hotel by the River Thames.

>> Contrary to **Boris Johnson** and the PR-dizzy cycling lobby groups – the proportion of people cycling regularly in England fell during 2013. While cycling levels in London are the highest in England, they did not increase over the last year, the statistics suggest.

The **Local Area Walking and Cycling Statistics**: England 2012/13 report that the prevalence of cycling across the country reduced from 15.3% to 14.7%. Over the three years of the statistical series, in 13% of local authority areas cycling levels increased consistently, whilst a fifth of authorities saw consistent declines. At one point **Transport for London** was claiming that one-in-10 journeys in the capital 'were made by bike'.

>> Urban regenerators, another strong lobby group, have long waxed lyrical about the benefits of **city tram systems** – less car travel and near-silent operation, etc. However, observers have shown that cities such as **Nottingham** and **Manchester** have suffered grievous, irreversible losses of independent shops along the new routes as parked traffic – and therefore shoppers – are eliminated overnight.

The latest casualty is **Beeston**, a pleasant suburb of Nottingham, which has endured nine months of construction work as the new tram line extension is built. Dozens of small shops are closing and the few left hang by their fingertips.

>> The **50 Best Fish & Chip Shops 2014**, as revealed by *Fry Magazine*, have been revealed. Is there one near you. Some 500 fish and chip takeaways entered the competition, which is now in its second year. A majority of those shops that made the list were located in England (41), with four in Scotland, three in Wales and two in Northern Ireland. The 50 Best Fish & Chip Shops 2014 include: Rock N Sole, Portsmouth, **Hampshire**; The Real Fish And Chips Company, Upper Brighton Road, Worthing, **West Sussex**; The Wigmore Fish And Chips, Luton, **Bedfordshire**; Henleys of Wivenhoe, Colchester, **Essex**.

>> In the wake of the **'Heartbleed bug'** – which exposed a vulnerability in the way your browser communicates with websites over an encrypted channel – you can easily change your password into something cryptic by using a trusted password generator sites such as **random.org**, **pc Tools Password Generator** and **Strong Password Generator**.

Don't choose anything similar to your previous passwords and make sure they are different on every site you use. To make sure the password generators you use are secure, look at the address bar, if you cannot see **'https://'**, do not use it.

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