

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

Time for a Revolution in the UK's Innovation Economy?

Despite the fact that the UK's state-funded innovation agencies have spent hundreds of millions of pounds over the past 10 years – the results in terms of making money for the UK economy have been pitiful.

The core of the problem is simple: the people at the top of agencies such as the **Technology Strategy Board**, **NESTA**, the **Carbon Trust** and the new LEPs do not remotely have the right experience, the right judgement and the long years of 'trench' warfare experience that it takes to build a technology-based small company from scratch.

In future, the heads and executives at these organizations should not be former executives of big companies, no matter how eminent, nor venture capitalists or fully paid-up members of the academic research professions.

Instead, they should be recruited from the large number of talented, highly experienced startup and SME entrepreneurs. Individuals such as **Denys Shortt** of **DCS Europe**, and **Dr Colin Smithers**, head of electronics group **Plextek Group**, would be in my 'top 10'.

One key point is that current state agencies do not have the technical expertise that was exhibited in the 1980s and 1990s by the DTI's Smart Award selection teams.

This is crucial given that the **TSB** has recently re-started the Smart Award scheme – probably the world's most successful wealth creation scheme – or equal first with America's DARPA and SBIR concepts. Led by the veteran technologist **Dr Geoff Robinson**, the Smart Award programme even won the grudging support of Board of Trade secretary **Michael Heseltine**, whose attitude to 'state support' for any area of British industry was sceptical at best.

When the UK economy was in the deep depression of the 1990-91 period it was the soaring success of the UK's SME tech sectors – many of them founded on the back of Smart Award Concept and Development Awards – that led the way.

The line-up included **Flonetix Ltd**, **Zeta Group**, **FT Technologies**, **Salamander Organisation**, **Bookham Technologies plc**, **Syrris Ltd**, and many more.

For those of us who attended the DTI's annual **Smart Achievement Awards** – when a cavalcade of truly remarkable companies were celebrated – it is a bitter pill to swallow to see so many, very high potential companies, being denied the kind of state support that the previous generation of firms received.

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

Cambridge firm **RealVNC** allows a computer screen to be remotely accessed and controlled from another device, is one of the most ubiquitous software solutions on over a billion devices worldwide.

The VNC® remote access and control software is available on virtually every type of device that has a screen, making it the most widely ported software application ever. It is now an official part of the internet, alongside web and email protocols.

Dr Andy Harter, CEO of RealVNC said “Our innovations are now connecting not just computers but all kinds of devices including TV set-top boxes, consumer electronics and beyond that the Internet of Things.” RealVNC has rapidly expanded its overseas sales, with exports comprising over 90% of turnover and overseas sales growth for the three year period assessed at over 250%.

RealVNC has a diverse, international customer base with VNC users spread across over 175 countries. VNC is used by IT professionals and individuals for applications such as remote IT support, maintenance, training and remote working. VNC is the original remote access solution which RealVNC has continued to develop and drive forward with a number of market-making initiatives in mobile, consumer electronics and automotive.

RealVNC collaborates with leading players in the technology industry, including **Intel** who integrate VNC on chips for PCs and laptops; and **Google**, who license VNC technology and expertise to enable remote access functionality from its Chrome products. RealVNC is also at the forefront of innovation in the automotive industry, where it is the standard for integrating smartphones with in-vehicle infotainment systems.

RealVNC was singled out last month with its third **Queen’s Awards for Enterprise** in as many years, a remarkable accomplishment.

Contact: www.realvnc.com

SME NEWS – ENGINEERING, CONSTRUCTION & ENERGY

Salford business HVPD Ltd celebrates after winning ‘Greater China Business’

The **Greater China Business Award** is organised by **UKTI North West** and sponsored by Finnair, and rewards the company or organisation that has made the most significant contribution to developing business or network links with Greater China, including bi-lateral trade or investment.

High Voltage Partial Discharge Ltd (HVPD) provides on and off line testing and monitoring for partial discharge with a complete range of survey equipment which gives an early warning of faults and deterioration in medium and high voltage insulation, allowing plant owners to take early corrective action.

In two years HVPD has seen volume of sales to China grow by 225%, from £150k in 2010 to £760k in 2012, and has achieved success by a project based approach which targets customers by region.

HVPD has its own office in China, and works with 29 project agents across the country. The business tailors products directly to the requirements of the Chinese market rather than adapting products designed for use in Europe or Asia, and hopes to achieve sales in excess of £1 million in 2013.

Contact: www.hvpd.co.uk

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Subsea engineering firm JEE Ltd expands operations in Aberdeen

As well as detailed design, front-end engineering design, integrity management and engineering analysis services, Jee claims to be “a world-leader in non-trenching, fishing interaction, low-cost connectors and lifetime extension – covering the whole of subsea engineering for the whole of life-of-field”.

It has announced two new directors to help ‘quadruple turnover to £20 million by the end of 2016’. **Trevor Jee**, MD, said: “The Jee team, which is spread between Aberdeen and **Tonbridge**, in Kent, has already outgrown the current Aberdeen office, having doubled in size this year.

Mr Jee said the company was also helping to address the industry skills shortage, developing engineers from outside the industry into subsea specialists through a conversion programme, creating a bigger talent pool for the sector.

He remarked: “As part of a carefully managed growth strategy, we have plans in place to expand the **Aberdeen** team into new Westhill premises and open an engineering office in Central London, with the potential of creating 40 jobs in the UK by the end of 2013 and a total of 150 UK jobs over the next four years.”

Mr Jee founded the multi-disciplinary firm in 1988 and it remains independent and privately owned with the Aberdeen office headed up by **Jonathan Lindsay**. He added: “Our biggest growth area has been in subsea projects. A large focus for 2012 has been adding to our subsea engineering team, building on the wealth of knowledge the company already possesses as our client portfolio rapidly increases in this area.

The senior team consists of **Mike Hawkins**, Technical Director; **Jenny Matthew**, Head of Courses; **Jonathan Franklin**, Engineering Manager, and **Jonathan Lindsay**, Head of Aberdeen Office.

Contact: www.jee.co.uk

UK's first commercial-scale liquid air energy storage plant 'begins in 2013'

After the government agreed funding – two liquid air-based facilities are among the 12 projects to share £500,000 for feasibility studies into a range of energy storage systems comes as a new report argues cryogenic technology.

Highview Power Storage has developed a technology for using electricity to liquefy air that can later be evaporated to drive turbine generators and has been operating a pilot plant in **Slough** since March 2011.

The firm has now put forward proposals for two plants that have won competition funding, including its first commercial-scale facility storing energy from the National Grid when it is needed, on which construction could start as early as July if the plant gets through to the next stage of the competition.

The plant would be hosted at **National Grid's** Grain Liquefied Natural Gas (LNG) import terminal on the Isle of Grain in Kent, where the hot and cold energy waste streams produced by gas liquefaction could be used to make the energy storage process more efficient.

Highview CEO **Gareth Brett** said “Physically it's not much bigger than the Slough plant but the capacity of the process is about 10 times bigger. We'll be able to generate around 5MW of electricity and run for around six hours.”

He added that it was hard to say exactly how much the waste streams would improve the efficiency of the process but that the company expected overall efficiency of the plant to be around 50 to 60 per cent, enough to make the facility commercially viable. The final cost of the plant has yet to be determined.

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Highview's second competition-funded study is for a '**CryoGenset**' system at a landfill gas generation plant in Canterbury that acts like a diesel generator but fuelled by liquid air brought in by truck from a separate liquefaction site, with efficiency improved by the gas plant's waste heat.

Apart from a small amount of pumped hydro storage, the UK has yet to roll out energy storage at a grid level, and the competition is seen as a way of encouraging the development of a range of technologies to meet this need.

Contact: www.highview-power.com

Cairn Energy is to ramp up the hunt for oil and gas off Malta

The fearless, Edinburgh-based Cairn Energy plc has been granted licenses covering a huge swathe of under-explored frontier territory north of the island state.

Criticised by environmental campaigners for its work off **Greenland**, where the company has drilled eight wells without making a commercial find, Cairn said the company is already in the early stages of exploring in **Spanish** waters in the western Mediterranean, where it was awarded five blocks last year.

The move into Malta forms part of a plan to build a 'balanced portfolio of assets' developed by **Simon Thomson** since succeeding **Sir Bill Gammell** as chief executive in July 2013.

Sir Bill, who was chief executive when Cairn made a series of bumper finds in Rajasthan state in India, became chairman. Mr Thomson aims to balance frontier exploration like Cairn did in Rajasthan with less risky activity in areas such as the North Sea.

He noted the Mediterranean and North Africa contain relatively underexplored areas in which Cairn sees potential to make big finds. In August, Cairn bought stakes in three deep water blocks off **Morocco**. It has bid for licences off **Cyprus** and is considering applying for acreage off **Lebanon**.

Contact: www.cairnenergy.com

Window ventilation systems manufacturer Brookvent Ltd expands in Poland

The Co Antrim company **Brookvent** are leading UK manufacturers of innovative ventilation systems, designed for both residential and social housing – including its Glazed-In Window Vents, and efficient Heat Recovery Ventilation systems.

The company first visited **Poland** in 2009 on an **Invest Northern Ireland** trade mission to explore new opportunities. Since then the company has set up an office in **Wroclaw**, near Warsaw, and now employs a business development manager and six people there.

Brookvent is an excellent role model of a company that is benefiting substantially from a strategic approach to exports. It has established a base in Poland and will recruit local staff to grow sales.

It employs 48 people at its manufacturing operations in **Dunmurry Industrial Estate**, where it designs and produces mechanical window vents and heat recovery systems for the private and public housing sectors.

MD **Declan Gormley** said: "We carried out extensive market research in Europe and further afield and targeted those nations, including Poland, offering the best potential for our products. My objective is to grow our exports from 15 per cent of our business to 22 per cent over the next two years."

Contact: www.brookvent.co.uk

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SME NEWS – ELECTRONICS & TELECOMS

Claresys' patented surveillance technologies spun out from Dstl

The **Defence Science and Technology Laboratory** (Dstl) has helped Claresys Ltd to develop and supply unique lens solutions for covert surveillance.

Claresys came to Milton Park in January 2009 and later moved to the Science Campus at Building 154 on the estate. **Andy McLeod**, CEO of Claresys, said: "We are now recruiting to double our existing headcount, increasing our investment in assembly and test facilities and resourcing a major new contract."

The products range from novel pinhole optics for intrusive surveillance to medium range telephoto and zoom lenses for directed surveillance at street level. All typically offer better performance, are easier to hide and harder to detect than competitive systems.

It also undertakes custom lens designs based on its technology for those hard-to-install surveillance situations and for difficult environments such as the nuclear and high temperature fields.

Their products include covert pinhole pan/tilt/zoom lenses with no external moving parts, and miniature pinhole camera lenses that are simpler to install and considerably more covert than standard off-the-shelf solutions.

Claresys also undertake custom lens designs based on their proprietary technology, including for long range surveillance and for difficult environments such as the nuclear and high temperature fields. Optical design and manufacture is undertaken in-house, with some sub-contract manufacture being undertaken by a number of qualified suppliers mostly in the UK.

Contact: www.claresys.com

Enterprise Control Systems Ltd release new jamming equipment

Another growing SME has also been building its product range and reputation on the back of technology developed on the back of military contracts.

In May 2013 **Enterprise Control Systems Ltd** launched two new radio frequency inhibitor systems, 'Peregrine' and 'Goshawk'.

IEDs account for the largest proportion of military and civilian casualties in today's asymmetric warfare environment. Combining accurate threat analysis and sophisticated technical solutions, the new Peregrine and Goshawk Individual ECM provide a reliable counter to the modern and varied RCIED threat.

The Peregrine and Goshawk use sophisticated digital waveform technology with up to 10 simultaneous target waveforms and are programmable to provide antidotes for rapidly changing in-theatre RCIED threats.

Col Andy Gibson, Strategy Director for ECS and a former CO of 11 **EOD Regiment** and CIED lead for Land Forces, said: "IECM is not new in concept but it has been overlooked in favour of area coverage provided by Force Protection ECM. As future operations focus on more precise, integrated capabilities and look to lessen the burden on soldiers, Peregrine and Goshawk offer a solution to enhance flexibility and individual protection in the asymmetric arena where the RCIED will be ever present." In close terrain and urban areas where small advantages can make a difference, Peregrine or Goshawk can give an edge.

Contact: www.enterprisecontrol.co.uk

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Trackwise develops technique of making flexible PCBs 'of any length'

Gloucestershire-based company **Trackwise**, a specialist in the manufacture of high-frequency PCBs, unveiled the world's largest flexible multi-layer PCB at **Venturefest Bristol 2013**.

The company has developed a technique for making flexible multilayer PCBs that enables it to make them in any length. For aerospace and other high-value, mass-critical applications, they can be used as an alternative to traditional wiring harnesses, offering significant benefits particularly in terms of space and weight – up to 75% weight saving.

Philip Johnston, owner and MD of Trackwise, said “Flexible multilayer PCBs were originally developed in the second half of the 20th century as a replacement for wiring cable but due to length limitations the cable or harnesses replaced were typically internal to equipment rather than point to point harness replacement.

“Any longer runs of PCB would have to be made via intermediate connections, representing additional weight, cost and complexity as well as a source of potential unreliability. Trackwise's recent innovation means that these intermediate interconnects can be removed.”

Contact: www.trackwise.co.uk

Advanced Oncotherapy plc utilizes CERN-developed smaller proton beam devices

Dr Michael Sinclair, the firm's chief executive, hopes to install at least 10 new machines within the next five years. He said that it could mean 12,000 cancer patients could receive the new type of treatment. He said: “Proton beam therapy offers a significant improvement for patients with cancer than conventional radiotherapy, but so far the big problem has always been the cost.

“The machine developed by CERN nuclear research has significant clinical advantages and will cost a third of equivalent equipment that is currently available. This is a game-changer – bringing a more effective cancer treatment to the masses.”

Dr Stephen Myers, director of accelerator technology at CERN, is working with the British company to build smaller versions of the 250 foot long ring needed to produce the particles so that it can be installed in hospitals.

He said: “We are hoping to develop new types of cancer therapy by testing all the different types of ions – like oxygen or carbon – to see which is the best. Current radiotherapies caused collateral damage to the surrounding tissue and that makes it difficult to treat some types of cancer, like eye melanomas or those that are hard to reach.

“Low energy ion beams can cause less damage as the destruction of the cells is dependent on the energy of the beam and it can be focused very precisely onto a tumour. This can allow patients to recover faster and surgeons can destroy more of the tumour, so survival rates are much better. We would like to see if we can bring everything down to a regular sized form and put one in every teaching hospital in Europe.”

In May 2013 shares in **Advanced Oncotherapy** rose after it bought a spin-off firm from the CERN laboratory. Despite the rise chief executive **Michael Sinclair** went into the market three times to increase his stake. In total he bought more than 17 million shares at 1.4p each, taking his stake to more than 69m shares.

Contact: www.advancedoncotherapy.com

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Cambridge Nanotherm to build prototype manufacturing plant in Haverhill

Following the award of £250,000 in matched funding from the **Technology Strategy Board (TSB)**, the electronics thermal management innovator **Cambridge Nanotherm** will construct a **Suffolk**-based hub that will both be a development platform for electronic applications of Nanotherm technology such as LED lighting and power electronics; and demonstrate the manufacturability of Nanotherm substrates in a volume production environment to potential licensees of the technology.

The firm has developed and patented a unique nanoceramic-aluminum substrate for thermal management of electronics which offers the potential for major cost reductions and environmental benefits in electronics manufacturing.

Nanotherm substrate technology uses a proprietary nano-ceramic coating process to create a dielectric layer directly on to the surface of an aluminium substrate. The nano-ceramic dielectric layer is between two and 10 times thinner than its competitors and achieves an industry-leading thermal resistance of 0.014 Ccm²/W. It also has a dielectric thermal conductivity of 7 W/mK which is 2-3 times higher than conventional MB PCB (metal back printed circuit board) dielectric materials.

The prototype manufacturing line will be capable of producing innovative MB PCB materials with ceramic dielectric as well as groundbreaking circuit-on-heat-sink substrates, said **Pavel Shashkov**, CEO and founder.

Cambridge Nanotherm Ltd, was established in 2010 to commercialise proprietary nano-ceramic technology for use in the electronic industry. The company was the UK winner of the 2011 Clean Tech Open Competition, sponsored by **Silicon Valley Bank**.

Contact: www.camnano.com

Xeros Ltd signs first hotel in the US for its 'virtually waterless' laundry system

The Rotherham-based innovator and **Leeds University** spinout based on the **Advanced Manufacturing Park (AMP)**, has developed a patented system using a unique method of special polymer beads rather than the usual large amounts of fresh water to clean clothes.

Instead a small amount of water is added to loosen clothing stains and activate the beads.

The 518-room **Hyatt Regency Reston** in Virginia has installed the eco-friendly commercial scale Xeros washing machine to expertly launder the guest room and dining room linens and bath towels using less water, less chemicals and less energy than traditional methods.

Textile chemistry professor **Stephen Burkinshaw** invented and developed the Xeros' patented technology over the past 30 years. The Xeros system was installed at a first site in America in August, at **Sterling Linen Services**, a high-quality linen processing and rental service for area hotels, hospitals and restaurants, in Manchester, New Hampshire.

Bill Westwater, CEO of Xeros Ltd, said: "Our revolutionary cleaning system will provide the Hyatt with dramatic savings in laundry and utility costs per year, as well as superior cleaning for guest comfort and convenience." Xeros is expecting further interest with an official roll-out to the commercial laundry marketplace at the **2013 Clean Show** in New Orleans.

Contact: www.xeroscleaning.com

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Low-cost liquid catalyst ‘replaces 80% of the platinum’ in automotive fuel cell

Acal Energy Ltd plans to license its technology to tier-one suppliers and OEMs. The firm said it was in latter-stage discussions with several carmakers to take the technology further. Chief executive **Greg McCray** claimed that “all the major auto companies are taking this development very seriously.”

The *FlowCath* technology addresses the inherent limitations of conventional proton exchange membrane fuel cells by applying a poly-oxometallate chemistry-based innovation which replaces the fixed platinum catalysts on the cathode. “This design approach will finally remove the barriers which have prevented traditional hydrogen fuel cells from being truly viable for automotive use,” said McCray.

Hydrogen is catalysed on the anode in the conventional fashion. However, unlike conventional technology, the electron and proton are absorbed into a solution containing redox catalyst systems, which flow continuously from the stack to an external regeneration vessel. In the regenerator, the catholyte comes into contact with air. The electron, proton and oxygen from air react to form water, which exits the regenerator as vapour. The catholyte then flows back to the cell.

So far Acal has carried out more than 8,000 hours of testing on its FlowCath liquid fuel cell – the equivalent of 250,000 road miles – without any degradation. The cell was trialled using a heavy-duty automotive industry standard test consisting of a repeated 40-minute journey.

Contact: www.acalenergy.co.uk

Intelligent Energy demonstrates fuel cell with ‘30% rise in power density’

Fuel cell developer **Intelligent Energy** has demonstrated a fuel cell with a 30% increase in power density over existing systems and reliable cold-starts down to -20°C – paving the way for a fuel cell engine that costs the same as internal combustion engines in cars within the next 5 years.

The fuel cell, which has an output of 40kW and is coupled with a battery system, was developed as part of a three year research project to enhance the reliability, durability and performance of fuel cells in light commercial and passenger vehicles.

Partners in the £2.8 million project, half of which was funded by the **Technology Strategy Board**, included **Dyson Technology**, automotive engineering consultancy **Ricardo** and testing services provider **TRW Conekt**.

Dennis Hayter, of Intelligent Energy, said that the project’s output meant its automotive fuel cells would be “well on the way to the equivalent cost of internal combustion engines within the next five years. There’s a lot more to do, but every quarter of a year we improve a little bit more in terms of performance and cost.”

Intelligent Energy aims to supply fuel cells within a power range of 30kW and 200kW to car makers to replace engines in vehicles from 1.1 to 3 litres in size. Barriers to this include the high cost and reliability of fuel cells in an automotive application.

Ricardo provided the automotive performance and duty cycle specification the fuel cell needed to match. TRW Conekt provided the vibration and environmental testing to validate the integrity of the fuel cell.

Contact: www.intelligent-energy.com

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Environmental Recycling Technologies (ERT) looks to raise £1m in new funds

AIM-listed stalwart Environmental Recycling Technologies (ERT) is looking to raise more than £1m via an issue of new shares, following a reorganisation of the firm's capital structure.

Oxfordshire-based ERT, which develops various technologies aimed at the plastic waste recycling market, plans to conduct an open offer of up to nearly 83 million shares in the company, around 10% of the enlarged issued share capital.

The share offer will be conducted once a proposed consolidation and sub-division of the group's share capital is approved and completed.

ERT said the proceeds of the share offer "will provide additional working capital and finance to accelerate the roll-out of ERT's licences to use the **powdered impression moulding** (Pim) process on a global basis; to research additional complementary technologies, and to invest in further sales and marketing".

The group's plans to re-organise its capital structure will be put to the group's shareholders for approval at a general meeting to be held on 30 April.

Contact: www.ertplc.com

SME NEWS – BIOTECH, PHARMA & MEDICAL SCIENCES

Espiner Medical's revolutionary medical device salutes its Queen's Award

Designed by two Bristol men who 'wanted something to do in their retirement' – the pair produced a device which would help surgeon **Harry Espiner** remove unwanted tissue during operations which would keep the patients safe from infection.

It resulted in an unlikely alliance between former surgeon Harry Espiner and hot air balloon maker **Jim Howard**. The company now employs 18 people and is expanding as demand for its highly-specialised products has grown.

An anaesthetist, **Sally Macey**, who was working with Harry at the time, noticed that there was a problem removing the tissue through a hole in the patient's stomach. Mr Espiner said "The whole idea was to leave none of the material behind. Sally was a hot air balloonist and a friend, she actually telephoned me from the operating theatre to ask if I could produce a bag and equipment to remove the tissue from the belly through a small hole. And that is how it all started."

The tiny company has been recognised for its remarkable achievements with a **Queen's Award for Enterprise**. Espiner Medical has become a world leader in its field. The business is a real family affair which involves wives, son-in-laws and children.

Now in his 80s Harry was working as a surgeon at **Bristol Royal Infirmary** when he decided to get in touch with Mr Howard, who was working at the world famous **Cameron Balloons** at the time through the anaesthetist and the two got together. What emerged from the meeting was the idea for a device which is essentially a bag made out of the same ultra-strong material used to make balloons.

The duo went on to design and manufacturer the device and more than 20 years later the firm has a turnover of £1.5 million and is exporting to every part of the world.

Contact: www.espinermedical.com

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In January 2013 Touch Bionics builds turnover to top £10m

The increasingly famed Scottish firm that makes artificial hands used by wounded soldiers expects to achieve continued growth this year after recording a 17% surge in sales in 2012.

Livingston-based **Touch Bionics** grew annual turnover to above £10 million for the first time in the year to December, from £8.6m in the preceding period. The increase reflected growing demand around the world for a range of products that includes prosthetic hands, fingers and skin.

The company said around 3000 i-limb hands and more than 500 i-limb digits solutions have been fitted to patients worldwide to date. The company's i-limb digits can be produced to replace one or more fingers.

The company recently doubled the size of its '*livingskin*' production facilities in **New York State** in the US in order to cope with demand for the silicon skin the company produces. This is hand painted to match the skin tone of wearers of prostheses and includes details such as freckles, hairs and tattoos where appropriate.

Chief executive **Ian Stevens** said the additional space will increase the livingskin production capacity significantly. He said: "As global demand for our livingskin prostheses has been increasing, we needed to ensure our production capacity is able to scale to meet that demand."

Founded by inventor **David Gow**, Touch Bionics was spun out of the **National Health Service** in Scotland in 2003. It raised £2.5m expansion funding from the **Archangels** angel investment network and the **Scottish Venture Fund** in October 2011.

Contact: www.touchbionics.com

Molecular Products launch high performance 'leak and flow' testing system

Ely-based **GB Innomech** has designed and delivered in just 14 weeks a sophisticated, for **Molecular Products**, which produces and fills the plastic canisters with medical grade soda lime for use in anaesthetic and ventilation machines, as well as re-breathing apparatus for the emergency services.

Each filled canister then needs to be pressure and flow tested to confirm the integrity of the unit and to ensure there are no blockages in the inlet/outlet tubes or through the device. The new machine is three times faster, more accurate, easier to use and requires less maintenance than the machine it replaces.

One of the challenges with the previous test system was that canisters tended to jam when coupled to the machine for testing leading to delays and reduced throughput. Innomech has overcome this by using a novel clamping mechanism with a 'spongy doughnut' material that requires near-zero product insertion and removal force by the operator.

Easy to change dust traps have also been incorporated to prevent particulate matter from contaminating the machine and interfering with the hermetic seal that is essential during the test.

Martin Sexton, engineering manager at Molecular Products, said "**Tim Mead**, commercial director at Innomech has developed breakthrough performance systems but is used to clients not allowing us to talk about the work or to add our logo or any branding to the final machine. In this case, Molecular Products was so pleased with the result they wanted everyone to know and specifically requested we badge the machine with an Innomech nameplate."

Contact: www.molecularproducts.com – www.innomech.co.uk

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Breath analysis firm Cambridge CMOS Sensors joins long list of earlier claimants

Those old enough to remember companies such as Manchester spinout **Osmetech plc** which, among many others, tried very hard to perfect a disease diagnostic system based on breath tests alone.

In early 2013 **Cambridge CMOS Sensors** claimed to be able to 'diagnose and monitor quickly and painlessly just by breathing a range of diseases and conditions, from asthma to liver disease', using gas sensing technology.

The Cambridge spinout, run by **Professor Florin Udrea**, at the **Department of Engineering**, said "Non-invasive breath analysis is an area of great potential for diagnosing and monitoring a wide range of medical conditions. Testing is easy and painless, and can be repeated as often as needed."

Its sensitive, low-power, low-cost infrared emitter 'is capable of identifying more than 35 biomarkers present in exhaled breath in concentrations as low as one part per million', and is being developed for use as a non-invasive medical testing device and other applications.

The company, which spun-out from the Department of Engineering in 2009, was founded by Professors Florin Udrea and **Bill Milne** of Cambridge, along with Professor Julian Gardner of Warwick University. CCMOSS has been supported by seed funding from **Cambridge Enterprise**, the University's commercialisation arm.

Contact: www.ccmoss.com

Oxford-based biotech Immunocore appoint Eva-Lotta Allan to the board

Immunocore has created a T cell receptor technology which exploits the power of the body's own immune system to find and kill diseased cells. The company is developing a portfolio of products from the platform, called **ImmTACs**, for the treatment of cancer, chronic infectious disease and diabetes. The most advanced ImmTAC drug, IMCgp100 for the treatment of melanoma, is currently in clinical trials in the UK and USA.

Eva-Lotta Allan, the new Chief Business Officer, brings over two decades of business development experience from the biotechnology and life science industry and joins from **Ablynx NV**, where she served as Chief Business Officer since 2006. She was a key contributor to Ablynx's transformation from a small private platform company to a significant public biotechnology company with an impressive pipeline and partnerships. In her role as Ablynx's CBO, she closed a number of deals of significant value, with premier pharmaceutical companies bringing in over €160 million in non-dilutive cash to the company.

James Noble, Immunocore's CEO, said: "We welcome Eva-Lotta to our board at this critical point for Immunocore as we expand and develop our pipeline of products. She brings with her a wealth of knowledge and experience in business development."

Contact: www.immunocore.com

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Dundee-based software firm YOYO Games plans to double headcount

YOYO Games, the backed by former executives from **Xbox** and **Last.fm**, is planning to double its headcount by creating 25 jobs as demand for its gaming platform soars.

The company is moving into larger offices in the city's Waterfront regeneration area to make space for extra employees in systems development, software engineering, sales and customer service.

Chief executive **Sandy Duncan** said the firm had the "right technology at the right time" as developers large and small sought to get the latest games out on phones, computers and consoles all at once.

He said "There's a huge appetite from games developers to make games efficiently and get them out to multiple markets at the same time." YoYo's **GameMaker** has been available as a tool for "bedroom coders" since 2007, but the company recently launched a beefed-up version known as "Studio" that automatically enables games to operate across different platforms, including Apple's iPad and iPhone, Android smartphones, Facebook and Windows.

YoYo Games established its European headquarters in **Dundee** in May 2010 by opening an office at **Abertay University** with two team members. Since then the business has grown rapidly and has now taken a ten-year lease on 8,700sq ft of prime office space in **DundeeOne**, an office development on the banks of the River Tay.

Contact: www.yoyogames.com

NorthEast's Thinking Digital Startup Competition – and the list of finalists are...

- **Bubblepix Ltd** (Newcastle upon Tyne) – www.bubblepix.com
- **Chirp** (London) – www.chirp.io
- **EarSoft** (Newcastle upon Tyne) – www.web.earsoft.co.uk
- **Future Ad Labs** (London) – www.futureadlabs.com
- **Good Night Lamp** (London / Liverpool) – www.goodnightlamp.com
- **Omlis Ltd** (Newcastle upon Tyne) – www.omlis.com
- **PointCrowds** (Oxford / London) – no website
- **Spearhead Interactive** (Middlesbrough) – www.spearheadinteractive.com
- **YPlan** (London) – www.yplanapp.com

The shortlisted startups will compete before a panel of judges and audience on 21st May at **Newcastle University Business School**. They will pick the top two startups to pitch before the full audience of the **Thinking Digital Conference**. Each startup receives a year free of **Sage One's** cloud-based software and the top prize will be £20,000 in free services from **Rackspace**. The top two also get automatic shortlisting for an invitation to **Ignite100** which comes with £100,000 in seed capital.

Contact: <http://uk.sageone.com/2013/05/07/thinking-digital-startup-competition-shortlist>

'Pride of Belfast' network apps company Aepona bought by Intel for £78m

Cambridge-based VC **Amadeus Capital Partners** was the largest investor in the Belfast headquartered company, which has over 300 employees working from Northern Ireland, Republic of Ireland, the UK and Sri Lanka.

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Al Snyder, CEO of Aepona, said “Service Providers around the world are opening their networks to developers through APIs, and are gradually building their own developer communities and application ecosystems. However, they increasingly recognize that enterprises and business applications will be a key revenue driver for their services going forward.”

In May 2013 Aepona’s monetisation platform was chosen by **Vodafone India** to connect the company’s network services across India, enabling Vodafone’s business partners to reach and bill its 147 million plus mobile subscribers.

Amadeus partner, **Andrea Traversone**, said: “Aepona is one of the most innovative wireless technology companies founded in Europe and we are proud to have been part of its development during our investment period. I am sure the company’s technology will be key to **Intel’s** mobile strategy.”

Contact: www.aepona.com

Piriform celebrate 1 billionth downloads of CCleaner, the No.1 PC clean-up tool

CCleaner is the world’s favourite PC optimization tool, and in the eight years since it was first released it has been installed on approximately one quarter of the world’s PCs, across 200 countries and more than 45 languages. **Steve Huber** is Piriform’s Chief Revenue Officer.

Piriform has seen the number of CCleaner users increase rapidly over the last year, and the product is being installed on more than 10 million new PCs each month.

Piriform CEO **Guy Saner** said “This is a huge achievement for everyone at Piriform, and thanks go out to our millions of users. We’re looking forward to improving our existing products, and providing our users with some exciting new products in the New Year as we extend into mobile and cloud-based solutions.”

CCleaner helps the user’s computer run like new by removing unnecessary files, including unused and temporary files. It clears Internet and download history, eliminating digital “traces” that can compromise privacy, resulting in a faster, cleaner and more secure computer, with maximized hard disk space.

Piriform’s award winning product portfolio includes CCleaner, CCleaner Network Edition, Defraggler, Speccy and Recuva, which optimize PC performance, improve security and extend PC hardware’s useful life.

Contact: www.piriform.com

FUNDING & INVESTMENTS

Crowdcube used its own platform to raise £1.5 million in just three days

In May 2013 the UK’s leading crowdfunding site met the initial funding target of £250,000 within the first five hours of the pitch going live, making it the fastest equity funding on a crowdfunding website anywhere in the world.

In the end a total of 259 investors participated. The pitch was then opened up for others to invest with £1m being invested in the last 24 hours. The investment, which sets a new world record for funds raised via an equity crowdfunding platform, will be used to fuel Crowdcube’s next phase of growth.

Darren Westlake, CEO and co-founder of **Crowdcube**, said: “The response from our members was truly overwhelming and really demonstrates the power of equity crowdfunding to provide platforms for people

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to support businesses they think are worthy of investment. To raise £1.5 million in only three days is an astonishing achievement and it puts us in a strong position to realise our growth ambitions on behalf of our new investors.”

Contact: www.crowdcube.com

Round Two of Growing Places Fund hands 10 Warwickshire firms £4.8m

Ten companies representing the best of Warwickshire’s engineering and manufacturing capabilities are to receive £4.8m from a government funding initiative.

It is expected the winning projects will create more than 1,000 jobs and lead to almost £42m being invested in the areas.

The **Coventry and Warwickshire Local Enterprise Partnership** (LEP) board approved the applications for 10 projects to receive grants from round two of the government’s **Growing Places Fund**. The firms: **Unipart Group, Richmond Design and Marketing, Expert Tooling and Automation, Envisage Group, Lear, Covrad Heat Transfer, Warwick Manufacturing Group in Coventry, Drive System Design in Southam and SMT Developments in Warwick** – will benefit from the cash.

LEP chairman **Sir Peter Rigby** said the standard of applicants had been “extremely high. The £4.8m in grants will leverage nearly £42m in private investment by the ten companies which is a massive show of faith in the skills of the workforce and the region’s long-term growth plans.”

Contact: www.cwlep.com

WEMS International sells £13m majority stake to fund growth opportunities

Wireless energy firm WEMS International has sold a majority stake to private equity investors **WHEB Partners** and **Hermes GPE** – as it looks to fuel growth both at home and abroad. The deal valued the business at £13m.

WEMS, whose technology is used to make commercial buildings more energy-efficient, is a £12m-turnover business founded in 1990 by **Joe Blower** and **Steve Dillon**, who is retiring following the deal.

Mr Blower said: “We are experiencing strong demand in the UK and there are clearly international opportunities too.” In the past 12 months turnover has risen from £6 million to £12 million and the company now employs 80 staff, up from 35 in 2010.

James McNaught-Davis, managing partner at London-based WHEB, said his firm had been seeking an investment in the sector for some time. We want to broaden the customer base in the UK and also expand internationally into western Europe and the US for the first time.” He said he expects the deal to create jobs, particularly in product development and in WEMS’ energy centre, which remotely monitors energy use.

WEMS claims to be the only wireless building energy management system in the world that is completely wireless and web-enabled. WEMS delivers typical energy savings of 15-30%. Clients include **BT, Marks & Spencer** and **Boots**.

Contact: www.wems.co.uk

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UK Space Agency is granting £500,000 to industry and academia

In spite of serious doubts that UK space activities will ever be profitable – the UK Space Agency's latest competition within the **National Space Technology Programme (NSTP)** yielded some interesting projects.

Tests on 'green' propellants for space propulsion, the demonstration of pultruded manufacturing of spacecraft components and a feasibility study into the use of Europe's new radioisotope power systems for space, are among the 10 winners.

The UK Space Agency is granting £0.5m to industry and academia following a call to the UK space community for innovative ideas in space technology research and development.

The Future Technology Pathfinder Programme is part of the £27m NSTP which has already jump-started 50 high tech space projects since its launch in 2011. Other projects selected include an entirely novel type of spacecraft thruster, work on advanced high performance materials and the development of highly sensitive detectors for use in scientific and Earth observation missions.

In total 19 academic and industrial teams will be carrying out the work. The organisations leading the projects are: **Reaction Engines Ltd, Magna Parva Ltd, Archer Technicoat Ltd (ATL), Astrium Ltd (2 projects), TISICS Ltd, EADS Innovation Works, The Open University, COM DEV Europe Ltd and Selex Galileo Ltd.**

Day to day oversight of the projects will be managed on behalf of the Agency by its **Centre for EO Instrumentation**, which is an industrial/academic partnership led by **Astrium Ltd** with **QinetiQ Ltd**, the **University of Leicester** and the **STFC Rutherford Appleton Laboratory**.

Contact: www.bis.gov.uk/ukspaceagency

GENERAL NEWS

IET Innovation Awards seeks entries from high growth, hi-tech SMES

The ERA Foundation is sponsoring the **Best Start Up prize** under the IET Innovation Awards, and this award invites entries from start-ups worldwide.

Spanning 15 categories, the **IET** awards free to enter international awards are open to individuals and organisations in both industry and academia. Judged by engineering experts, the **Innovation Awards** recognise the depth and breadth of innovative work being carried out across all areas of engineering and technology.

In **2011** – perhaps the best year for entries so far with 420 entries – a solar-electric unmanned aerial system (**Qinetiq plc**), an intelligent decision support system for interpretation of foetal monitoring during childbirth (**K2 Medical Systems**), and an automotive hybrid drive system (**Ashwoods Automotive Ltd**), were among the winners.

Contact: **Sarah Sennett** – Marketing Campaign Manager, The IET. – www.theiet.org/awards

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Lord Young publishes his long-awaited report on SMEs in May 2013

As the Prime Minister's adviser on enterprise, Lord Young's recommendations include a raft of ideas aimed at helping SMEs to grow. They include the following:

- Removing the age cap for the Government's **Start-Up loan scheme**;
- Abolishing prequalification questionnaires on contracts under €200k across the public sector – this may eliminate the stranglehold some mid-sized firms have on contracts;
- Introducing **Growth Vouchers** to encourage more small firms to get specialist help;
- Launching a '**Supporting Small Business Charter**' and award scheme to incentivise business schools to help SMEs grow;
- Releasing the former **Business Link** website from Government ownership to third party providers, for them to rebuild and improve;
- Allow private sector advice to SMEs to go on the Government's website – www.gov.uk.

Small firms are keen to compete for more of the public sector contracts advertised in their local areas. However, it is hard to break into procurement by local councils and other bodies, due to onerous information and application requirements.

Lord Young is right to call for better access to local procurement for small firms, and for the abolition of prequalification questionnaires and other red tape which stops many smaller companies from competing for public sector contracts.

The Government will must look at ways to sanction councils and agencies which don't let the UK's SMEs compete for their business. Lord Young said the closure of **Business Link** in November 2011 had left a 'huge gap' in the provision of business support.

Contact: www.gov.uk/government/uploads/system/uploads/attachment_data/file/32245/12-827-make-business-your-business-report-on-start-ups.pdf

Shortlisted applicants in the Scottish EDGE business plans are announced

The list of finalists along with some of their 60-second-pitch videos in the list below, on YouTube. **Scottish Enterprise** will be running the Scottish EDGE competition again.

The Scottish EDGE finalists:

- Nick Rankin, **Quorate Technologies**, Edinburgh
- Naal El-Nakla, **Stormpods**, Isle of Islay
- Leah Hutcheon, **appointedd**, East Lothian
- Cass McNamara, **BirthSparks**, Ayrshire
- Mark Magnante, **SBP Digital**, Edinburgh
- Rob Arthur, **Thurso Cinema**, Caithness
- Donnie Maclean, **Eat Balanced Ltd**, Glasgow
- Vicky Brock, **Clear Returns**, Glasgow
- Craig Lynn, **Sprout Product Development**, Ayrshire
- David Craik, **Stem Cloud Ltd**, Glasgow
- Brian O'Reilly, **Tree Green**, Glasgow
- Donna Read, **Shooze with Sole**, Kilmarnock
- Steven Reynolds, **Micro Fitness**, Cumbernauld
- Lois Cameron/Joan Murphy, **Talking Mats Ltd**, Stirling
- Geraldine Abrahams, **TWM Productions Ltd**, Glasgow
- David McNaught, **Relume Design Ltd**, Perth

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- Tracey Hogarth, **Freedom Brands Ltd**, Glasgow
- Scott Goodwin, **HotBott**, Glasgow
- Alistair Taylor, **Ladderlimb**, Newton Stewart
- Victoria Lee, **Glitter Beach Ltd**, Lochwinnoch

The report can be read here: www.scottish-enterprise.com/fund-your-business/Other-sources-of-funding/Scottish-EDGE/The-finalists.aspx

UNIVERSITY NEWS

26 June is Opening Date for new Engineering Building at Coventry University

A new Engineering & Computing Building at **Coventry University** will be unveiled on 26 June 2013, which was built at a cost of £55m. It will house a **High Performance Engineering Centre**, including an open-jet single return wind-tunnel, built and tested by **Mercedes AMG Petronas Formula One** team.

The University's range of services for motorsport and high performance engineering businesses aimed at driving growth and increasing competitiveness will highlight ways of accessing the University's new facilities and provide an insight to current research findings in low carbon vehicle technologies.

It is home to **Microcab**, a zero emission vehicle manufacturer, undertaken by Microcab's research team and a look to the future as it takes a leading role in efforts to create a 'hydrogen highway' through northern Europe.

Contact: Faculty of Engineering and Computing: 024 7688 7688 – business.ec@coventry.ac.uk.

Cambridge-based Cronto protects millions against online banking threats

A security solution which protects against the most serious threat to online banking customers, responsible for millions in annual losses, is being rolled out across Europe by a Cambridge spinout.

Developed in collaboration with one of Germany's largest banks, the technology devised by Cambridge-based company **Cronto** is helping protect customers against the threat posed by 'Man-in-the-Browser' Trojan malware.

A Trojan horse is a type of malware which, like its namesake, presents itself as a harmless gift in order to persuade users to install it, appearing as a legitimate software program. Once installed, hackers gain access to the computer in order to steal information or harm the system.

According to **Igor Drovov**, Cronto's CEO, security in the world of online banking has to go beyond identifying who a customer is, whether via a password, the street they grew up on or the name of their pet goldfish.

"That's not enough," he says. "To combat the level of sophistication poised by Trojan malware, the bank also needs to verify the action that the customer is trying to perform, whether it's a purchase, a transfer or a change of address."

Contact: www.cronto.com

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University of Lincoln to develop more effective radiotherapy for cancer sufferers

The Wellcome Trust will provide the major investment to exploit the Higgs Boson detectors and radiation-hard CMOS imagers to provide proton radiotherapy with real-time dosimetry and CT technology.

Proton therapy has the ability to deliver high doses of radiation just to a tumour site with very little radiation being absorbed in healthy tissue. It is particularly useful in treating cancer in children and tumours that are close to the body's vital structures such as in the head or near the spinal cord. The UK government has recently authorised the building of two new proton therapy centres.

The new three-year research project, called Pravda, will employ the unique imaging sensors developed in the **University of Lincoln**, along with detectors developed by the **University of Liverpool** and used in the Large Hadron Collider in the recent successful detection of the Higgs Boson.

Nigel Allinson, Professor of Image Engineering at the University of Lincoln, said: "Radiotherapy is a fundamental weapon in the battle against cancer with some 50 per cent of patients receiving it as part of their treatment.

"Proton therapy is widely used in the USA and with two new Government supported centres becoming available in the UK, our work is not only timely but, hopefully, will have a major effect on the quality of life for many thousands of cancer patients. Being able to image exactly how the radiation interacts with a tumour, in 3D, is considered the holy grail of radiotherapy."

Currently about 100 NHS patients have to travel abroad for proton therapy, but it is hoped 1,500 patients could be treated in the UK by 2015 with the new government-approved centres becoming operational. There are around 40 proton therapy treatment centres around the world at present with another 30 in construction.

Contact: www.lincoln.ac.uk – www.wellcome.ac.uk

Ultrasonic technology at University of Southampton helps to clean water

Doctors **Peter Birkin** and **Doug Offin** from Chemistry and **Professor Tim Leighton** from the **Institute of Sound and Vibration Research** at Southampton have devised the technology in partnership with **Ultrawave Ltd**, a specialist supplier of ultrasonic cleaning equipment.

Their system, 'StarStream', won the **Veolia Water Management and Supply** category against stiff competition from major companies, including **GlaxoSmithKline** and **Scottish Water**. It was the potential of StarStream to generate significant savings in water use in a range of cleaning applications that excited the judges.

John Melville, MD of Ultrawave Ltd, a specialist supplier of ultrasonic cleaning equipment, spotted the potential of the technology and have been collaborating with the University team to develop StarStream for industrial cleaning applications.

StarStream is an example of breakthrough technologies emerging from the UK science base and is the first time that an ultrasonic wave has been propagated down a free flowing stream of water.

In 2011 Professor Leighton and Dr Birkin received the **Royal Society Brian Mercer Award for Innovation**. Professor Leighton adds: "This award enabled us to continue developing the technology towards real-world applications."

Contact: **Adam Irvine**, Technology Transfer Manager, on 023 8059 8582 – a.irvine@soton.ac.uk.

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AND FINALLY...

>> London's fleet of 600 'Borismaster' buses are produced by **Wrightbus Ltd**, sited in Northern Ireland. There are, however, two significant problems. First, Wrightbus is notorious for producing low-quality, 'Rattle-master' vehicles that groan, squeak and rattle their way, with a *generally poor build-quality*. Secondly, all generations of buses put on London's roads since the Routemaster have had *terrible ventilation*. The old Routemaster had slit windows at the front, on both levels, allowing excellent volumes of fresh air to spread through the bus.

Sadly, the much-vaunted modern design of the Borismaster has no such frontal ventilation – forcing another generation of Londoners and tourists to endure the sweaty conditions of the previous generation. All at a total cost of £213 million.

Alongside the 600 Borismasters London will also be taking 600 conventional – and presumably less expensive – hybrids over the next three years. When the final batch of Borismasters is delivered in 2016 more than 1,600 hybrids will be in service in London, representing around 20 per cent of the capital's 8,500-strong bus fleet.

Contact: www.wrightbus.com

>> Floods and flood warnings are often blamed on anything from 'global warming' to 'rising sea levels'. But a recent crisis of water quality along the Lancashire coastline may in fact be due to the fat-clogged drains of **Blackpool**.

There have been 25 floods in Blackpool since April – including a flooded takeaway on Dickson Road – all a result of water backed up in drains blocked by oil and fat.

Now staff from **United Utilities** are taking urgent action to prevent more waste being poured down the drain through their 'Think Before You Pour' campaign.

The team is advising businesses on how best to dispose of their oil, fat, grease and scraps, to stop sewage coming back up through drains and polluting the sea. Staff say following the advice will not only help the environment, ensuring seawater at Blackpool beach is clean, but also benefit businesses financially.

Lee Bryce, United Utilities bathing waters manager, said: "This is an example of us taking action to help the resort reach new standards. There are many factors which lead to sea pollution and flooding like this is one piece of a complex jigsaw."

Contact: www.unitedutilities.com/thinkbeforeyoupour.aspx

>> Bloomberg Place set to become the biggest development in the City of London

Bloomberg Place, roughly the size of a Manhattan city block, is the future European home of **Michael R. Bloomberg's** company and charity. By 2016 Bloomberg Place will be home to a futuristic campus designed by the architect Norman Foster. It is to include a pair of undulating office buildings, pedestrian plazas, spaces for 390 bicycles and, if the mayor gets his way, branches of New York restaurants.

But it is only one piece of the New York City mayor's growing British empire. He is also underwriting a major expansion of one of England's best galleries, in Kensington Gardens, designed by the noted architect **Zaha Hadid**.

Mayor Bloomberg and his aides court the City of London's elite, holding expensive dinners for tastemakers

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and Downing Street officials. The buzz is so great that a chief aide to Prime Minister **David Cameron** impishly floated the idea of a Bloomberg candidacy, for mayor of London.

Unshackled from the 24/7 needs of running New York, Mr Bloomberg – an Anglophile with a taste for English Regency style – is exporting his vast quantities of financial, social and political capital to London, where he has long yearned for influence.

Manhattan is home, and Bermuda a weekend escape, but no place has captured the mayor's imagination like London, a kind of Bloomberg utopia where guns are banned, drivers pay a fee at peak hours and bicycling is a popular mode of commuting.

The affection, it turns out, is mutual: Mr. Bloomberg wrote a blurb for a book London Mayor **Boris Johnson** wrote. "Mike's had a lot of cut-through in Britain," Mayor Johnson said in an interview on a London commuter train. "We endlessly try to find ways of entertaining him, but generally speaking, it's the other way around."

Still, any foreign affair has its hiccups. Mr. Bloomberg's attempts to install noisy air conditioners at his \$20 million London home have earned the ire of neighbours, prompting local officials to call the plans "totally unacceptable." And some of his more high-minded policies, like soda limits, have left the natives bemused.

When the mayors met for the first time, Mr Johnson recalled, Mr Bloomberg kept talking about **trans fats**. "I didn't know what trans fats were," Mr. Johnson said, a glint in his eye. "I thought it had something to do with transsexuals, obese transsexuals, or something. Anyway, he made a great deal about that..."

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