

British High-Tech  
and VC Industry  
Digest



(November 4–10, 2013)



## Editorial

During the last year, innovation activity in the UK was on the rise on several fronts. Deals in the Cambridge cluster alone topped \$23 billion during the last seven months, according to Business Weekly. Therefore, we made a decision to start supplying the Russian ecosystem with a regular source of reliable data on the principal areas of the UK innovation ecosystem, including major deals, mergers & acquisitions, investments by top funds, major technological advancements and disclosures, changes in the regulatory and political environment. We launch this UK Digest with confidence in the value of the British innovation system for the Russian entrepreneur and investor and sincerely hope that this publication will benefit the major things like collaborative environment and business climate as well as the individual entrepreneur.

With kind regards,  
Dr Dmitry Kuzmin  
UK Partner, Russian Venture Company

## Venture Capital Market

This month the UK scene was rocked by the long-in-the-making arrival of another venture capital giant-to-be with strong university ties, Cambridge Innovation Capital (<http://www.cambridgeinnovationcapital.com/>). It is an £50M fund at first closing with a strong team of investment managers, including Peter Keen (who together with Sir Christopher Evans co-founded the Merlin Biosciences venture capital firm, which many consider a barometer for the UK biotech industry), Edward Bentall (ex-partner of Charterhouse Capital Partners), Mike Muller (co-founder of ARM) and Tony Raven (CEO of Cambridge Enterprise)<sup>i</sup>. The fund also boasts a strong advisory board including Hermann Hauser (Amadeus Capital), Professor Sir Richard Friend (Cavendish Professor of Physics at Cambridge University) and others. Several notable institutional investors have backed the fund, including ARM (NASDAQ: ARMH), the most successful of the Cambridge technological spinouts, as well as Invesco Perpetual (LON: IVPU), Lansdowne Partners (<https://www.lansdownepartners.com/>), IP Group Plc. (LON: IPO) and Cambridge University Endowment Fund. Interestingly enough, almost the same investors backed the UK's most successful university tech transfer vehicle and investment fund so far, Imperial Innovations (LON: IVO), several years ago. The new fund is expected to play a major role in the UK innovation landscape and probably to float on the LSE next year or the year after.

## Information and communication technologies

The PRISM scandal that has severely affected the cyber security market in US and UK as well as the other countries received an unexpected twist as two leading academics in the field of data privacy, Sergio Carrera from Centre for European Policy Studies and Francesco Ragazi from Leiden University, reported in their study "Mass Surveillance of Personal Data by EU Member States and its Compatibility with the EU Law", published on the CEPS website<sup>ii</sup>, that such surveillance significantly violates the EU laws. As The Guardian reports, they said the US National Security Agency (NSA), the UK's GCHQ and equivalent bodies in France, Germany, the Netherlands and Sweden had breached basic articles of the EU treaty, such as article 4.3 on "sincere co-operation", as well as privacy clauses in the EU charter of fundamental values and in the European charter of fundamental rights. This is anticipated to cause another upsurge in the demand for encrypted data storage and exchange services located outside UK and US and may potentially contain a strong market opportunity for Russia.

ARM (LON: ARM, NASDAQ: ARMH), one of the key UK innovative companies and the world leading chip designer, has launched an interactive and collaborative online platform (<http://community.arm.com/welcome>) to make it easier to design around the ARM processor architectures. This is the next step for the ARM Connected Community, one of the best examples of open-ended innovative communities managed by a corporate entity. The interactive platform comprises a series of sub-communities, known as "places". Each place has moderators to work with subject-matter experts, advocates and developers to create content, engage with community members, and help drive discussion. We consider this a major advance for all start-ups and service companies engaged in providing solutions for the ARM infrastructure<sup>iii</sup>.

E-Skills UK and SAS launched a new report on big data use by small and medium enterprise last week<sup>iv</sup>. The report estimates that a surprisingly low 0.2% of UK SMEs use big data analytics and as much as 20% of such businesses admitting that they have poor understanding of the challenges and opportunities presented by the big data solutions. As v3 reports, Lord Stephen Green, minister of state for trade and investment, said the uptake of this area by small businesses is crucial for economic development. "The UK now has the opportunity to take a lead in the global efforts to deal with the volume, velocity and variety of data created each day," he said.

"To do this we need to ensure the government, academia and businesses work together to further develop the skills available to us today and actively support programmes that nurture development in the next generation."

With such a clear-cut support from the state and a huge hunger for solutions and understanding from the SMEs, we are confident that a market niche exists for start-ups from outside the UK providing big data solutions (including training and outsourcing) to the UK companies.

## **Biotechnology and medical technology**

MedImmune Ventures, a captive venture capital fund held by AstraZeneca (NYSE: AZN), closed a deal to buyout Spirogen, a University College London spinout. Spirogen develops anti-cancer therapy based on antibody-drug conjugates. The deal closed at \$440 million max, including \$200 million upfront and \$240 million in further instalments if Spirogen meets the development and submission milestones. Swiss-based ADC Therapeutics that licensed its technology to Spirogen received \$20 million in royalties<sup>v</sup>.

Oxford Immunotec (<http://www.oxfordimmunotec.com/>), an Abingdon-based immune-testing company, filed for IPO with amended brochure for sale of 5.4 million shares at \$13-\$15. At the average price, the company would raise \$75 million and be valued at \$229 million<sup>vi</sup>. JPMorgan, Piper Jaffray, Cowen and Baird are the underwriters of the IPO. As BioCentury reports, Oxford Immunotec is developing tests using its T-SPOT technology, which quantifies antigen-specific T cells. The company's T-Spot.TB test, an enzyme-linked immunospot (ELISpot) assay, is approved in more than 50 countries including the U.S. and those in the EU as an aid for diagnosing Mycobacterium tuberculosis (TB) infection.

Last week the Babraham Biotechnology Investment Forum passed and was deemed a great success by participants and organisers. The annual event, which brings together early-stage bioscience companies and potential investors, has been organised by Babraham Bioscience Technologies on the Babraham Research Campus by since 2006 and is currently run in partnership with Cambridge Enterprise and One Nucleus, a life sciences start-up association. Twelve companies made presentations to over 40 angel, VC and corporate investors. Companies were seeking funding between £150K and £3M to setup and grow their businesses. This publication recommends anybody interested in surveying the UK early biotech scene as well as getting acquainted with UK early stage companies and VCs to visit next year.

## **Chemical technology**

Professor Saiful Islam, a member of the Centre for Sustainable Chemical Technologies at the University of Bath, has published key results on new materials for sodium batteries in the recent issue of Energy & Environmental Science. Alternative sodium-ion batteries are attracting considerable renewed interest due to cost advantages and the relative abundance of sodium as compared to lithium. In

particular, new sodium-ion batteries are being developed for grid-scale energy storage of intermittent renewables (such as wind and solar), where low cost sustainable materials are crucial. Now Stephen Wood and Saiful Islam at Bath have gained important atomic-scale insights into a novel sodium fluorophosphates compound, which shows good electrochemical performance. Experts consider this a major advance and recommend the aforementioned research group for potential collaboration for entrepreneurs interested in novel battery materials.

## Engineering and aerospace

Two ADS Group members, GOM and DELCAM (<http://www.delcam.co.uk/>) join forces to improve data capture and processing for aerospace automation and in developing turnkey adaptive machining cells. These projects involve the development of geometric adaptive machine solutions for complex engineering tasks. GOM and Delcam staff have forged close working relations on creating detailed scan data on complex aerospace parts. The scan data is used to provide reference information for geometric distortion of complex components. This allows Delcam to develop geometrically adapted machine tool paths and highly automated solutions for the aerospace industry it is known for. It's anticipated this deal to have a lasting impact on the aerospace automation industry and to create a niche for other data capture providers as other automation companies would start seeking such partnerships.

The UK new Advanced Propulsion Centre, a £1 billion automotive research centre, have just launched its first £75 million competition for developers of low-carbon vehicle technology. The competition is co-funded by the government and industry and aims to support research, development and commercialisation of new automotive technologies to benefit the UK supply chain. As the business secretary, Dr Vince Cable put it in his statement, "by 2050, very few - if any - new cars will be powered solely by the traditional internal combustion engines so it is important that the UK car industry is at the cutting edge of low carbon technologies. The Advanced Propulsion Centre, launched as part of our Industrial Strategy, will help to position the UK as a leading innovator while also securing jobs and strengthening supply chains.' We consider this an excellent opportunity for international start-ups in the field to enter the UK ecosystem<sup>vii</sup>.

As The Engineer reports this week, the UK government has unveiled a plan to test the driverless cars in Milton Keynes, known for its American-style streets and avenues, by 2015. The government plans to invest £1.5 million into trial, building up to 100 operational driverless pods by 2017. Business Secretary Vince Cable said: 'Driverless cars are another invention that has the potential to generate the kind of high-skilled jobs we want Britain to be famous for,' said Cable. 'The car industry has gone from strength to strength... However, we must look at the long-term challenges and opportunities to ensure the sector continues to succeed and

grow.’ Initial collaborators on the project are engineering consultancy firm Arup, Transport Systems Catapult, The Automotive Council, and Cambridge and Oxford Universities. Experts suggest those who act in this field to treat this pivotal trial as a serious milestone in UK’s commitment to high-value automotive industry.

## **Advanced materials**

Warwick University together with the Warwick Manufacturing Group have announced the creation of £4.1 million International Institute for Nanocomposites Manufacturing<sup>viii</sup>. This is the first such institute in the world. The Institute will exploit polymer-processing techniques, which will enable industry to innovate their manufacturing technologies to produce polymer Nanocomposites. It will focus on the manufacture of Nanocomposites by adopting a holistic approach. Through synthesising and functionalising nanoparticles and incorporating such particles into polymers, using innovative manufacturing techniques industry will be able to scale up and commercialise products with added functionality. WMG is notably active in university collaborations this year, having co-financed the £100 million National Automotive Innovation Campus<sup>ix</sup> and the £2.3 million Automotive Composite Research Centre<sup>x</sup>. It’s anticipated a large outflow of high-quality IP in the advanced materials for automotive and aerospace to flow out of these joint research centres within next five to seven years.

## **Energy efficiency**

Following the instability of the European renewable energy market and the associated failure of the Emission Trading System (EU ETS), the UK is increasingly becoming a safe haven for the renewable energy VC investors. According to the statistics recently released by the alternative investment data provider Prequin, the investors in the UK have closed 19 deals totalling £267.3 million within the last ten months of 2013 alone. This is a sharp rise from 2012’s 23 deals totalling only £162.2 million.

On the other hand, Ian McCarlie of Pinsent Masons noted in his commentary for Out-law.com: “Increased regulatory uncertainty and market reform could easily deter investors who will deploy their capital to other markets – capital can easily travel,” he said. “We need to remember that this is a global competition: yes, the UK may retain attractiveness comparative to Europe, but investors also have the option to look at projects with significant scale in Asia Pacific, Africa and the Middle East. We can’t afford to rest on our laurels.”

The Government’s draft Energy Bill (307-page / 1.9MB PDF) is an important step in guaranteeing the investment environment in the renewable energy. The bill proposes replacing the current Renewables Obligation, which offers banded support to reflect the changing costs of different technologies over time, with a new system

of feed-in tariffs with contracts for difference (FiTs CfDs). These will offer producers of low carbon power a fixed price for energy supplied to the National Grid, with payments made with reference to a technology-dependent 'strike price' and a market reference price.

All the interested parties could address it with their comments through industrial organisations and the public hearings by the House of Commons Climate Change Commission<sup>xi</sup>.

## UK Universities and Regulatory Environment

This autumn the submission of research papers is finalised for the next Research Excellence Framework (REF 2014), the new system for assessing the quality of research at the UK higher education institutions. The REF recently replaced the previous system (Research Assessment Exercise, RAE) and will be completed in 2014 for the first time. Most of the top UK universities, especially University of Edinburgh, launched large scale hiring programmes prior to the completion of REF to attract mid- to senior-level researchers who are monitored by REF and therefore increase its rating. This publication considers this a positive sign despite it being purely artificial and anticipates an increase in the quality of research as well as generation of intellectual property in the key areas of UK university science, including advanced materials, biomedical technology, information and communications technology and aerospace.

<sup>i</sup> <http://www.cambridgeinnovationcapital.com/news/2013/oct/10/50-million-long-term-capital-support-cambridge-tec/>

<sup>ii</sup> (<http://www.ceps.eu/book/mass-surveillance-personal-data-eu-member-states-and-its-compatibility-eu-law>)

<sup>iii</sup> <http://www.arm.com/about/newsroom/arm-launches-interactive-platform-to-spark-collaboration-and-innovation.php>

<sup>iv</sup> <http://www.sas.com/offices/europe/uk/downloads/bigdata/eskills/eskills.pdf>

<sup>v</sup> <http://uk.reuters.com/article/2013/10/15/us-astrazeneca-spirogen-idUKBRE99E03Y20131015>

<sup>vi</sup> <http://www.nasdaq.com/article/tuberculosis-diagnostics-company-oxford-immunotec-sets-terms-for-75-million-ipo-cm298550>

<sup>vii</sup> <https://www.innovateuk.org/-/advanced-propulsion-centre-building-uk-manufacturing-strength-in-low-carbon-vehicles>

<sup>viii</sup> [http://www2.warwick.ac.uk/newsandevents/pressreleases/university\\_of\\_warwick\\_to\\_create\\_new\\_16341m\\_international\\_institute\\_for\\_nanocomposites\\_manufacturing1/](http://www2.warwick.ac.uk/newsandevents/pressreleases/university_of_warwick_to_create_new_16341m_international_institute_for_nanocomposites_manufacturing1/)

<sup>ix</sup> [http://www2.warwick.ac.uk/newsandevents/pressreleases/16392\\_million\\_national/](http://www2.warwick.ac.uk/newsandevents/pressreleases/16392_million_national/)

<sup>x</sup> <http://www2.warwick.ac.uk/fac/sci/wmg/about/capitalprojects/acc/>

<sup>xi</sup> <http://www.out-law.com/en/articles/2012/october/uk-renewables-increasingly-a-safe-haven-for-venture-capitalists-expert-says/>