Virtual and Augmented Reality Innovation Contest

Your chance to innovate

This £210K IC tomorrow contest seeks to encourage innovation in virtual and augmented reality technology.

Virtual reality (VR) and augmented reality (AR) are exciting technologies at an early stage of development. We are looking to provide support to businesses that want to apply these technologies in new and untested areas.

Innovate UK is offering up to six businesses a maximum of £35,000 each to encourage innovation around VR/AR across the themes of music, retail, healthcare, education, construction and tactile technology.

The contest

The recent re-emergence of VR and AR has caused enormous excitement across a wide range of sectors. The application of such technologies – not just for entertainment or information-sharing, but also in more technical and industrial contexts – offers users entirely new ways of perceiving and interacting with the digital world.
Through our IC tomorrow programme, we are looking for proposals from companies with innovative digital ideas relevant to developing these immersive technologies. The companies will not only benefit from funding, but also the opportunity to collaborate with commercial partners to accelerate development of their technologies.

We want to see solutions with potential appeal to a wide commercial market. Successful applicants will be expected to trial their proposed solutions with their industry partners for at least three months.

Apply now to:

- trial your technology with major industry players while keeping your intellectual property
- secure up to £35,000 to develop your solution
- receive promotion, support and advice to speed up the commercialisation of your solution.

Application deadline: 12 noon on Tuesday 18 August 2015

Register & Apply
Contest Brief
Guidance for Applicants
Non-destructive evaluation

This MOD call seeks proposals for novel ideas, innovative technologies, concepts and solutions to optimise Non-Destructive Evaluation (NDE) capabilities; particularly compact, portable and deployable solutions that improve operating capability and drive supply chain and inventory efficiencies.

Up to £1M is available for Phase 1 of this two phase competition funded by the Ministry of Defence (MOD).

The mission of the MOD’s Defence Equipment and Support (DE&S) is “To equip and support our Armed Forces for operations now and in the future.” DE&S is responsible for procuring and supporting all the equipment and services for the UK Armed Forces.

Non-Destructive Evaluation (NDE) is the generic term for inspection methods that permit the examination of materials, structures and components without causing any damage that render them unfit for use. Standard methods already used on military air vehicles include radiography, ultrasound, eddy current, magnetic particle and penetrant flaw detection. However across Defence, many other systems and subsystems are tested to destruction, for example soft armour, helmets and ammunition.

This challenge seeks innovative concepts that could improve NDE within the deployed and fixed environment and provide a mixture of the following benefits:

• Accurately measure/monitor equipment/components to optimise maintenance plans.
• Reduce inventory costs by applying non-intrusive system monitoring.
• Improve operational agility by reducing the logistical burden.

These may address one or more of the following three themed areas:

Open theme - we will pursue exploitation of any appropriate NDE concepts under this theme

1. Airworthiness – a specific opportunity exists to develop an approach or technology that would permit the assessment of aircraft fuel and hydraulic seals in-situ.

2. Individual Protection - including three specific areas; soft body armour, hard body armour and helmets

MOD are particularly interested in compact, portable and deployable solutions that improve operating capability and drive supply chain and inventory efficiencies.

Phase 2 funding to develop working prototypes will be available for those projects that demonstrate the greatest potential at the end of the Phase 1 contract.

This competition opens on Monday 22nd June and will close at 12 noon on Wednesday, 19th August, 2015.

Register & Apply

Guidance for applicants
Support phone number: 0300 321 4357

Competition brief For any queries related to the technical aspects of this call please email: DESTECH-TechOfficeCCE1a@mod.uk
Innovate UK is to invest up to £8 million in collaborative R&D projects to stimulate the development of regenerative medicines and cell therapies in the UK.

The aim of this competition is to address the challenges of developing regenerative medicines and cell therapies as clinical treatments and commercial products. We are seeking proposals that advance the development and commercialisation of novel regenerative medicines and cell therapies. The focus is on the preclinical testing, clinical development and manufacture of regenerative medicines and cell therapies, and the development of underpinning tools and technologies.

Proposals must be collaborative and led by a business. We expect to fund mainly industrial research projects. Small businesses could receive up to 70% of their eligible project costs, medium-sized businesses 60% and large businesses 50%.

We expect projects to range in size from total costs of £500,000 to £2.5 million, although we may consider projects outside this range.

This is a two-stage competition that opens for applicants on 8 July 2015. The deadline for expressions of interest is at noon on 2 September 2015.

Registration is required to enter this competition. Please note that registration will close 1 week before the competition application deadline.

Register & Apply
Full competition brief
Guidance for applicants
Support phone number: 0300 321 4357
Venturefest - Invest, Innovate, Grow! - Manchester, 22 September 2015

Venturefest returns to Manchester in September, with its unique brand of inspirational speakers, interactive workshops and the chance to network with some of the region’s most successful business leaders.

Organised by the Business Growth Hub, with support from Innovate UK and the Knowledge Transfer Network, Venturefest 2015 is all about technology and innovation, and the ways in which they can help companies to grow.

Venturefest offers a unique opportunity for entrepreneurs, investors and innovators to chat informally, share ideas and develop new partnerships. There’s also the chance to tap into the expertise offered by the Hub and its partners, and take advantage of advice from organisations that understand business and what makes it tick.

For more information on this event please visit: http://venturefestmanchester.com/

Book Here Now
AURIL2015
London, 8 - 9 October 2015

2015’s AURIL Annual Conference will take place on the 8th and 9th October at the Barbican in London. The conference will cover a wide variety of topics through a mixture of plenary and breakout sessions.

The AURIL Conference is a key event in the KE calendar and provides an unparalleled opportunity to network with the community.

Speakers

Professor Richard Jones Pro-Vice Chancellor for Research and Innovation, University of Sheffield and author of “The UK’s Innovation Deficit & How to Repair it”.

Professor Jonathan Grant Director, Policy Institute at King’s and author of “The nature, scale and beneficiaries of research impact”.

Professor Stephen Caddick Director of Innovation at the Wellcome Trust

Charlotte Keenan, Head of Corporate Engagement EMEA, Goldman Sachs

Dr Marco Malacarne, Head of Department “A – Operations” - at the Executive Agency for Small and Medium Enterprises (EASME) of the European Commission, Brussels

Dr Mike Short, CBE Vice President, Telefonica

You can register to attend here

Contact Details:
Alasdair Cameron
0141 548 4765
Email the AURIL Office
The STFC Network, GeoRepNet, will hold its third conference in Edinburgh focusing on exploring all aspects of high technology transfer into geological repositories and other deep subsurface facilities and laboratories. Talks in all areas of high technology are welcome, particularly in STFC areas such as astronomy, particle physics and planetary sciences instrumentation. Of particular interest are examples of how technology can be transferred from these areas into the monitoring and characterisation of deep subsurface facilities and geological repositories or how high technology can be used in underground science facilities and other subsurface environments. This meeting also aims to create a legacy for GeoRepNet by generating an international community working on understanding processes in geological repositories and generate new groups working on proposals.

About GeoRepNet: The disposal of waste, including nuclear waste (from the nuclear power industry and other nuclear applications) and carbon dioxide (to reduce carbon dioxide emissions and associated greenhouse warming) constitutes one of the major environmental technical challenges of the 21st Century and has great importance on the national and international level. By funding and bringing together researchers involved in high technology transfer, GeoRepNet seeks to enhance the links between high technology and subsurface exploration.

There is no registration fee and registrants selected for talks will have travel and accommodation costs paid. Talks and posters are welcome.

Registration deadline is September 15, 2015.

For further information and to register visit: http://www.astrobiology.ac.uk/georepnet2015/

Confirmed speakers:
Katharine Hollinshead (STFC); Wouters Katinka (SCK CEN);
Claire L Corkhill (University of Sheffield); Graeme Hansford (University of Leicester);
Joanna Wragg (BGS); Lee Thompson (University of Sheffield);
Nick Smith (NNL); Simon Harley (University of Edinburgh); Matt Gunn (University of Aberystwyth); Adrian Jones (DCO); Beverly DeJarnett (DCO).

Geological repositories, subsurface labs and other subsurface environments:
High technology transfer - Edinburgh, 12 - 14 October 2015
EuCARD-2 workshop on applications of thermal management materials - CERN, Switzerland, 6 November 2015

In the framework of EuCARD-2, an ambitious research program has been undertaken to investigate, process and characterise novel composite materials. These are intended to combine optimum mechanical, thermal and electrical properties, such as mechanical strength, melting temperature, thermal shock resistance, electrical conductivity, and energy absorption.

These materials are of particular interest for thermal management applications such as high power density electronic packaging, aerospace, automotive, nuclear fusion and solar energy. This EuCARD-2 meets industry event aims to bring together experts in the research and industrial sector, to exchange ideas on the latest developments in design, manufacture, testing and applications of Thermal Management Materials.

EuCARD-2 is co-funded by the partners and the European Commission under Capacities 7th Framework Programme, Grant Agreement 312453.

http://eucard2.web.cern.ch/

Registration for this event is now open and closes on 25 October 2015

For more information contact: Dr Tim Tsarfati at CERN or Dr Vlad Skarda at STFC

Register now
Outstanding innovation showcased in parliament

The UK’s unique ecosystem of collaboration between universities and industry is delivering outstanding examples of innovation, but to go on doing so it must be nurtured, speakers told an audience at a parliamentary reception on 7 July organised by the IOP and the Royal Society of Chemistry (RSC).

At the event, sponsored by Lord May, the IOP and the RSC launched two publications, Inspirational physics for a modern economy and Inspirational chemistry for a modern economy, which detail examples of research originating in universities that is being used to address technological and societal challenges. These were taken from impact case studies of work submitted to the Higher Education Funding Council for England’s Research Excellence Framework (REF) in 2014.

Addressing an audience of MPs, peers, and individuals from academia and industry, the IOP’s vice-president for science, Professor Tom McLeish, said the system that links business, universities, research institutes and industry would be very easy to destroy and very hard to recreate. He said: "The UK has a unique, interdisciplinary ecosystem of innovation between global businesses and universities that we must nurture if it is to deliver the innovation-based supply chains, manufacturing and exports of tomorrow."

The RSC’s president, Dominic Tildesley, said science was a vital driver for growth in the UK economy, delivering an annual return of 20p or 30p for every public pound invested. Innovation required basic, fundamental research, he said, adding: "We need to ensure that we continue to build a truly world-leading, knowledge-based economy."

Nicola Blackwood MP, who in June became the new chair of the Commons Science and Technology Select Committee, said science-based innovation was producing jobs and growth and tackling the great challenges facing our world. Speaking on the eve of the Budget, she told the audience that she could not simply go to the Chancellor and say “you must spend more on science”, but she could try to ensure that the case for science was heard in the “white noise of Budget campaigning.”

As a new MP in 2010 she had been confronted by the anger of young people who felt that their futures had been sold down the river by politicians and she knew that it was her job to come to Westminster to try to fix it, she said. “You have to balance the books so that you can get back to growth and jobs and to a life worth living. As a new MP you discover that economic security underpins all other policy decisions,” she said. However, she was aware that in her constituency of Oxford West and Abingdon, and in similar constituencies that were centres of innovation, innovative businesses faced skills shortages and recruitment and retention issues because of the lack of affordable housing and the need for an improved digital and transport infrastructure.

Among the case studies in Inspirational physics for a modern economy, which is available on the IOP’s website, are examples of innovative spin-outs in aerospace, defence and security at the universities of Southampton and Swansea and University College London; innovations in the energy sector underpinned by research at the universities of Bristol, Glasgow and Oxford; healthcare solutions developed from research at the universities of Leeds, Nottingham, Kent, St Andrews, Dundee and Bath; and manufacturing and commercial innovations made possible by research at the universities of Southampton, Strathclyde, Durham, Bath, Edinburgh, Cambridge and Royal Holloway, University of London.
The power of science to inspire young people was celebrated on 8 July by HRH The Duke of York, KG, who formally opened a week-long festival of science, technology and engineering at the Harwell Campus, for which he is Patron.

The Duke, who is also Patron for the International Year of Light, took the opportunity to view The Incredible Power of Light exhibition which showcases STFC’s Vulcan, one of the most powerful lasers in the world, and hear about some of the facilities that harness the power of light – such as the Diamond Light Source.
During his visit The Duke met with young graduates and apprentices who work on the site, as well as some of the 1,500 students and teachers from Oxfordshire schools who were taking advantage of the Open Day to see what goes on behind the, usually closed, campus doors.

Announcing the start of the Harwell Open Days to an audience filled with young people, The Duke said, "There are scientists doing all sorts of wonderful things, but they couldn’t do them without the engineers to make it happen. What I’m interested in is trying to encourage that coincidence of activity where young people are inspired to think not only of science but also of engineering, as tools with which they can actually do something constructive." He added, "Science and engineering requires flexibility, it requires outside-the-box thinking, and that is something that this organisation tries to nurture and find."

Many of the science and engineering staff who currently work on the Harwell site used to attend some of the same schools that were visiting today. "Our open days are a great opportunity to inspire young people who may not even have considered a career in science and engineering," said Dr Andrew Taylor, STFC’s Director of the National Laboratories. "The cutting edge research we do here at Harwell depends on the skills of the outstanding engineers and technicians, who build, maintain and operate our unique facilities. There is a great opportunity for young people to join us and be trained through our apprenticeship scheme in electrical, electronic and mechanical engineering."

Professor John Womersley, STFC’s Chief Executive, and Dr Taylor accompanied The Duke as he toured the exhibits and facilities on the site.
New space science laboratory offers £27.7m boost to UK’s space industry

9th July marked a giant leap for the UK space industry as 2 major new space facilities are opened at the UK Space Gateway in Oxfordshire including the new STFC RAL Space integration and test facility ‘R100’.

Speaking at the inauguration event the Minister for Universities and Science Jo Johnson said: “With the heritage of the Rutherford Appleton Laboratory it would be hard to find another facility that has done more to establish the credentials of UK space science. We set the standard for space science technology and British ingenuity is helping mankind look back at the formation of our universe to see the first stars and galaxies, and nothing could be more exciting or thrilling than that. And space science is of course not just an end in itself, but as one of our 8 great technologies satellite technology underpins so many of our key industrial sectors. This new facility means the UK now has one of the best testing facilities anywhere in the world, and I’m delighted to be part of the opening of the R100 Development and Test Facility today.”

Dr Chris Mutlow, Director of RAL Space said: “Our new integration and test facility provides capability for the needs of the next generation of spacecraft and instruments, and will contribute to the growing community of space focussed businesses, capabilities and skills located at the Harwell Campus space Gateway. Our R100 building is a major expansion of our test facilities; including two new 5m diameter Space Test Chambers along with a vibration facility, clean rooms and AIV (Assembly, Integration and Verification) control room. With Phase 2 of the project currently expected to be completed by June 2017 these are incredibly exciting times to be working at RAL Space.”

The first instrument to arrive for calibration in Phase 1 of this new state of the art facility will be the ESA Sentinel 4 UVN (Ultra-violet/Visible/Near-infrared) instrument, which is destined for geo-stationary orbit forms part of Copernicus, the European Earth observation programme.

Also the day saw the opening of the new ECSAT building – the European Space Agency’s (ESA) home in the UK. ESA’s UK Facility has been developing steadily since 2008, following the UK government’s decision to increase its contribution to ESA and the new building will host 120+ jobs including teams in telecommunications and integrated applications. Special emphasis will be put on the development of new markets for satellite-based services and applications. The building will also house the Earth Observation Climate Office, Science and Exploration teams and Technology and Quality Management teams supporting ESA research and development programmes in the UK, focusing on ‘game-changing’ technologies and capabilities.
Chameleon satellite to revolutionise telecom market

Telecom satellites are set to enter a new age, as ESA, Eutelsat and Airbus Defence & Space begin designing the most flexible payload ever.

The Quantum programme is a departure from the traditional, custom, one-off approach to building satellites by offering a new and generic payload design. For the first time, it will enable users to request the performance and flexibility they need in terms of coverage, bandwidth, power and frequency. The satellites developed under the Quantum umbrella will be cheaper and quicker to build compared to current methods by using generic subsystems and equipment, enabling larger-scale production and more efficient control of stock.

Quantum will also be able to completely transform in orbit. Once in space, the chameleon-like satellite can adapt to new commands in coverage, frequency band, power use and even change its orbital position. This will make it the first generation of universal satellites able to serve any region of the world and adjust to new business without the user needing to buy and launch an entirely new satellite.

This ability to mirror or complement another satellite anywhere in geostationary orbit will transform fleet management and result in a significantly more efficient use of resources. Quantum is a public–private partnership (PPP) between ESA, leading satellite operator Eutelsat and Airbus Defence & Space (UK). The partnership ensures the three parties share risks and funds.

The first Quantum satellite will be delivered in 2018 and operated by Eutelsat to serve government, mobility and data markets. Airbus DS will be the prime contractor, using a new platform from Surrey Satellite Technology Limited (GB). Both developments are supported by the UK Space Agency.

Magali Vaissiere, ESA Director of Telecommunications and Integrated Applications, said: “The Quantum programme is another excellent PPP example. Industry benefits from a new type of satellite in a highly competitive and risk-averse market, the satellite operator benefits from the satellite’s advanced features and the ESA Member States who invested in Quantum are ensured maximum return on their support through the development of their respective industries.”

Michel de Rosen, Chairman and CEO of Eutelsat, noted: “Eutelsat Quantum is the first of a new generation of satellite that has agility, adaptability, responsiveness and performance at its core. It is the culmination of many years of research and evaluation driven by Eutelsat and marks a new age of maturity for the commercial satellite business. We are proud to be spearheading this initiative in partnership with ESA and Airbus DS with the support of the UK Space Agency.”
“Quantum is the first satellite that can be fully reconfigured in orbit,” added François Auque, Head of Airbus DS Space Systems. “In other words, Eutelsat will be able to modify parameters such as frequencies, footprints and the distribution of the satellite’s allocated power, even after its launch. With Quantum, Airbus DS delivers yet another innovation to Eutelsat, marking a breakthrough in the area of telecommunications satellites, after already delivering innovations in the area of electric propulsion on Eutelsat-172B and the provision of internet via satellite with Ka-Sat.”

UK Minister for Universities and Science Jo Johnson said: “Space is a great British success story and this partnership between Airbus Defence and Space and Eutelsat to build cutting-edge telecommunications satellites here in the UK is testament to that. Our investment in collaborative space science means the UK has the know-how and technical expertise to provide exciting and innovative space solutions that will drive growth and create jobs.”

The signing of the PPP took place at the newly inaugurated Roy Gibson Building, the new home of the European Centre for Satellite Applications and Telecommunications (ECSAT), ESA’s centre in the UK.
16,000 fans of science visit Harwell Campus on its first open day in over a decade

On Saturday 11th July Harwell welcomed around 16,000 people from all over the UK and even further afield who were all very keen to take a peek behind the scenes at Harwell Campus in Oxfordshire.

The Science and Technology Facilities Council, the Diamond Light Source and the Harwell Campus Partners opened the doors to some of the world’s most spectacular and powerful science facilities for the first time in 15 years. The campus is not usually open to the public simply because it is a working science facility housing very powerful instruments.

This was a once in a generation opportunity for the visitors to see the breadth of science and engineering that public investment pays for at Harwell as well understanding a little of why this work is so important and to understand the impact this science has on their own lives.

It was also a perfect opportunity for the research staff at the Harwell campus to inspire and encourage more than 5,000 young people who joined us on Saturday to consider taking up subjects that will enable them to become our next generation of scientists, engineers and technicians. More importantly it allowed us to explain that they don’t always have to go to university to do this, but could become apprentices right here at Harwell.

Particularly popular areas of the Harwell site included the ISIS Neutron and Muon Source, which is used for a huge variety of science, from designing new medicines to testing materials used in aircraft; and the Diamond Light Source with its iconic silver ring that houses the UK’s Synchrotron. These facilities each received more than 4,000 visitors.

Dressing up as a scientist Credit: STFC
16,000 fans of science visit Harwell Campus on its first open day in over a decade

Visitors also had an opportunity to take a ‘selfie’ with a gigantic cast of a Gorgosaurus dinosaur skeleton and over a 1,000 people got to star in their own Matrix-style ‘frozen time’ film sequence with the Technology team’s time-slice camera. They burst 2,500 balloons using lasers, produced 10 litres of slime and devoured 7kg of marshmallows which they were using to construct models of atoms. In the control room for Vulcan, one of the world’s most powerful lasers, 216 people experienced the thrill of firing the laser in a simulation created for the day.

By the end of the day the feedback from the very many visitors speaking to our staff showed that we had captured people’s imaginations and that they now knew a lot more about lasers, protons, the engineering challenges of building and maintaining the site and of how to explode balloons with a laser beam!

One child was overheard saying to his mum that “this place is better than Legoland!” and another child left a message on one of our mood boards that he, or she, ‘would like to work here one day.’

The final verdict? Science is awesome!
PraxisUnico Conference 2015: presentations and reports

The 2015 conference was the biggest ever, with more than 390 delegates from over 160 organisations, representing 11 countries, coming together in Dublin from June 10-12.

We are already looking ahead to the 2016 Conference which will take place in the home of Shakespeare, Stratford-Upon-Avon, from June 15-17.

Booking will open in early 2016, but if you are interested in volunteering to help run the conference or in sponsorship, please contact info@praxisunico.org.uk

Conference presentations can be found here
External Innovations and Innovations Club

The External Innovations team manages the activities that aim to realise the impacts and benefits that flow from STFC’s investments in science and technology towards commercialisation through one to one brokering, events and a range of funding schemes.

If you wish to contact the teams for more information please see the following contacts and email addresses.

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The Innovations Club newsletter contains a selection of articles drawn from our partner organisations that we think you will find interesting. We welcome your comments innovationsclub@stfc.ac.uk