

# Press release: UKRI launches in Wales

Taking Welsh innovation from discovery to commercialisation

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Harnessing Wales' rich research and innovation heritage is vital to our future global trading success – this will be the clear call from the Secretary of State for Wales Alun Cairns at the launch of UK Research and Innovation (UKRI) in Wales today.

The Secretary of State will be joined by UKRI chief executive Professor Sir Mark Walport at the event in Techniquest in Cardiff to introduce the new organisation to Wales, and to underline the UK Government's continued commitment to supporting ground-breaking research and innovation in Wales.

Harnessing the diverse and ambitious research and development landscape in Wales is vital to the success of UKRI. From turning buildings into sustainable power stations and plastic-fuelled cars, to Alzheimer's medication from daffodils and a genetics and genomics centre tackling the UK's health, the breadth and depth of the innovative work in Wales plays a major role in fuelling the success of the UK on the world stage.

The launch event falls in the week leading up to the one year anniversary of the publication of the UK Government's modern Industrial Strategy.

UK Research and Innovation (UKRI) plays a central role in the strategy, providing a single and stronger voice for UK researchers and innovators, and working closely with partners in academia, with business and with government to surface the most exciting ideas and opportunities, and to take them on the journey from discovery to commercialisation.

### **Secretary of State for Wales Alun Cairns said:**

Right across Wales, UK Government funding in research is yielding incredible results which are helping to build a greater understanding of the world we live in, as well as creating the next game-changing technologies and innovations.

But we all need to do more if we are to support Wales' transformation into a well-spring of innovation that could irrigate the whole of the British economy. This is where UKRI stands ready to support. Wales must now capitalise on this all-new powerhouse backing British innovation, and work together with our universities

and with the Welsh Government to drive partnerships between the best minds in research and business, and help to put Wales and the UK at the forefront of the industries of the future.”

UK Research and Innovation was formed on 1 April 2018 by bringing together seven Research Councils, Innovate UK and Research England. It is the body that will help deliver on the UK Government’s commitment to invest £7 billion in new public funding for science, research and innovation. It will also aim for the goal of research and development investment reaching 2.4 per cent of GDP by 2027 – more than ever before.

### **UKRI investment in Wales includes:**

- 264 active research grants with a value of over £187 million
- 351 companies funded, with 261 active grants worth £98 million
- Supporting more than 860 researchers across UKRI

### **Some examples of the exciting innovation taking place in Wales with support from UKRI include:**

#### **Buildings as power stations**

A new Active Building Centre (ABC) at Swansea University aims to remove barriers and accelerate market adoption of new solar-powered building design. The ABC builds on the successes of the SPECIFIC Innovation and Knowledge Centre, also based at Swansea – a ground-breaking project to turn buildings into power stations, bringing significant environmental and economic benefits. The UK Government has invested over £150million in R&D at Swansea University since 2010.

#### **Discovery of gravitational waves opens entirely new areas of science**

In 2016 the Laser Interferometer Gravitational Wave Observatory (LIGO) international science collaboration announced the first-ever direct detection of gravitational waves – the final remaining unconfirmed major component of Einstein’s general theory of relativity. The work was awarded the 2017 Nobel Prize for Physics, with the UK, including Cardiff University, playing a key role in the technological and computing advances that enabled the advance.

This was followed, in October 2017, by the announcement of the detection of a neutron star collision. The aftermath was also observed by space and ground-based telescopes – the first detection of both gravitational waves and electromagnetic radiation.

#### **Behavioural neuroscience improved firefighter decision-making**

A rapid mental checklist has been developed by behavioural neuroscientists to ensure firefighters make the best decisions on the job.

The research at Cardiff University underpinned changes made to the national

guidance provided to Incident Commanders in the UK Fire and Rescue Services. The new decision control process has also been incorporated procedures used when UK emergency services come together to tackle large complex incidents.

Dr Sabrina Cohen-Hatton, now Deputy Assistant Commissioner with London Fire Brigade, began her research whilst working for the South Wales Fire Service in the city. Her study with the School of Psychology showed commanders often rely on intuition under pressure, regardless of whether a situation was complex or routine.

## **Welsh daffodils provide Alzheimer's medication**

A sustainable Alzheimer's medication has been developed from daffodils grown in the Welsh Black Mountains. Agroceutical Products, co-founded by Welsh businessman Kevin Stephens, produces sustainable quantities of naturally derived Galanthamine – an alkaloid (a member of a large group of chemicals that are made by plants and have nitrogen in them) that, when isolated, has been found to effectively treat vascular dementia and Alzheimer's.

It works by inhibiting an enzyme that leads to the cognitive impairment found in Alzheimer's patients. However, natural galanthamine is hard to source due to the difficulties in cultivating flowers that produce enough of the alkaloid. This has led to a worldwide supply that's almost exclusively synthetic – and has associated side effects. Agroceutical Products could have the answer, processing galanthamine from daffodils grown on Kevin's family farm in Glasbury-on-Wye in Powys.

## **Electric car battery life extended by 50%**

Caerphilly-based Deregallera is developing a new hybrid energy storage system to extend the life of an electric vehicle battery by 50%. The project is funded through the Faraday battery challenge, which is part of the Industrial Strategy Challenge Fund.

## **Sustainable jellyfish collagen plant**

Wales-based marine biotechnologies business Jellagen is to step up sales of its next-generation jellyfish collagen products after attracting £3.8 million from investors.

The company is the first commercial manufacturer of jellyfish collagen for cell culture and medical applications including wound care and regenerative medicine. Set up in 2017 with support from UKRI's Innovate UK, the 7,500 square foot facility serves the research, medical, biotech and pharmaceutical markets.

Collagen is the most abundant protein in the human body and provides structural support for cells in the body's tissues and organs. It has been used in medical device and research applications for many years. It is usually sourced from pigs, cows, rats and horses.

## **Creative Clusters**

A collaboration between government, universities, all major Welsh broadcasters and more than 60 screen industry businesses will see researchers work on ways to help the already thriving film and television industry in South Wales reach its full potential.

The Creative Industries Clusters Programme, which is part of the UK Government's Industrial Strategy, is an £80 million investment into collaboration between the UK's internationally-renowned creative industries and universities from across the UK.

## **World-leading neuroscience**

Scientists have discovered 50 new gene regions that increase the risk of developing schizophrenia. They have also used state-of-the-art information about brain development to accurately pinpoint new genes and biological pathways implicated in this disorder.

In the largest study of its kind, researchers at UKRI's Medical Research Council Centre for Neuropsychiatric Genetics and Genomics at Cardiff University examined genetic data in 100,000 individuals including 40,000 people with a diagnosis of schizophrenia and found that some of the genes identified as increasing risk for schizophrenia have previously been associated with other neurodevelopmental disorders, including intellectual disability and autism spectrum disorders.

## **Energy Safety Research Institute**

The Energy Safety Research Institute at Swansea will use the university's existing strengths in the energy sector with a unique focus on Safety Research. Supported by UKRI's Research England, the institute will be built on the industry-facing Science and Innovation Campus, and sponsored by the College of Engineering. The nature of its research will draw on long-term strengths in petroleum and chemical processing, in particular computational science (rock fracture modelling and 'fracking') and corrosion.

The centre will bring this together with more recent capabilities, including: marine energy, nuclear, tidal, advanced water treatment ('fracking' post-treatment and separation), materials, crisis management, more novel areas such as Photo Voltaic (PV) and Nanotechnology.

The project will include the design and construction of a new 3500m<sup>2</sup> building. This will be designed to develop the quality and scale of the university's research efforts in this area. The focus on safety will look at developing and expanding existing energy processes, and the safe deployment and integration of new 'green' energy technologies. The combination of research into energy with a focus on safety reflects the university's research strengths, and the significant position of Wales in the UK energy market.

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## [Press release: Crack down on suppliers who don't pay on time](#)

Minister for Implementation Oliver Dowden announces for the first time, failure of companies to demonstrate prompt payment to their suppliers could result in them being prevented from winning government contracts.

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- Companies supplying to Government could be prevented from winning government contracts if their suppliers are not paid on time
- The government is levelling the playing field for small businesses bidding for government contracts
- Minister says: "Paying invoices on time is vital for smaller businesses who are the backbone of the UK economy"

A new prompt payment initiative to ensure all Government suppliers and subcontractors benefit from being paid on time, is being announced today.

For the first time, failure of companies to demonstrate prompt payment to their suppliers could result in them being prevented from winning government contracts.

Coming into force in Autumn 2019, this will ensure the government only does business with companies who pay their suppliers on time, many of which are small businesses. The move will promote a healthy and diverse marketplace of companies providing public services.

Cabinet Office Minister, Oliver Dowden said:

Companies providing crucial services to the public sector, like supporting prisons and delivering road infrastructure projects, must be paid on time.

Paying invoices promptly is vital in providing healthy cash flow, particularly for smaller businesses who are the backbone of the UK economy, to help them survive and thrive.

From next year, if government contractors are late with supplier payments, they could stop winning public contracts altogether – until they clean up their act.

Martin McTague, Policy and Advocacy Chairman for the Federation of Small Businesses (FSB), said:

This measure will get the thumbs up from the small business community. This sends a clear message from Government that paying late is not okay.

Cracking down on big businesses supplying to Government, and not paying on time, is a win for small businesses, tax payers, the wider economy and public services. Measures to open up public procurement give tax payers and our public services access to the innovation and value small firms bring, as well as helping our economy. This is a challenge, and there is, of course, more to do, but FSB recognises the policy progress that is being made.

We have been pushing hard for this reform and it is good to know that the Government is listening. We will continue to work with the Government on this and further measures to drive out late payment from Government supply chains once and for all.

James Roberts, Political Director of the TaxPayers' Alliance, said:

Getting involved in public procurement is a tough gig for small firms. In the past, bigger contractors have dragged their feet when paying smaller suppliers, causing them cash flow problems and leaving SMEs hesitant to take the work.

These proposals finally do something about that. Making the process more small business friendly delivers the double whammy of driving down costs and supporting enterprise. Taxpayers should welcome these changes, which will ultimately mean more competition, lower costs and better services.

To demonstrate the government's commitment to helping small businesses and to mark Small Business Saturday, it will also update its supplier complaints service to ensure business voices are heard.

Formerly called Mystery Shopper, the free and anonymous complaints service – now called the Public Procurement Review Service – helps suppliers of all

sizes raise complaints and concerns about procurements they're involved in or about the conduct of contracting authorities.

Since 2011, the service has helped speed up payment of over £5.2m stemming from Government contracts.

This follows the government's further measures announced in recent months to level the playing field for small businesses bidding for government contracts. This includes the ambition to pay 90% of government's undisputed invoices within 5 days and requiring suppliers to advertise opportunities worth over £5m on the Contracts Finder website.

Additionally, the Prime Minister has appointed a Small Business Champion minister in each government department to oversee a robust action plan to help us meet our aspiration of spending one pound in three with SMEs by 2022.

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## **Press release: 'Pint sized' Scottish satellites launched into orbit**

The Glasgow built satellites, funded by the UK Space Agency will monitor weather and help combat global climate change.