

New fusion test facility to open in Yorkshire

The facility will see UKAEA working with industrial partners to put the UK in a strong position to commercialise nuclear fusion as a major source of low-carbon electricity in the years ahead.

Located at the heart of the UK's advanced manufacturing region, the UKAEA base will bring 40 highly-skilled jobs to the South Yorkshire area, and foster increased collaboration with research organisations including the University of Sheffield Advanced Manufacturing Research Centre (AMRC), and the Nuclear Advanced Manufacturing Research Centre (NAMRC).

It will be sited at the Advanced Manufacturing Park, whose existing occupiers include Rolls-Royce, McLaren Automotive and both the AMRC and NAMRC. It will be funded as part of the Government's Nuclear Sector Deal delivered through the Department for Business, Energy and Industrial Strategy. An additional £2M of investment is coming from Sheffield City Region's Local Growth Fund.

The key role of the facility will be to develop and test joining technologies for fusion materials and components – for example novel metals and ceramics. These will then be tested and evaluated under conditions simulating the inside of a fusion reactor (including high heat flux, in-vacuum, and strong magnetic fields).

The site will help UK companies win contracts as part of ITER – the key international fusion project being built in the south of France. Looking further ahead, it will enable technology development for the first nuclear fusion power plants, which are already being designed.

The planned 25,000 sq. ft facility will require regular supplies of specialist metals and materials – providing further opportunities for regional companies in the UK.

Colin Walters, director of the National Fusion Technology Platform at UKAEA, said:

Momentum is growing in fusion research and we believe the opening of this facility in South Yorkshire represents a practical step towards developing power plants.

This facility will provide fantastic opportunities for UK businesses to win contracts and put UKAEA in a great position to help deliver the necessary expertise for the first nuclear fusion power stations.

Dan Jarvis MBE MP, Sheffield City Region Mayor, said:

The Sheffield City Region is a growing hub of innovation, expertise, and knowledge.

These qualities are among the reasons why the UKAEA have chosen to open a new facility in Rotherham, supported by Local Growth funding from the Sheffield City Region.

As well as creating new skilled jobs and opportunities for collaboration with the nearby research centres, this facility will create opportunities for other businesses as specialist suppliers, boosting the region's economy and highlighting our world-leading specialisms in advanced manufacturing.

Andrew Storer, Chief Executive Officer of the Nuclear AMRC, added:

We're delighted to welcome UKAEA to the Advanced Manufacturing Park, and to the Sheffield region's world-leading cluster of applied innovation. We look forward to working with UKAEA at their new facility to develop manufacturing techniques for fusion power plants and help UK manufacturers win work in this growing global market.

This development has the potential to create many jobs in the local supply chain as fusion technology matures. This is a huge deal for Sheffield and the North, and we are really pleased to have played a part in this and to be working with UKAEA.

Ends

Images and video are available at this [Dropbox link](#). For more information please contact:

Notes to Editors:

UK Atomic Energy Authority

The United Kingdom Atomic Energy Authority (UKAEA) is a UK government research organisation responsible for the development of nuclear fusion. It is an executive non-departmental public body of the Department for Business, Energy and Industrial Strategy (BEIS). UKAEA's headquarters are at Culham Science Centre near Oxford.

Web: www.gov.uk/ukaea

Twitter: @ukaeaofficial

Waverley Advanced Manufacturing Park

The Advanced Manufacturing Park (AMP) at Waverley is home to some of the world's biggest manufacturers including Rolls Royce, Boeing and McLaren

Automotive. Technology developed at the AMP is already being utilised in leading edge projects including Formula One, the military and commercial aircraft. The AMP site has been developed by Harworth on 150-acres of space that forms part of the wider 740-acre Waverley scheme and benefits from Government enterprise zone status within the Sheffield City Region.

Web: <https://harworthgroup.com/projects/advanced-manufacturing-park>

Twitter: @harworthgroup

Fusion research

Fusion research aims to copy the process which powers the Sun for a new large-scale source of clean energy here on Earth. When light atomic nuclei fuse together to form heavier ones, a large amount of energy is released. To do this, fuel is heated to extreme temperatures, hotter than the centre of the Sun, forming a plasma in which fusion reactions take place. A commercial power station will use the energy produced by fusion reactions to generate electricity.

Nuclear fusion has huge potential as a long-term energy source that is environmentally responsible (with no carbon emissions) and inherently safe, with abundant and widespread fuel resources (the raw materials are found in seawater and the Earth's crust).

Researchers at UKAEA are developing a type of fusion reactor known as a 'tokamak' – a magnetic chamber in which plasma is heated and controlled. The research is focused on preparing for the international tokamak experiment ITER, now being built in southern France. ITER – due to start up in 2025 – is designed to validate technology for the prototype power stations that are expected to follow it, and if successful should lead to electricity from fusion being on the grid by 2050.

Fusion research at UKAEA is funded by the [Engineering and Physical Sciences Research Council](#) and by the European Union under the Euratom treaty.

Healthy low-fat insect and plant protein launched in Wales

Supporting the launch at Ysgol Penrhyn Dewi, Minister for Environment, Energy and Rural Affairs, Lesley Griffiths said:

In today's climate it has never been a more important time to innovate in food production and simultaneously tackle environmental, sustainability and social issues.

Cutting saturated fat

VEXo has been developed by husband and wife team chef Andy Holcroft and entomologist Dr Sarah Beynon, who between them have also founded the UK's first full-time edible insect restaurant [Grub Kitchen](#) and the multi award-winning research centre and visitor attraction [Dr Beynon's Bug Farm](#).

The innovative VEXo can be used in a similar way to minced meat, whilst reducing saturated fat by over 80%. Nearly one-third of 2-15 year olds are overweight or obese, with obesity costing the NHS in Wales around £73 million.

Research pods in a field at the Bug Farm Foods R&D centre

Surge in edible insect market

The edible insect industry has grown at a staggering rate across Europe and North America over the past few years, fueled by an expanding human population demanding new, more sustainable sources of protein.

Insects are exceptionally nutrient-dense and environmentally sustainable to produce," said VEXo co-inventor Sarah.

Many insects contain weight-for-weight a similar amount of protein to beef and they can contain all nine essential amino acids. Insects can be farmed in high-welfare farms while requiring very little feed, water and space and emitting hardly any greenhouse gases.

Bug Farm Foods was funded by the Welsh Government and Innovate UK under the Small Business Research Initiative (SBRI) project to find a way to harness the nutrients contained in insects and deliver them in a form that is acceptable to our western palettes.

[Freshers: avoid the phisher's net!](#)

The Student Loans Company (SLC) is warning Freshers and all students to be on their guard as the new term starts, and not be tricked into disclosing any financial details or clicking on links in emails or text messages, as they could be installing malware.

Fraudsters often target students with bogus emails and SMS around the three loan instalment periods in September, January and April each year. In the

last two academic years alone SLC's dedicated counter fraud teams have prevented almost half a million pounds from being phished from students' loans. The expert teams have a range of methods and fraud analytics to stop scammers in their tracks, but students need to know that they themselves are the best and first line of defence.

Spotting a phishing email or SMS isn't always easy but the Student Loans Company has five fraud facts to help:

- Be suspicious of any requests for personal or financial information. SLC or Student Finance England (SFE) will never ask you to confirm your bank details or login information by email or text message.
- Phishing emails are often sent in bulk and are unlikely to contain both your first and last name; they commonly start, 'Dear Student' so be on guard if see one like this.
- Check the quality of the communication – misspelling, poor punctuation and bad grammar are often tell-tale signs of phishing.
- 'Failure to respond in 24 hours will result in your account being closed' – these types of messages are designed to convey a sense of urgency to prompt a quick response.
- Think before you click. If you receive an email or SMS that contains a link that you're not sure of then try hovering over to check that it goes where it's supposed to. If you're still in any doubt don't risk it, always go direct to the source rather than clicking on a potentially dangerous link.

Steven Darling, Director for Repayment and Counter Fraud Strategy at the Student Loans Company, said: "We're reminding all students that we'll never request their personal or banking details by email or text message.

"Online fraudsters are well aware that students are receiving their first instalment of the year soon. They will try to target them and their parents or partners with emails and texts requesting personal and banking details to access their accounts.

Anyone who receives a suspicious email should send it to phishing@slc.co.uk. SLC can investigate the site and ensure it is shut down, to help protect other students."

Find out more about online safety by watching our [phishing video](#)

'Get Ready for Brexit' campaign launches in Greece

The UK Government has today (Monday 16 September) launched a major information campaign urging UK nationals living in and travelling to the EU to take steps to get ready for Brexit on 31 October.

The information campaign will inform the more than one million UK nationals living in the EU about specific actions they need to take to secure their rights and services in their host country, including information on residency, healthcare, driving licences and passports.

It will also encourage people travelling to the EU to make all necessary preparations by checking passports, buying travel insurance and checking driving licenses and pet passports.

The campaign will use multiple channels – including social media, online and offline media – urging people to take action ahead of 31 October.

Foreign Secretary Dominic Raab said:

We are stepping up efforts to ensure Britons abroad are prepared for Brexit on 31 October. This campaign provides practical advice to the more than one million British people living in the EU, as well as British tourists and business travellers.

The UK Government recently announced up to £3 million in grant funding for charities and other voluntary organisations who can inform UK nationals about the need to register or apply for residency and to support them as they complete their applications.

The Government also allocated an extra £300,000 to British Embassies and Consulates across the EU to engage with 'hard to reach' UK nationals such as disabled people, those living in remote areas or people who might need extra help to complete any paperwork in preparation for Brexit. This extra assistance will build on the support that British Embassies are already providing with more than 541 outreach events with UK nationals since November 2017.

Europe is the most popular travel destination for British travellers, with around 60 million visits every year.

The new information campaign asks UK nationals living in Greece to take action to prepare for Brexit by checking the Living in Greece Guide at gov.uk/livingingreece and:

- apply for residency
 - register for healthcare
 - exchange their UK driving licence for a Greek one
 - check their passport is valid for travel
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Bolstering defence budget is not just about soldiers – trade will prosper too

I am often asked, from across the political spectrum “what is defence for?” as well as “what do we get for our money?”. But just because much of what we do is hidden from plain sight doesn’t mean that we don’t make an enormous global difference. Today the Royal Fleet Auxiliary ship, RFA Mounts Bay, is providing disaster relief to the Bahamas and providing vital reassurance to our allies in the UK’s overseas territories.

In the Strait of Hormuz, four Royal Navy warships, including the frigate Montrose and destroyer Defender, are on duty protecting British-flagged merchant ships from Iranian aggression.

All the while our cyber warriors on the online frontier are defending our systems from attack. So we should be tremendously proud of the brave men and women of the Armed Forces who provide our security across the globe day in, day out.

Yet, as the first former regular soldier for many years to lead the Ministry of Defence, I am also well aware that we only succeed because we invest.

We are currently Europe’s biggest defence spender by far and we have an impressive future force coming on line. It will include world-class, fifth-generation F35 stealth fighters, our two mighty carriers – one already bound for the United States to take part in operational trials – Dreadnought-class submarines and advanced armoured vehicles.

But this is about much more than just the men and women in uniform. Behind our military operations and armed services sits a supportive and innovative defence industry that sustains more than 260,000 jobs and last year exported £20 billion of aerospace and security equipment to our allies around the world. Next week’s Defence and Security Equipment International exhibition will showcase our world-class talent across all domains – not just air, land and sea but the evolving disciplines of security and joint operations.

It will act as a reminder, too, that not only does our defence industry strengthen our precious union, but it spreads wealth the length and breadth of our country.

However, we cannot afford complacency. The threats against our nation are growing. We're not just contending with an increase in state competition and Daesh terrorists directing murder on British streets, but with cyber criminals who lurk in the shadows. That's why the decision by the Prime Minister to significantly increase the defence budget is so important.

Defence cannot just be the backbone of our security but the point of the spear for a Britain returning to its traditions as a global trading nation, sought after for its innovation, respected for its willingness to defend global prosperity, and feared by its adversaries – a global Britain that is in Palmerston's famous words "a great and energetic nation".