

# £12M UK-Japan robotics deal for fusion energy and nuclear decommissioning research

Britain and Japan have signed a research and technology deployment collaboration to help automate nuclear decommissioning and aspects of fusion energy production.

A world-leading alliance, it will see new robotics and automation techniques applied to both fusion research and to decommissioning nuclear facilities in Japan and the UK.

The £12M UK-Japanese robotics project, called “LongOps”, will support delivery of faster and safer decommissioning at TEPCO’s Fukushima Dai-ichi reactors in Japan and at Sellafield in the UK, using long-reach robotic arms.

This four-year research collaboration will be funded equally by UK Research and Innovation (“UKRI”), the UK’s Nuclear Decommissioning Authority (“NDA”) and Japan’s Tokyo Electric Power Company (“TEPCO”).

The collaboration between the three entities will see UKAEA’s Remote Applications in Challenging Environments (“RACE”) facility lead the project, design strategy and deliver new robotic capabilities with global potential.

It is also expected to result in direct benefits, such as employment opportunities, advances to “fusion-adjacent” technologies, upskilling of the UK and Japanese scientific and engineering capabilities.

The decommissioning of legacy nuclear facilities and fusion facilities are complex large-scale projects that are time-intensive to accomplish safely.

Robotics and digital twin technologies will play an essential part in carrying them out efficiently with no risk to human health.

A major feature of the LongOps programme will be the deployment of sophisticated digital twin technology – virtual models where the pairing of the virtual and physical worlds allows for highly detailed analysis of data, and the forecasting of potential maintenance and operational issues.

“Digital twins” is a formative technology for the Industrial Internet of Things (“IIoT”) enabling the optimisation of operations, improved productivity, and the ability to test and innovate in the virtual world before developing real world applications.

The software created will allow RACE to show how such machines are controlled in real-time during remote operations.

Developments from LongOps will also be applied to the upgrading, maintenance and dismantling of fusion devices, such as the Joint European Torus (JET),

once their lifespans have ended.

Knowledge transfer from LongOps to other sectors shows the commercial potential of investing in UKAEA's fusion and robotics technologies.

Fusion is a form of low-carbon energy whereby the power of the sun is replicated on earth.

It promises minimal impact to the environment, long-term reliability and weather independence.

LongOps forms part of over £450m investment by Government into robotics and autonomous systems (RAS) projects since 2014.

The Robotics Growth Partnership brings UK RAS businesses and government together to harness smart machines for productivity and wider societal benefit.

Amanda Solloway, UK Minister for Science, Research and Innovation, said:

To unlock the amazing potential of nuclear power, it's critical that the UK works hand in hand with international partners to safely decommission nuclear sites while backing pioneering research into fusion, which could offer a limitless source of clean energy.

This innovative research alliance with Japan will ensure we share our expertise in robotics to address complex challenges such as nuclear decommissioning, while helping to secure highly skilled jobs across the country as we build back better from the pandemic.

Adrian Simper, Group Strategy and Technology Director at the Nuclear Decommissioning Authority, said:

The NDA group is a world leader in decommissioning – our high hazard challenges require innovative and efficient solutions. Robotics offers us new ways to tackle our complex work safely, securely and cost-effectively. This unique international collaboration allows us to pool expertise and experience from Japan, working together and investing in cutting edge ways to find solutions to our shared problems and benefit our clean-up mission.

Akira Ono, Chief Decommissioning Officer of Tokyo Electric Power Company Holdings, Inc. ('TEPCO'), said:

It has been almost a decade since the Fukushima Daiichi(1F) accident on March 11th, 2011.

TEPCO's 1F Decontamination and Decommissioning was carried out initially on an emergency response basis, but we now will be entering the stage of taking on challenges in uncharted territory such as Fuel Debris Retrieval (FDR).

I recognise that the robotics and remote-control technology is one of the most important key success factors for the FDR project.

I believe LongOps R&D will contribute a tremendous support to this FDR project, and I also feel secure that we can work with our partners, UKAEA, NDA/Sellafield, and UKRI for this UK-Japan international challenge.

Andrew Tyrer, Challenge Director for Robots for a Safer World at UK Research and Innovation, said:

This landmark international collaboration between the UK and Japan will spearhead significant progress into the complex challenge of nuclear decommissioning. That these nuclear decommissioning operations were selected as the focus of UK-Japanese robotics collaboration, including UK engineers developing technology for use in Fukushima, highlights the UK's world-leading strength in this sector. The UK's strength has been accelerated in recent years by the Robots for a Safer World challenge from the Industrial Strategy Challenge Fund.

Dr Rob Buckingham, Director of UKAEA's Remote Applications in Challenging Environments ('RACE') centre, said:

LongOps will build long-term partnerships, such as that between UK's Sellafield and Japan's TEPCO to find faster and safer methods for fusion development and to solve complex decommissioning problems.

The project will build innovation pipelines with industry for new robotics and AI tools.

It will also solidify relationships between operators and researchers in the UK and Japan. I am delighted that UKAEA will play a key enabling role in this international venture.

For media enquiries please contact Nick Holloway, UKAEA Media Manager, at [nick.holloway@ukaea.uk](mailto:nick.holloway@ukaea.uk).

---

## [New financial support for the UK's fishing businesses that export to the EU](#)

Seafood exporters across the UK will receive government funding of up to £23 million, to support businesses which have been most adversely affected by the COVID pandemic and the challenges of adjusting to new requirements for exporting.

This is in recognition of the unique circumstances of the fishing sector, which has had the most significant new requirements to adjust to, and for whom even a short delay can lead to goods perishing – at a time when the industry is facing lower market prices and demand due to the pandemic.

The fund will be targeted at fishing export businesses who can evidence a genuine loss in exporting fish and shellfish to the EU. Support will be available immediately and paid retrospectively to cover losses incurred since 1 January 2021. The scheme will be targeted at small and medium enterprises and the maximum claim available to individual operators will be £100,000.

The Marine Management Organisation will administer the scheme on behalf of exporters across the UK. More details will be available on eligibility criteria in the coming days. The Government will be consulting industry across the UK and working with the devolved administrations on these eligibility criteria before they are confirmed.

### **Environment Secretary George Eustice said:**

This £23 million scheme will provide crucial support for fishermen and seafood exporters, who have experienced delays and a lack of demand for fish from the restaurant industry in the UK and Europe.

We are continuing to work closely with the fishing and aquaculture sectors to make sure that they are supported, and can continue to fish whilst contributing to the economies of our coastal communities.

### **The Chief Secretary to the Treasury, Steve Barclay said:**

This further £23 million package of support will help our

hardworking fishing sector navigate the challenges of the next few months.

It is vital that no community nor region within our United Kingdom is left behind as we continue to support British jobs and build back better from the coronavirus pandemic.

In addition to funding, the UK Government will provide further support to businesses in adapting to new export processes. Defra and HMRC will be offering targeted, proactive and hands on support to fisheries exporters to help them successfully meet the new requirements. This includes a new training package and focused workshop sessions.

Seafood exports to the EU require specific procedures, customs declarations, Catch Certificates and Export Health Certificates (EHCs) and businesses have adapted to these requirements at speed. As seafood is a perishable product with a 'just in time' supply chain, it is important that the sector can export quickly.

The UK Government has been working closely with the seafood industry and individual businesses to support them through this period and to ensure that any errors or problems are tackled as early as possible. The situation has been improving over the last week and the flow of goods is improving, but we will do more.

Support provided to the industry includes:

- Issuing clear guidance on the required IT forms to stakeholder representative groups, hauliers and businesses.
- Twice-weekly meetings with businesses to understand and address issues as they arise.
- Working closely with individual businesses to help them get used to the new procedures required to ensure that errors or problems are tackled early.
- UK Government is stepping up extra physical resources to support certification in Scottish Hubs
- The UK Government has provided two specialist certifiers to support Food Standards Scotland and DFDS over the last week
- An experienced certifying officer from Defra is also currently in Lanarkshire supporting Official Veterinarians with the issuing of health certificates
- APHA has additional Official Veterinarians on standby, available to Scottish Hubs, to support exporters if required.
- Working with French authorities to ensure that minor administrative issues associated with EHCs have not prevented goods from entering the market and with the EU Commission to help member states adopt consistent approaches.
- Providing extensive guidance as part of a range of measures to help the industry meet new export requirements, including training, regular engagement and weekly bulletins.

Separately, the Prime Minister has also committed to providing a £100m fund to help modernise fishing fleets, the fish processing industry, and rejuvenate a historic and proud industry in the UK, on top of the £32m that will replace EU funding this year.

Now we have left the Common Fisheries Policy, as an independent coastal state, the UK has taken its independent seat at the Regional Fisheries Management Organisations, including the North East Atlantic Fisheries Commission and the North Atlantic Fisheries Organisation. We have put in place a bilateral agreement with the EU, and a partnership agreement with Norway.

The UK-EU agreement returns 25% of the EU's catch in UK waters (worth £146m) to Scottish, English, Welsh and Northern Irish fishermen, beginning at 15%. Increases in quota this year include key fish stocks such as North Sea cod, from 47% to 57 and North Sea hake, from 18% to 54% with a mechanism to exchange quota between the UK and EU.

The fishing industry has already been hit by the reduction in demand from the hospitality sector in the UK and other export markets as a result of the Coronavirus pandemic with market prices falling by as much as 40%. The measures announced today will therefore support the industry across the UK, during this challenging time and follow an unprecedented package of financial support already announced.

This financial support is in addition to the £9 million of support provided last year to support the sector in England, and support provided by the devolved administrations.

---

## [Up-rating report 2021 – focus on the National Insurance Fund](#)

News story

The Government Actuary has published the Up-rating Report 2021 on the National Insurance Fund. It will be considered by MPs as they scrutinise draft government legislation.



The Government Actuary's [annual report on the National Insurance Fund](#) (NIF) has been published. The report:

- provides advice to MPs as they scrutinise the government's draft legislation for up-rating social security benefits and pensions and updating National Insurance Contribution (NIC) terms
- projects contribution income, benefit payments and the balance of the NIF over the coming financial years

## **Coronavirus impact**

The coronavirus pandemic is impacting the NIF in several ways:

- increased levels of unemployment and lower salaries (for example where employees are furloughed) are reducing income to the NIF with receipts in 2020-2021 expected to be £5.4bn lower compared with the previous (pre-pandemic) projection last year
- payments of working age benefits are increasing while 'excess deaths' caused by the pandemic are reducing payments of pensioner benefits
- an unusual pattern of average earnings (ie a sharp drop followed by an expected recovery) is projected to cause state pension payments from the NIF to be around £1bn per year higher from 2022 (than with a more even progression of average earnings)

## **Headline results**

Allowing for the impact of the coronavirus pandemic the headline results are that:

- income is projected to exceed expenditure by £1.3bn increasing the NIF balance to £40.8bn by 31 March 2022

- costs of the proposed changes to NICs to be paid from April 2021 are projected to be £0.2bn
- costs of the proposed increases to benefits to be paid from April 2021 are projected to be £2.0bn
- the NIF is not expected to need any top-up from HM Treasury over the next 5 years
- 5-year projections show the NIF balance decreasing in each year from the end of 2023

All the headline results are sensitive to future economic conditions.

### **Remote working**

In line with government guidance GAD staff have been working from home during the pandemic. Bringing together a remote team to deliver this report added a new dimension to this annual project.

GAD Senior Consulting Actuary Chris Morley led the project. He said: “People from across the department have overcome remote working barriers and carried out the complex modelling underpinning this report in a collaborative and effective manner.

“I’m proud to have led this team and they have produced this report on time and on budget in challenging circumstances.”

Published 19 January 2021

---

## **[100th Nationally Significant Infrastructure Project decision reached](#)**

The A1 Birtley to Coalhouse Improvement Scheme is the 100th Nationally Significant Infrastructure Project (NSIP) to be decided following examination by The Planning Inspectorate. The examination completed its hearings virtually and to the original timetable.

Applications for projects considered to be of national significance are made

under the Planning Act 2008. The Act was introduced to streamline the decision-making process, making it fairer and faster for communities and developers alike and to encourage investment in the country's vital infrastructure by providing certainty on decision timescales.

Prior to the introduction of the 2008 Act, it could take several years to decide major planning applications.

The Planning Act 2008 requires developers to consult with affected communities and to thoroughly prepare applications before submitting them for examination. The Planning Inspectorate examines the application and makes a recommendation to the relevant Secretary of State who makes the final decision. The regime imposes strict timescales on key stages of the process, and it typically takes 14-16 months from the day an application is submitted to a decision being made. Overall, the process increases confidence and provides the certainty of knowing when a decision will be made for developers, investors and all those with an interest in the project.

The first project to be examined and decided under the Planning Act 2008 was the Rookery South Energy from Waste Facility project in 2013. Since then, projects as diverse as the Thames Tideway Tunnel, the Hinkley Point C New Nuclear Power Station and Dogger Bank Offshore Wind Farm have been consented through this process.

Recent high-profile projects examined include the likes of A38 Derby Junctions and Norfolk Boreas Offshore Wind Farm, as the Planning Inspectorate has risen to the unique challenges posed by the COVID-19 pandemic with hearings currently being held virtually.

Sarah Richards, Chief Executive of The Planning Inspectorate, said:

This is the 100th application for a Nationally Significant Infrastructure Project to be decided following examination by The Planning Inspectorate – it is a significant milestone, particularly bearing in mind the challenges posed by working through three separate lockdown periods in the last 12 months. Every application has met the statutory timescales laid down in the Planning Act 2008 for examination by the Inspectorate.

This is a tremendous achievement for our Inspectors and casework staff. The Planning Act 2008 has streamlined and greatly improved the decision-making process for major infrastructure that the country needs, whilst ensuring proposals are properly and robustly examined and ensuring local people can have their say.

We have had to change how we work over the past few months, have done so with great success, and are aware that we have to keep evolving and challenging ourselves as an organisation in order to

keep improving.

Of the 100 projects decided to date, 61 were energy, 36 transport, 2 waste and 1 waste water developments.

There are currently 63 Nationally Significant Infrastructure Projects at Pre-Application stage, in a pipeline of projects which developers are designing and consulting on ready for examination over coming months and years. A further 13 are either awaiting Acceptance for Examination, are under Examination or in the Decision stage.

Details of these projects can be found on <http://infrastructure.planninginspectorate.gov.uk>.

NSIPs are not only significant in their importance to the country but are large applications of particular interest to many local people.

The Planning Inspectorate places great importance on being fair, open and impartial. No matter the type, size or location of a project, it ensures that local communities have the opportunity to make their views known and are able to participate in the examination process. The examinations of the projects examined to date considered thousands of written representations and examiners have heard directly from thousands of affected people at Hearings held in the locality of the projects.

Graham Stallwood, Director of Operations at The Planning Inspectorate, added:

We encourage individuals and communities to get involved in the examination of major projects when developers are consulting on their proposals before submitting an application, at the pre-application stage and when we are examining their application. We listen carefully to what all interested parties tell us about a project that affects them, and we give full consideration to their views when making a recommendation to the Secretary of State.

Notes to editors:

Journalists wanting further information should contact The Planning Inspectorate Press Office, on 0303 444 5004 or email: [pressoffice@pins.gsi.gov.uk](mailto:pressoffice@pins.gsi.gov.uk)

The decision letter, Recommendation and Development Consent Order for the A1 Birtley to Coalhouse Improvement Scheme can be viewed on the National Infrastructure Planning website.

Planning Inspectorate role

On 1 April 2012, under the Localism Act 2011, the Planning Inspectorate became the agency responsible for operating the planning process for nationally significant infrastructure projects (NSIPs).

NSIPs are usually large-scale developments such as new harbours, power generating stations (including wind farms), and electricity transmission lines, which require a type of consent known as 'development consent' under procedures governed by the Planning Act 2008 (as amended).

The 2008 Act sets out thresholds above which certain types of infrastructure development are considered to be nationally significant and require development consent.

In England, the Planning Inspectorate examines applications for development consent from the energy, transport, waste, waste water, water and business and commercial sectors. In Wales, it examines applications for energy and harbour development, subject to detailed provisions in the Act; other matters are for Welsh Ministers.

The Planning Inspectorate recently produced a video highlighting its work.

Any developer wishing to construct an NSIP must first apply for consent to do so. For such projects, the Planning Inspectorate examines the application and will make a recommendation to the relevant Secretary of State, who will make the decision on whether to grant or to refuse development consent.

---

## **[A1 Birtley to Coal House Improvement Scheme granted development consent](#)**

Press release

Today, Tuesday 19 January 2021, the application for the A1 Birtley to Coal House Improvement Scheme has been given development consent by the Secretary of State for Transport.



The project comprises improvements as follows:

The scheme is 6.5 km in length and will consist of online widening of the A1

south of Gateshead to four lanes between junction 65 and 67 on the southbound carriageway and three lanes with lane gain/ drop between junctions on northbound carriageway to provide additional capacity. The scheme will also include the off-line replacement of Allerdene Railway Bridge immediately south of the existing structure to tie into the existing structure at Junction 67 Coal House.

The approved development consent order provides for the upgrading of the A1 in the route which runs adjacent to the Angel of the North including hearing directly from the sculptor, Anthony Gormley. The sensitivity of this location was carefully considered during the examinations and additional requirements added to control lighting and noise to protect the Angel and its setting. The examination was completed to the original timetable using virtual hearings.

The application was submitted to the Planning Inspectorate for consideration by Highways England on 14 August 2019 and accepted for examination on 10 September 2019. Following an examination during which the public, statutory consultees and interested parties were given the opportunity to give evidence to the Examining Authority, a recommendation was made to the Secretary of State on 21 October 2020.

The Planning Inspectorate's Chief Executive, Sarah Richards said:

This marks the 100th Nationally Significant Infrastructure Project and 36th transport application to have been examined and decided within the timescales laid down in the Planning Act 2008. The Planning Inspectorate is committed to giving local communities the opportunity of being involved in the examination of projects that may affect them. Local people, the local authority and other interested parties were able to participate in the examination where the Examining Authority listened and gave full consideration to local views before making their recommendation.

The decision, the recommendation made by the Examining Authority to the Secretary of State and the evidence considered by the Examining Authority in reaching its recommendation is publicly available on the [National Infrastructure Planning website](#).

## **ENDS**

Journalists wanting further information should contact the Planning Inspectorate Press Office, on: 0303 444 5004 or 0303 444 5005 or email: [Press.office@planninginspectorate.gov.uk](mailto:Press.office@planninginspectorate.gov.uk)

## **Notes to editors:**

The Planning Inspectorate, [National Infrastructure Programme of Projects](#) details the proposals which are anticipated to be submitted to the Planning Inspectorate as applications in the coming months.

Published 19 January 2021