

Pond cleaner ready to make a splash

Modified swimming pool cleaner ready to help clean-up one of Sellafield's legacy storage ponds.

Pond cleaner ready to make a splash

Sometimes the answer to our clean-up challenges at Sellafield demand highly engineered, bespoke solutions. But sometimes the right answer is to take technology that has already been designed (and tested) to do a similar job.

When the teams were faced with the task of cleaning the walls of one of our highest hazard buildings, the Pile Fuel Storage Pond, they looked first at what people use to clean swimming pools.

The team – including people from our innovation, robotics and artificial intelligence teams, and the National Nuclear Laboratory – started with a standard pond/swimming pool wall cleaner. Then they made modifications to make the robotic cleaner suitable for a nuclear environment.

And now it's ready to get to work.

Once in the pond it will be attached to the pond wall using vortex suction. As operators move it along the wall, its brushes will rotate to remove debris and ground in dirt which in turn will either be collected in a bag or dispersed in the pond.

It is neutrally buoyant and will float in the upright position when not in operation. If it becomes detached from the wall, it will float until power is restored and then reattach itself to the nearest wall.

Chris Ballard, robotics and artificial intelligence integrated research lead said:

The practical use of robotics within the nuclear industry is important to us all, they are the interface between the workforce and extreme environments, this is a good example of removing the workforce from the risk.

Next STEP in fusion

The spherical tokamak is a promising type of compact fusion machine, which has been under development since the 1980s. UKAEA will start operating its new spherical tokamak called [MAST-U](#) in 2020, opening an exciting new chapter in the drive towards practical fusion energy.

The STEP programme will develop and identify solutions to the challenges of delivering fusion energy, benefiting from UKAEA's breadth of expertise and its suite of research facilities – [RACE](#), [MRF](#), H3AT and FTF – to deliver an integrated concept design.

The technical objectives of STEP are:

- Deliver predictable net electricity greater than 100MW
- Innovate to exploit fusion energy beyond electricity production
- Ensure tritium self-sufficiency
- Materials and components qualification under appropriate fusion conditions
- Viable path to affordable lifecycle costs

The UK government has announced £20 million for the first year, launching STEP as a collaborative programme that combines the strengths of UKAEA with industry, universities and other organisations.

STEP offers numerous procurement opportunities, set out in the [STEP Programme Procurement Plan Schedule](#). This is published every quarter and sets out procurement opportunities as well as details of the responsible procurement officer who can be contacted for more information. Note that tender dates are subject to change.

Applications for Chevening 2020-21 now open

Applications are invited for both the one-year masters, and the shorter fellowship programmes.

Chevening Scholarships offer full financial support for one year to candidates applying for a Master's degree at any UK university – covering nearly 12,000 courses from more than 150 universities. Chevening Fellowships run for 8 to 12 weeks and offer professional development and networking opportunities in specified thematic areas, including science and innovation, cyber security, journalism, and financial services.

British High Commissioner to India, Sir Dominic Asquith said:

Chevening offers a unique and exciting opportunity to the most brilliant minds of India to come and study in the UK. I am proud to say that the India Chevening country programme is the largest in the world and has produced more than 3,000 scholars and fellows since 1983.

The programme shows our commitment to developing future leaders and strengthening the UK and India's living bridge, sharing the best of what our two countries have to offer. I encourage any ambitious young leaders and experienced professionals to apply.

Many Chevening scholars and fellows have gone on to make remarkable contributions towards the prosperity of India. Alumni include:

- Piyush Goyal, Cabinet Minister
- Amitabh Kant, NITI Ayog
- Samir Saran, Observer Research Foundation
- Harish Bhat, Tata Sons

The British High Commission celebrated the launch of this year's programme with a reception and pre-departure event for returning and new winners in New Delhi today, 7 August.

Further information

Applicants to Chevening Scholarships must have a minimum two years of work experience and a strong academic background. The deadline to apply is 5 November 2019.

Applicants to Chevening Fellowships must have 7 to 10 years of work experience. Fellowships on offer are:

- South Asian Journalism Fellowship
- Science and Innovation Leadership Fellowship
- Cyber Security Fellowship
- Financial Services Fellowships
- Gurukul Fellowship for Leadership and Excellence

The deadline to apply is 9 October 2019 (except for the Gurukul Fellowship, which will open in December 2019).

Globally, almost 1,800 Chevening scholarships were awarded in 2019-20. Today, there are over 50,000 Chevening alumni around the world, comprising an influential and highly regarded global network.

Join the conversation on social media with #Chevening. Further details, including how to apply, can be found [here](#).

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Business Secretary holds first Brexit roundtable with businesses

Meeting in Westminster on 31 July 2019, senior representatives from businesses including Tate and Lyle Sugars, JML Group, Tangle Teezer, Laing O'Rourke, Scottish Power and 50 Cycles told the Business Secretary how they were ready and determined to seize the opportunities of a post-Brexit Britain. They explained that while there were some concerns about readiness for a no-deal Brexit, none of the issues were insurmountable and that they were keen to take up the chance to trade both with EU member states, and countries outside the EU.

Ms Leadsom urged the businesses present to speak with their colleagues and trade associations, to pass on the clear message that the government stands behind them and is ready to support efforts to prepare for Brexit. She also encouraged them to continue their positive approach to the future, and to talk about the opportunities that lie ahead.

Business Secretary Andrea Leadsom said:

We are stepping up a gear and increasing the pace of our preparations as we get ready to leave the EU on 31 October.

The businesses I met with agreed that we must take advantage of the opportunities that lie ahead: in innovation, new AI technologies, clean growth and the extraordinary scientific advances in which Britain is already leading the way. They also spoke about the benefits of doing away with certain EU red tape that has a stranglehold on productivity.

While there are challenges, business leaders were optimistic and clear that none are insurmountable.

Our preparations for no-deal will now be more open than ever, giving the business community the confidence to wave the flag for

Britain and to seize the myriad of opportunities that lie ahead.

The main messages from business leaders present were:

- government should ramp up its communications to prepare for Brexit, welcoming the forthcoming publicity campaign to get ready to leave
- they are well prepared for Brexit on 31 October, but that this was often not acknowledged in public debate and commentary
- they were excited about the opportunities that lie ahead
 - trade with the Asian-Pacific economies
 - developing renewable energy, clean growth and electric vehicles
 - boosting foreign direct investment
 - attracting the best talent from around the world
- Brexit would provide an opportunity for colossal investment and to reform regulation of emerging technology, ensuring that Britain leads the world in big data and artificial intelligence

Ms Leadsom also met with Business Representatives Organisations on 1 August and will continue to meet with them on a fortnightly basis.

Keith Anderson, CEO, Scottish Power, said:

The meeting this morning with the Secretary of State was fantastic.

It's always great to have a government who come out and engage with business and listen to business and want to understand concerns and opportunities that businesses are bringing forward.

There are always great opportunities to invest in as a business.

Ken Daly, CEO, JML, said:

The meeting this morning was very positive, very informative.

I learnt a lot from the contributions of the other people around the table.

The general consensus was that Brexit is a great opportunity and businesses are reasonably well prepared.

Scott Snaith, CEO, 50cycles, said:

The meeting was very good. We covered a lot of ground. A lot of representation from all levels of business, from small to medium to large. It was really interesting hearing from some of the larger multi-nationals and also some of the smaller businesses as well.

I think we can take this opportunity to solidify our partnerships

with our businesses overseas, as opposed to looking at them as a separate entity. I know our counterparts over in Europe are quite excited for Brexit and how we will move forward as a business, and as a country.

Full list of attendees at the 31 July roundtable:

- Ken Daly, CEO, JML Group
- Scott Snaith, CEO, 50 Cycles
- Kevin O'Neill, General Manager, General Electric
- Dave Armstrong, Group Business Development Director, BAE Systems
- Tom Crotty, Director, INEOS
- Keith Anderson, CEO, Scottish Power
- Tim Martin, Chairman, JD Wetherspoon
- Gerald Mason, Senior Vice President, Tate and Lyle Sugars
- Jonathan Leese, CFO, Tangle Teezer
- Jo Colman, Summerdown Mint
- Ben Hutchings, Sales and Marketing Director, Lye Cross Farm
- Madeleine Loughrey-Grant, Group Director, Legal & Tax, Laing O'Rourke plc

See more reaction from the [Secretary of State and businesses](#) present at the roundtable on our Twitter feed: [@beisgovuk](#)

Tips for businesses preparing for Brexit on 31 October:

Further information: [How to prepare if the uk leaves the EU with no deal](#)