

News story: Drone rises to the challenge

The lightweight RISER drone uses lasers to self-navigate deep inside hazardous facilities where GPS signals cannot reach, and has already been used successfully at Sellafield.

RISER carries a sophisticated radiation detection and mapping system which has been collecting vital information about conditions in the remaining Windscale Pile chimney. More than 60 years after the 1957 fire, the chimney remains highly contaminated.

Using remotely operated equipment is the only way to establish how the chimney can be cleaned out and finally dismantled.

RISER – Remote Intelligence Survey Equipment for Radiation – combines two separate pieces of cutting-edge technology: drones and radiation-mapping software. Each received Research and Development funding through the NDA and fellow government agency, Innovate UK.

In 2009, Createc's N-Visage™ radiation mapping software project was boosted during its critical early stages by a £50,000 investment from the NDA's R&D portfolio.

Three years later, the NDA joined other government organisations to invest further funds in a wide range of innovative nuclear projects. This led to the collaboration between Cockermouth-based Createc and aerial systems specialist Blue Bear, from Bedford. After a series of on-site trials at Sellafield, RISER was put into decommissioning action.

In action at Sellafield

The NDA's Head of Technology, Prof Melanie Brownridge, said:

We are thrilled to see RISER put to work in Japan, and delighted that our early-stage support for the N-Visage system enabled Createc to develop its potential further.

The subsequent collaboration with Blue Bear, again funded by the NDA through an initiative with Innovate UK, led to RISER. This shows the importance of funding innovative ideas through their journey from the drawing board to the market – not just for the NDA's decommissioning mission but for the wider UK and overseas economy.

The N-Visage™ tailor-made technology maps radiation with pinpoint accuracy, producing a high-definition 3D picture of contamination, quickly and safely. Developed and exhaustively tested over a number of years, it was first used

inside one of the reactor buildings at Japan's Fukushima-Daiichi plant several years ago, and is now set to return, mounted on the drone. The system can be deployed through small openings, in tight spaces and high-dose environments. Dose to operators is reduced as the technology is remotely deployed.

The drone, or unmanned aerial vehicle (UAV), is less than one metre in diameter and navigates using its own internal 'collision avoidance' capability. Able to manoeuvre accurately inside complex industrial spaces, data is transmitted to the mapping system and clearly displayed, highlighting areas of contamination.

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Press release: Planting the seeds for a flood resilient future

A Sunderland school is more prepared for flooding after a rain garden planter was installed and the school's pupils created a flood plan as part of the Environment Agency's 'Flood Weeks'.

Community Engagement Officer Taryn Al-Mashgari helped the youngsters at Springwell Village Primary School develop a flood plan and 'grab bag' so they are prepared in the event of a flood.

And partners at Northumbrian Water installed a rain planter – which captures and stores rainfall from the school's roof – as part of its Rainwise initiative.

Youngsters at the school helped put flowers into the planter in an event on Friday 23 February and then 'tagged' the school with a flood warden logo designed by a pupil from Hetton Lyons Primary School.

This was done using Rainworks – an invisible spray which will only show the logo when it rains. It will remind pupils during key times to be aware of their flood resilience learning.

Initiative helps schools be prepared for flooding

A workshop held by the Environment Agency, Northumbrian Water and Northern Powergrid then also took place for parents and local councillors to see what the children have been learning and to see them demonstrate their newly-created flood plan.

It's part of an Environment Agency initiative to help schools across the North East be better prepared for flooding. Taryn works with children in all year groups to help them understand different types of flooding and how it happens.

They learn what to do before and during a flood, and what the flood warning symbols used by the Environment Agency mean. Taryn said:

It's important that younger people understand what flooding is, how it happens and what the different organisations that deal with flooding do.

We also teach them how to prepare for and what to do during a flood

in a series of interactive sessions where they design their own flood protection and describe how they would keep their favourite possessions safe.

It's absolutely devastating to be flooded and that's why we are working with schools and our partners to educate our future generations about what they can do to keep themselves and their valuables safe.

Spreading the word about managing rainfall

Northumbrian Water's Rainwise initiative aims to spread the word about how managing rainfall better can help increase capacity in the sewer network and encourages residents to make small changes around their homes and gardens.

Rain garden planters help reduce the risk of flooding by reducing the amount of water directly entering the sewer network, as well as slowing the amount of water that does.

Northumbrian Water's Project Manager, Chris Bond, said:

The Environment Agency's flood week gave us a real opportunity to work with the school to raise awareness of our Rainwise initiative and how it's important for families to manage rainfall better around their home to help reduce flood risk.

The planter captures rainwater from the roof of the school, which is then absorbed by the soil and plants and helps to take some of the pressure off our sewer network. It's been great working with the children to put in these plants, which builds their knowledge of flooding and creating new natural habitats.

For more information on Rainwise, visit [Northumbrian Water's website](#)

The Environment Agency is urging people to 'Prepare, Act, Survive' by visiting the [Floods Destroy website](#) and do three things to prepare for flooding.

- check your postcode and find out if you are at risk of flooding
 - sign-up for free flood warnings if you are at risk
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Press release: Once-in-a-generation opportunity to shape future farming policy

Farmers, landowners and food producers have a once-in-a-generation opportunity to shape the future of English farming and the environment, with a consultation launched today (27 February) by Environment Secretary Michael Gove.

The government's proposals will see money redirected from direct payments under the Common Agriculture Policy (CAP), which are based on the amount of land farmed, to a new system of paying farmers "public money for public goods" – principally their work to enhance the environment and invest in sustainable food production.

Other public goods which could be supported include investment in technology and skills to improve productivity, providing public access to farmland and the countryside, enhanced welfare standards for livestock and measures to support the resilience of rural and upland communities.

In line with its manifesto commitment, the government will continue to commit the same cash total in funds for farm support until the end of this Parliament in 2022.

It has today set out proposals for an 'agricultural transition' lasting a number of years beyond the implementation period during which direct payments would continue, providing stability and certainty for farmers as they prepare for the new system.

At the same time, however, reductions to direct payments to the largest landowners first could free up around £150 million in the first year of the agricultural transition period, which could be used to boost farmers delivering environmental enhancement and other public goods.

The Environment Secretary Michael Gove said:

As we leave the EU, we have a historic opportunity to deliver a farming policy which works for the whole industry. Today we are asking for the views of those who will be affected to make sure we get this right so any future schemes reflect the reality of life for famers and food producers.

The proposals in this paper set out a range of possible paths to a brighter future for farming. They are the beginning of a conversation, not a conclusion and we want everyone who cares about the food we eat and the environment around us to contribute.

As set out by the Secretary of State at the [NFU Conference](#) last week, the consultation is an opportunity for farmers to be more central to government thinking than any time for fifty years as the UK leaves the EU.

Among the range of proposals put forward by the government in today's consultation, 'Health and Harmony: The Future for Food, Farming and the Environment in a Green Brexit', the Government is seeking views on:

- Options for how to gradually phase out direct payments, starting with the largest landowners, whilst developing a new environmental land management scheme.
- The range of public goods that could qualify for government funding under the new schemes, such as high animal welfare standards, wildlife protection, public access, and new technologies.
- Measures to move away from heavy handed enforcement which penalises farmers for minor errors, including a more efficient inspection regime to uphold important environmental and animal welfare standards.
- New business models and incentives for industry to invest in innovation and new technologies to increase their profitability.

The current system of support for farmers and landowners shaped by the CAP is inefficient and inequitable. It does not secure the public goods needed to enhance our environment such as resilient habitats, richer wildlife, healthier rivers and cleaner water.

Farm payments in 2019 will follow the existing model, and in the meantime, the government has pledged to simplify applications for farmers wishing to enter into existing schemes to provide environmental benefits such as Countryside Stewardship.

The consultation will run for ten weeks, closing on 8 May 2018.