

Game changers – getting our robots to speak with one voice

The popularity of our Game Changers programme is increasing – and it is setting a record number of challenges to industry and academia.

This week its latest online event brought together 31 representatives from 26 organisations across the UK, who each think they could have a solution to a unique challenge for the Sellafield site.

The session asked those attending how they could help us get the different robotic technologies we use on our mission to talk with one voice.

Chris Ballard, robotics and artificial intelligence integrated research team lead at Sellafield Ltd, said:

Our work on the Sellafield site is complex and we bring in technology from all over the world to achieve it. But this then creates problems, as this tech is often running on different operating systems in different languages.

In most industries this isn't an issue – each machine does its job in isolation so there's no need to standardise.

Because of this we weren't sure whether there would be many organisations out there who could provide what we need – but the interest surpassed our expectations.

It is a busy time for [Game Changers](#), the innovation programme is run by the [National Nuclear Laboratory\(NNL\)](#) and [FIS360](#), which identifies challenges on the Sellafield site and then pushes them out to the supply chain to come up with solutions.

There are currently 3 challenges on the go, with a further 8 planned, more at one time than we've run before.

Not only are Game Changers busier than ever, for the first time they'll be issuing challenges for NNL themselves and joint challenges with Dounreay. This represents an expansion of the programme across the NDA estate.

The programme has been running technical talks at lunch times which have been attended by up to 100 people from Sellafield Ltd and other organisations. For Sellafield Ltd in particular, this means that more people working on the mission understand the programme and how it might be able to help them with their technical challenges.

We are also seeing more of the work being realised – there has already been an active trial on the Sellafield site for one of the early challenges.

The pandemic has had an effect on others that were planned, but what we have seen is projects demonstrating their potential, which is attracting more funding to take them further.

An example of this is Rawwater Engineering Company's specialist alloy seals – a leak solution which was originally developed for oil and gas and received Game Changers funding to enable development work to make it suitable for nuclear.

It was then picked up by TEPCO, who funded a trial, and the Ministry of Defence, who have also funded work.

We are now exploring a specific application to use the technology on the Sellafield site – so it's come full circle.

Sellafield Ltd technical manager, Andrew Cooney said:

The Game Changers programme is a vital component to the Sellafield mission.

At its core it helps bring in the new ideas and technology we need to help us empty our ponds and silos, clean up the site and decommission our facilities.

At its simplest we're asking other organisations 'do you have technology and expertise that can help us do this?'. They don't have to be part of the nuclear sector – that's what makes Game Changers so important to us.