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.