

Robot will support workers in hazardous environments

The robot which became famous dancing on YouTube could help save lives and cut CO2 emissions by supporting research into working in hazardous environments at the National Robotarium at Heriot-Watt University.

The researchers at the Robotarium are finding ways that the robot can support humans in dangerous settings like offshore energy inspections and disaster recovery.

And children in the Edinburgh and South East of Scotland now have the chance to name the robot which will then visit the winning school. [Enter here.](#)

The £60,000 robot has telexistence technology fitted allowing humans to experience an environment without being physically in place. The tech uses microphones and cameras to relay sounds and videos.



Professor Yvan Petillot, professor of robotics and autonomous systems at Heriot-Watt University and co-academic lead of the National Robotarium, said: “Fitting this robot with our telexistence technology means we can carry out a range of experiments.

“We can test how the robot can help and support people working in hazardous environments, including oil and gas platforms and oil refineries.

“In search and rescue operations or following accidents, Spot robots fitted with our sensors could monitor a casualty’s vital signs and transmit images and sounds back to a hospital, allowing doctors to offer advice on treatment or decide when it’s safe to move a patient.

“Robots of this design can climb over rubble, walk up and down stairs, and cope with hazards like dust and rain. These features will prove very useful as we develop more ways to ensure robots can help keep people safe and save companies money.”



Dr Sen Wang, an associate professor at Heriot-Watt University and robotics and autonomous systems lead at the National Robotarium, added: “Through a project with the ORCA Hub, the first application for our research with this new robot will be supporting the construction industry. We are going to fit lidar to our robot, which is similar to radar but uses light instead of radio waves.

“That will allow the robot to build up a picture of its surroundings while spotting obstacles like rubble on construction sites.

“Our Spot, however, is unique. We have set it up to be a moving data collector and data centre, equipped with advanced telepresence solutions. When we deploy it on construction sites, it will collect and measure in real time, relaying the data to multiple experts at once, all around the world. This means construction companies, regardless of their location, can benefit from worldwide expertise. Using Spot in this way has the potential to speed up the construction process, reduce costs of re-work, detect hazards, increase efficiency and

improve quality control.”

The National [Robotarium](#) building will open on Heriot-Watt’s Edinburgh campus in 2022.

