Robots could soon be working on North Sea gas platforms

The robot could be used for operational inspection of facilities offshore. Picture: PA

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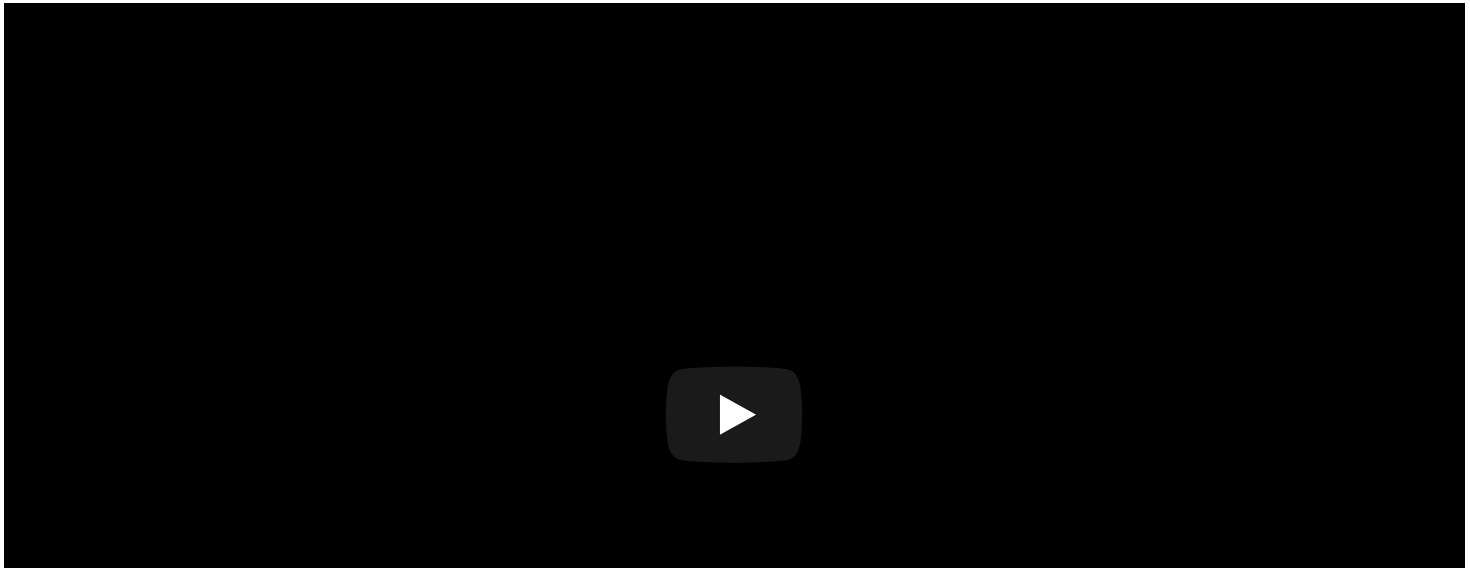
Robots could soon be working autonomously alongside humans on a North Sea platform as part of a world-first project.

The Aberdeen-based Oil & Gas Technology Centre (OGTC) is leading an 18-month trial to develop a mobile robot for operational inspection of facilities on Total's onshore Shetland gas plant and offshore Alwyn platform.



The test is the first time an autonomous ground robot will be used on an operational oil and gas installation. The landmark project could start a revolution in robotics offshore that improves safety, enhances productivity and reduces costs for the industry at a time of widespread of job lay-offs and reduced oil revenues.

The OGTC and Total are developing the robot with Austrian manufacturer, taurob, and TU Darmstadt in Germany, who collaborated to win Total's ARGOS challenge in 2017.

The challenge involved developing an autonomous robot that could perform routine tasks and respond to challenges in a simulated oil and gas operational environment.

The robot developed is ATEX-certified (certified to work in gas environments without risk of ignition), can perform visual inspections, read dials, level gauges and valve positions, navigate through narrow pathways and up and down stairs, measure temperature and gas concentration, and detect and navigate around obstacles and humans.

The robot is being developed by the Aberdeen-based Oil & Gas Technology Centre with Austrian manufacturer, taurob, and TU Darmstadt in Germany

The project will develop a further two versions of the successful ARGOS robot that are more robust and reliable, have improved functionality and can be operated by workers offshore without the requirement for onsite robotics experts.

Rebecca Allison, asset integrity solution centre manager at the OGTC, said: “We are delighted to be involved in this world-first project that is at the cutting-edge of robotics for the oil and gas industry. A robot working alongside humans on a North Sea platform isn’t a distant aspiration, it could be a reality in the next 18-months, paving the way for a robotics revolution.

“Robotics has the potential to transform the offshore oil and gas industry. We have countless repetitive, dirty and potentially dangerous tasks carried out every day. Integrating robots for these tasks will help upskill our workforce and improve the quality of the jobs. Projects like this will help inspire and attract the next generation oil and gas workforce.”

Dave Mackinnon, head of technology for Total UK, said: “We believe that robots have the potential to play an important role on offshore platforms. We are on the cusp of delivering technology that will improve safety, reduce costs and even prolong the life of North Sea operations. Robots represent an exciting new paradigm for the oil and gas offshore industry and Total is proud to be part of it.”

Allison told the Guardian that robotics was not about replacing human roles with machines.

“It’s not taking their jobs. It’s giving people the choice to do different jobs. We will still need a human workforce. It’s about allowing people to move into onshore positions,” she said.

She added it will still be cheaper to send a human to a rig rather than a robot.

“We are not saying robots are going to take over in the next six months. This is a long-term investment in the industry,” she said.

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