Quartet to develop 'world-first' offshore robot for autonomous inspection in North Sea

A project by the Oil & Gas Technology Centre (OGTC), Total, and Taurob, in partnership with Technische Universität Darmstadt (TU Darmstadt), will develop and trial a mobile robot for autonomous operational inspection of offshore platforms.

OGTC said that the 18-month project would develop a mobile robot for autonomous inspection of Total's offshore Alwyn platform and onshore Shetland Gas Plant.

The Centre added that the trial was the first time an autonomous ground robot would be used on an operational oil and gas installation.

The OGTC and Total are developing the robot with Austrian manufacturer, Taurob and TU Darmstadt, who collaborated to win Total's Autonomous Robots for Gas and Oil Sites (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.

According to the OGTC, the robot developed by Taurob and TU Darmstadt, ATEX-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.

Matthias Biegl, managing director for Taurob, said: "During the next 18 months our ATEX certified and autonomous robot will be further enhanced to be eventually deployed on an offshore platform in the North Sea."

The project will develop a further two versions of the ARGOS robot that, the OGTC claims would be more robust and reliable with improved functionality and could be operated by workers offshore without the requirement for onsite robotics experts.

Rebecca Allison, OGTC's asset integrity solution center manager, 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. Projects like this will help inspire and attract the next generation oil and gas workforce."

Dave Mackinnon, head of technology and innovation for Total E&P UK, added: "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."
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