

Offshore Robotics Trial to Spark Oil & Gas Revolution



North Sea oil platforms could soon be home to autonomous robotic assistants in a project described as a 'world-first'. Just how can robots improve efficiency and safety standards in the North Sea?



@rossk_1992

Robotics could soon play an integral role in off-shore oil and gas operations after the [Oil & Gas Technology Centre](#) (OGTC) announced it will begin trials of autonomous robots.

Described as a 'world-first' project, the OGTC and [Total E&P](#) will work in partnership with [taurob](#) and [Technische Universität Darmstadt](#) to trial and develop a mobile robot for the autonomous operational inspection of both Total's onshore and offshore facilities. The project will initially trial the autonomous robot on the Shetland Gas Plant before moving to the Alwyn platform offshore.

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Total, which operates in the North Sea and west of Shetland, hailed the 18 month trial as a landmark project which could spark a revolution in offshore operations – Improving safety procedures, reducing costs and further enhancing efficiency.

[Dave Mackinnon](#), Head of Technology & Innovation for Total E&P UK, said: "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."

Robotics Can Improve Efficiency

Austrian manufacturer [taurob](#) and TU Darmstadt are leading the technical aspects of this project, having previously collaborated to win Total's [ARGOS Challenge](#) (Autonomous Robots for Gas and Oil Sites) in 2017. In the 2017 trial, they successfully developed an autonomous robot that could perform routine tasks in a simulated operational environment.

The robot – which is based on the winning robot from the ARGOS challenge – is state-of-the-art and is ATEX-certified, meaning it is designed to operate in gas environments without posing a risk of ignition; a failure that could have disastrous effects. It is capable of working alongside humans, navigating stairways and narrow pathways, as well as measuring temperature and gas concentrations within its' environment.

Another crucial aspect of the robot's role is its' ability to observe and perform visual inspections of the facilities it works in; providing assistance to people and potentially streamlining inspection processes. In an environment where mistakes or failures of protocol could have catastrophic outcomes, the use of robotics could help save lives.

[Jean-Michel Munoz](#), Next-Generation Conventionals Manager for Total S.A claimed the surface robotics has the potential to "completely change the way we operate and design facilities in the future" and that the development of robots for safety observation and anomaly detection is merely the 'first step in implementing robotics solutions at an industrial scale'.

[Matthias Biegl](#), Managing Director for [taurob](#) says the long-term aim is to develop two more versions of its highly successful ARGOS robot. Further improving functionality and enabling the use of the robots without the on-site requirement of robotics experts.

"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"



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