



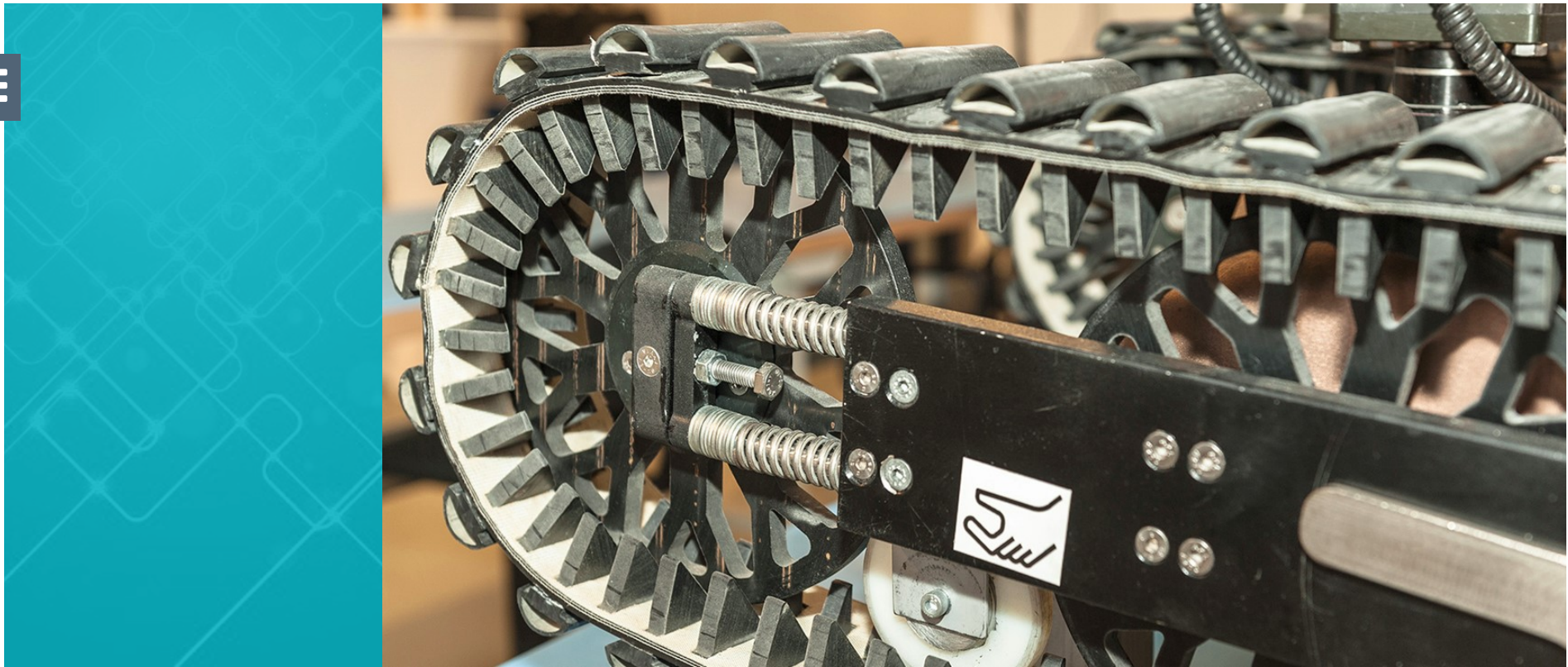
The Oil & Gas Technology Centre / Media centre / Our news / 2018 / Robots could soon be working autonomously alongside humans on a North Sea platform as part of a world-first project .

30 March 2018

Autonomous offshore robot a world-first

The 18-month project will develop and trial a mobile robot for autonomous operational inspection of facilities of Total facilities.

The project will develop a further two versions of the robot that won Total's ARGOS challenge.



- **Project will develop and trial autonomous robot on Shetland Gas Plant prior to heading to the Alwyn platform offshore**
- **The design is based on the winning robot from Total's ARGOS challenge**
- **Robotics will improve safety, demonstrate autonomous operational inspection and reduce costs**

Robots could soon be working autonomously alongside humans on a North Sea platform as part of a world-first project from the Oil & Gas Technology Centre, Total E&P (Total) and taurob, in partnership with Technische Universitaet Darmstadt (TU Darmstadt).



The 18-month project will develop and trial a mobile robot for autonomous operational inspection of facilities on Total's onshore Shetland Gas Plant and offshore Alwyn platform.



The trial 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.

The Technology Centre and Total are developing the robot with Austrian manufacturer, taurob and TU Darmstadt in Germany, who collaborated to win Total's ARGOS (Autonomous Robots for Gas and Oil Sites) 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 by taurob and TU Darmstadt 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 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, 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 & Innovation for Total E&P UK, said:

“Total believes 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.”

Jean-Michel Munoz, Next-Generation Conventionals Manager for Total S.A., said:

“Surface robotics has the potential to completely change the way we operate and design facilities in the future. Implementing this technology on our sites will bring benefits in terms of operation safety and cost optimization. This development of a fully autonomous robot for operator rounds and anomaly detection is the first step in implementing robotics solutions at industrial scale.”

Matthias Biegl, Managing Director for taurob, said:



“After winning the ARGOS Challenge, we are excited to enter the industrialisation phase together with Total and the Oil & Gas Technology Centre. 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”

Dr. Oskar von Stryk, Professor of Computer Science for TU Darmstadt, said:

“TU Darmstadt is fully committed to the cooperation with Total, the Oil & Gas Technology Centre and taurob. We are excited to bring our winning autonomous capabilities and user interface from the ARGOS Challenge to the next level for increased safety and efficiency of future operations on oil and gas sites.”

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