The Total Alwyn drilling platform in the North Sea will be the first testing site for an autonomous ground robot inspection device.

The 18-month project to develop the robot for its first trial at Alwyn and onshore at Total's Shetland Gas Plant, which receives production from the Laggan-Tormore fields, will be carried out by the Oil & Gas Technology Centre, Total E&P, Austria's Taurob and Germany's Technische Universität Darmstadt (TU Darmstadt).

The TU Darmstadt and Taurob collaboration won Total's ARGOS (Autonomous Robots for Gas and Oil Sites) competition in 2017. The collaboration resulted in the development of an autonomous robot that could perform routine tasks and overcoming challenges in emulated oil and gas operations.

The robot is ATEX-certified (explosion-proof), can perform visual inspections, read dials, level gauges and valve positions, navigate through narrow pathways and up/down stairs, measure temperature and gas concentration, and detect and navigate around obstacles and humans.

According to the Centre, two forthcoming versions of the ARGOS robot will be designed to be more robust and reliable, provide improved functionality, and will be able to be operated by non-expert technicians.

Jean-Michel Munoz, Next-Generation Conventions Manager for Total, 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.”