World first scheme will see robot deployed to North Sea oil rig

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by Yvonne English  03/04/2018  F Like  3 Likes

An autonomous robot will be deployed to an offshore oil and gas platform in late-2018, a ‘world-first’ project which is being developed by Total alongside the Oil & Gas Technology Centre (OGTC).

The pilot will see the robot initially deployed at Total’s gas plant on Shetland, before it is then sent to the company’s Alwyn platform where it will work alongside 120 human colleagues.

(A close up view of the autonomous robot which will be deployed later this year. Image via OGTC).

The robot is the creation of Austria’s Taurob and Darmstadt Technical University, which won Totals’ Autonomous Robots for Gas and Oil Sites (ARGOS) challenge last year. The robot 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 intends to 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.

Speaking about the project, Jean-Michel Munoz, Next-Generation Conventionals Manager at 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 operational safety and cost optimisation. This development of a fully autonomous robot for operator rounds and anomaly detection is the first step in implementing robotics solutions at industrial scale.”

(The North Sea will be the site of this world-first robotics pilot).

Rebecca Allison of the Oil and Gas Technology Centre, 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.”
Robotic replacement?

As the comments above demonstrate, the use of robotics could open up significant efficiency savings for oil and gas operators. It could also significantly increase levels of safety on platforms and rigs.

But will these benefits come at the expense of offshore jobs?

Speaking to The Guardian, the Oil and Gas Technology Centre’s Rebecca Allison insisted that autonomous robots would not be used to cut the wage burden of offshore workers who are paid a premium for working in tough, remote conditions.

“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 told The Guardian.

According to Allison, 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 explained.

As we’ve written elsewhere on EngineeringPro, the digitalisation of the oil and gas industry could have a profound impact upon the workforce.

How big this impact is dependent on the success of pilot projects such as the one outlined above...

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