

INSTALLATION OF DEMO TIDAL TURBINE, JAPAN



Helix Robotic Solutions partnered with UTEC, the lead brand for the Geo-services business segment within Acteon, to provide survey and positioning services to support the installation of a demonstration tidal turbine in the Naru Strait, Japan, for end-client Simec Atlantis Energy.

THE PROBLEM

Helix Robotics Solutions required a strategic partner to provide survey and positioning services to support the installation of a demonstration tidal turbine in the Naru Strait, Japan, for end-client Simec Atlantis Energy. This demonstrator project would seek to capitalise on Japan's wealth of tidal resources.

THE SOLUTION

Helix contracted UTEC, the lead brand in the Acteon geo-services segment, to provide vessel positioning onboard the installation vessel, the Grand Canyon 2; subsea positioning of the ROV and turbine during deployment and installation on the foundation; and installation of the deep water section of export cable. UTEC also provided the as-laid survey of turbine and cable. The water depth at the turbine location was approximately 40m.

This is the first full-scale trial project of AR500 tidal turbine. The turbine has been temporarily installed subsea and run at 500kW output power whilst its performance is being monitored. After at least six months the turbine will be recovered and inspected for wear and tear. Foundation and export cables will remain offshore. If trials are successful, these turbines could be re-used in a possible second phase project, subject to approval.

THE RESULT

Operations were completed in January 2021. The risks of challenging conditions and narrow operation windows due to high tidal currents were successfully mitigated. The turbine has already started generation and the project developers will now perform various tests ahead of the official start of the demonstration phase.

"This is an exciting project for Acteon to be involved with at such an early stage in a region where we are starting to establish and grow the market. We have successfully used data to enhance our field expertise and accelerate learning to improve designs and optimise operations for our client", said L J Pan - Head of Business Development – North-East Asia, Acteon.

