Selected for Japan Cabinet Office's AUV Demonstration Project
— This joint initiative aims to demonstrate the practical use of ASV and ROV. —

TOKYO, July 17, 2025 -- Toyo Engineering Corporation (President and CEO: Eiji Hosoi, "TOYO"), Nippon Steel Engineering Co., Ltd. (President: Yukito Ishiwa, "NSE"), FullDepth Co., Ltd. (President: Satoshi Yoshiga, "FullDepth"), and Oki Electric Industry Co., Ltd. (Representative Director and CEO: Takahiro Mori, "OKI") are pleased to announce that their joint proposal, "Demonstration Project for the Utilization of Autonomous Surface Vehicles and Remotely Operated Vehicles," has been selected under the category of "Development of Maintenance Models for Offshore Wind Power Facilities," for the Cabinet Office National Ocean Policy Secretariat's publicly solicited "Autonomous Underwater Vehicle (AUV) Demonstration Project."

This demonstration project will conduct field trials of an Autonomous Surface Vehicle (ASV*[1]) and a Remotely Operated Vehicle (ROV*[2]) to investigate the feasibility of automating and unmanning underwater inspection operations for the maintenance and management of offshore wind power facilities. Based on these findings, a roadmap for the social implementation of marine robotics, including Autonomous Underwater Vehicles (AUVs*[3]) will be developed.

Background

As part of Japan's strategy to position renewable energy as a primary power source, the government has set ambitious targets to develop 10 GW of offshore wind capacity by 2030 and 30–45 GW by 2040*[4]. With rapid development expected, ensuring safe and cost-effective maintenance of offshore facilities has become a pressing challenge. The utilization of AUVs, which can autonomously navigate underwater to collect marine data and inspect infrastructure, is gaining attention as a promising solution to address diver shortages, safety concerns, and rising maintenance costs.

Project Overview

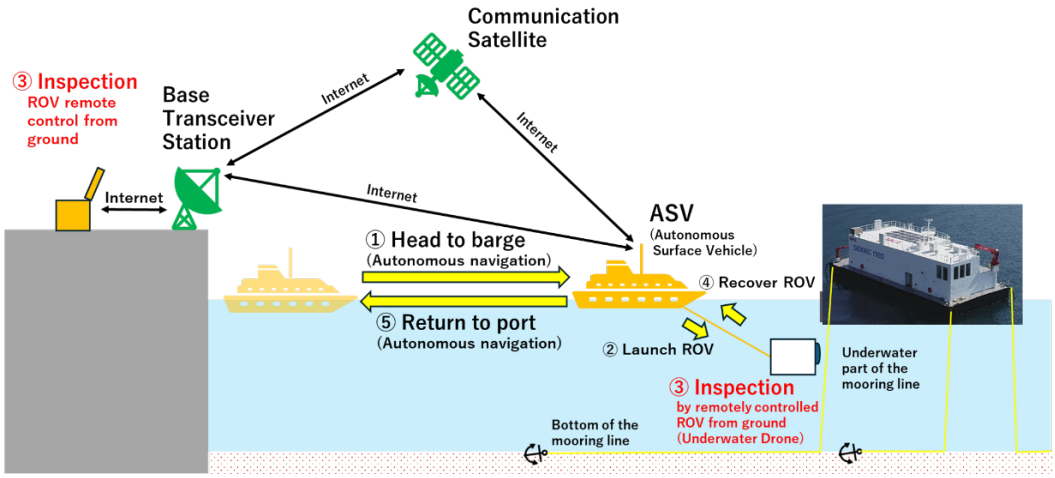
As the initial step toward the social implementation of AUVs, this project will conduct offshore trials using an ASV and a ROV. These trials are designed to envision the transition to AUVs and to validate the effectiveness of unmanned technologies in acquiring underwater data from a test target representing a floating offshore wind power facility*[5].

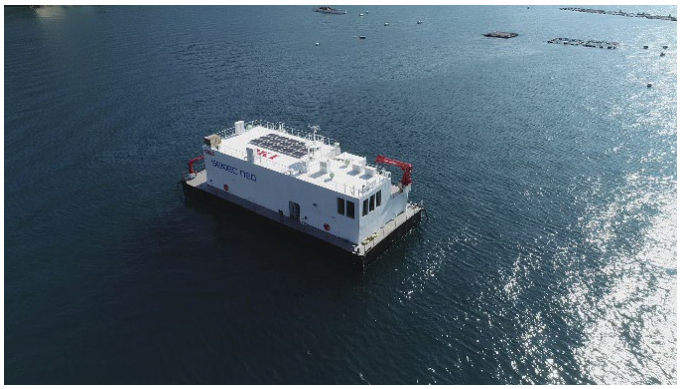
Building on the results of the demonstration trials, this project will identify and assess key technical challenges for the practical application of AUVs, while also exploring data-driven (DX) operation and maintenance models, and revenue generation models for the offshore wind power. Ultimately, the initiative aims to develop a comprehensive roadmap for the social implementation of marine robotics, including AUVs.

TOYO will lead the overall project management, leveraging its extensive experience in executing complex projects. NSE will contribute its expertise in the design, fabrication, and construction of offshore wind facilities. FullDepth will provide advanced inspection technologies utilizing ASVs and ROVs. OKI will offer critical insights into infrastructure technologies, supporting the social implementation of AUVs and related systems. Together, these four companies will collaborate to conduct the demonstration and develop the AUV implementation roadmap.

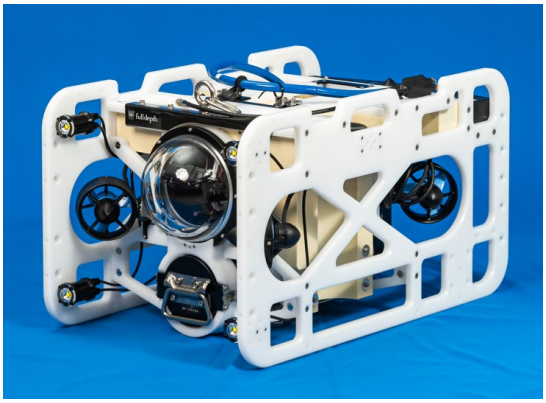
For more information about the Cabinet Office's AUV Demonstration Project, please refer to the link below.
https://www8.cao.go.jp/ocean/policies/auv/auv_pilot_project/pilot_index.html

[Demonstration Equipment Overview]





"SEATEC NEO": Japan's only stationary measurement barge (owned by OKI)



“DiveUnit300”: ROV manufactured by FullDepth

“Eight Knot I”: ASV owned by Eight Knot Inc., a FullDepth partner

[Notes]

*1 ASV (Autonomous Surface Vehicle): An unmanned surface vehicle that navigates autonomously. For this trial, “Eight Knot I” will be used.

*2 ROV (Remotely Operated Vehicle): An unmanned underwater vehicle operated remotely.
For this trial, “DiveUnit300” will be used.

*3 AUV (Autonomous Underwater Vehicle): An unmanned underwater vehicle capable of autonomous navigation based on environmental awareness.

*4 Source: Agency for Natural Resources and Energy, “Seventh Strategic Energy Plan” (2025).

*5 The test target for this trial will be the mooring lines of OKI’s measurement barge “SEATEC NEO.”

[About TOYO]

Toyo Engineering Corporation has been at the forefront of engineering innovation since 1961. As a global engineering and project solutions partner, TOYO offers advanced technological solutions across a range of industries, from oil and gas to renewable energy and petrochemicals in over 60 countries. By leveraging its cutting-edge expertise and commitment to excellence, TOYO helps businesses worldwide achieve operational efficiency and sustainable development. With a mission of "Engineering for Sustainable Growth of the Global Community" Toyo is committed to driving progress and delivering solutions that benefit industries and communities alike. Learn more at https://www.toyo-eng.com/jp/en/.

[Contact]

Toyo Engineering Corporation　Corporate Communications Dep, Corporate Strategy Div.
Tel ：070-1735-7304
URL：https://www.toyo-eng.com/jp/en/contacts/