

Project Overview

Demonstration project for floating offshore wind power off the southern coast of Akita Prefecture, aimed at low-cost solutions and future overseas deployment.

Project Overview

Project name	Demonstration project for floating offshore wind power off the southern coast of Akita Prefecture, aimed at low-cost solutions and future overseas deployment. ※This project is based on NEDO's Green Innovation (GI) Fund program.
Demonstration area	Off the southern coast of Akita Prefecture (Water depth: approx. 400 m)
Project scale (planned)	Turbine capacity: 12-15 MW class Number of turbines: 2 units
Project period (planned)	August 2024 - March 2031 Start of demonstration operation: October 2029

A consortium was formed by 9 companies including a general trading, an electric power, an operating, a shipping and construction, a rope manufacturing, and an aviation.

Project Implementation Framework (Consortium)

Overall optimization & Project development			EPCI			O&M		
MOWD	Tohoku-EPCO	AFOW LLC	JMU	TOA	Tokyo Rope Mfg.	Kanden Plant	JFE Engineering	NNK



※Source: Japan Marine United Corporation

Research Items

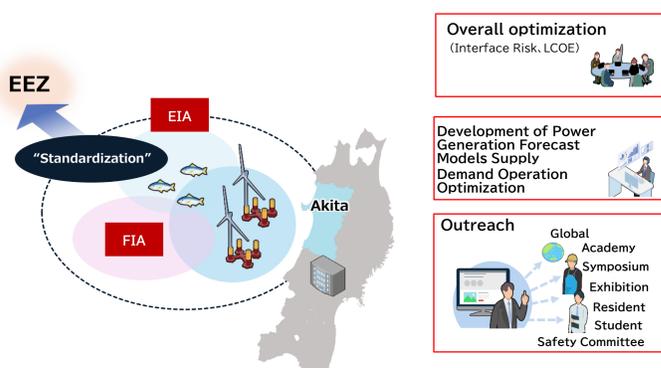
Each consortium member will assume specific roles to carry out a total of **21** Research & Development projects.

Research Areas	ID	Items	Responsible Companies
Project Development 7 items	D-1	Overall optimization to reduce LCOE	Marubeni Offshore Wind Development (MOWD) ※SC: University of Tokyo
	D-2	Cost Evaluation of Floating Offshore Wind Power Generation Systems in Large-Scale Wind Farms	Tohoku Electric Power (Tohoku-EPCO)
	D-3	Reduction of interface risks	Akita Floating Offshore Wind LLC (AFOW)
	D-4	Development of High-Precision Weather and Power Generation Forecasting Models for Imbalance Reduction and Optimization of Coordination with Real-Time Balancing Operations	Tohoku-EPCO ※SC: weathernews Inc.
	D-5	Rationalization and Advancement of Environmental Impact Assessment Predictions in Far-Offshore Areas toward Expansion into the EEZ	Tohoku-EPCO ※SC: Marine Ecology Research Institute
	D-6	Evaluation of Fishery Impact Assessment Methods in Far-Offshore Areas toward Expansion into the EEZ	Tohoku-EPCO ※SC: Marine Ecology Research Institute
	D-7	Outreach to public and stakeholders	AFOW ※SC: University of Tokyo
EPCI 8 items	E-1	Establishment of Afloat Joining Technology	Japan Marine United Corporation (JMU)
	E-2	Establishment of Optimal Construction Methods by Building the Alliance	JMU
	E-3	Optimization of Floater Logistics for Minimizing Temporary Wet Storages	JMU
	E-4	Improvement of Operational Limits of Installation Vessels and CTVs	JMU ※SC: "K" Line Wind Service, Ltd.
	E-5	Mass production and reduce cost used "Inshore structure with C-SEP method"	TOA CORPORATION
	E-6	Development & Standardization of High-precision Structural Analysis Methods for Large FOWT	JMU
	E-7	Overall Cost Optimization of Hybrid Mooring in Deepwater Regions	JMU
	E-8	Weight Reduction & High Strengthening of Synthetic Fiber Ropes	Tokyo Seiko Rope Mfg.
O&M 6 items	O-1	Verification of Helicopter Operation Optimization	NAKANIHON AIR
	O-2	Improvement of the project asset value i.e., power production and lifetime, by utilizing Digital Twin system	JMU
	O-3	Continuity test of blade downconductor by remote operation	Kanden Plant Corporation
	O-4	Transportation of supplies by drone	Kanden Plant Corporation
	O-5	Demonstration and improvement of underwater observation methods	MOWD ※SC: Shimadzu Corporation
	O-6	Remote Blade Damage Assessment and Wind Turbine Restart Decision System for Lightning Strikes	JFE Engineering Corporation

Overall Framework of Project Development/EPCI/O&M

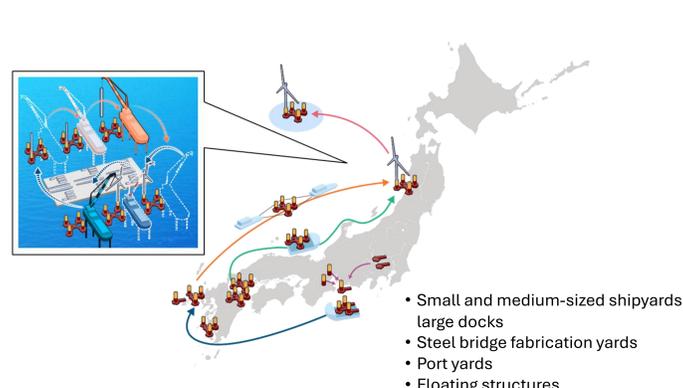
Project Development

Demonstration of overall project development aimed at identifying challenges for offshore and deep-water implementation and organizing optimization strategies for the entire project



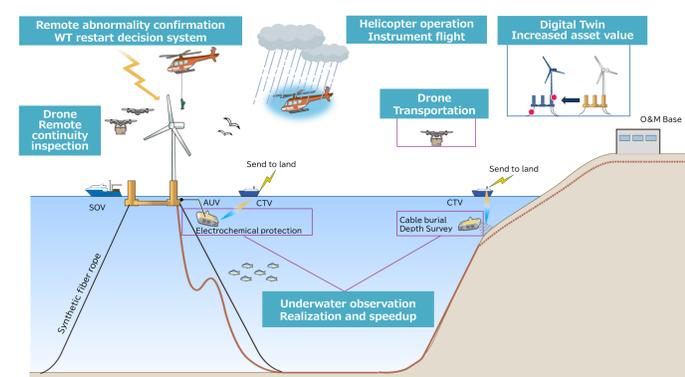
EPCI

Resolving issues expected in design, manufacturing, transportation, and construction to achieve early large-scale deployment and cost reduction



O&M

Resolving issues expected in achieving stable operation and cost reduction (unmanned operation, labor saving, automation)



▶ Composition and optimization of model cases for the implementation of floating offshore wind power

▶ Formation and Optimization of Supply Chains through Alliance Building and Other Measures

▶ Realization of maintenance and management, and formation and optimization of the supply chain