Keynote

Wed. Nov 11, 2026 2:00 PM - 3:30 PM JST | Wed. Nov 11, 2026 5:00 AM - 6:30 AM UTC | Room A (Oshidori) (2F)

Keynotes A1

Chair: Marina Tonani, Fei Chai

2:15 PM - 2:35 PM JST | 5:15 AM - 5:35 AM UTC

[_yrsOa95-02] Transforming Ocean Observation into Continuous Action through Fujitsu's Ocean Digital Twin

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As societies face increasingly complex challenges, understanding the interdependencies among physical environments, ecosystems, infrastructure, human activities, and policies is becoming essential. Fujitsu's Digital Twin vision extends beyond the representation of physical assets to support informed decision making across social, economic, and environmental domains. Through initiatives such as Social Digital Twin and Digital Rehearsal, Fujitsu is exploring new ways to understand complex systems and evaluate actions before they are taken.

Building on this vision, Fujitsu is advancing Ocean Digital Twin technologies to make underwater environments more visible and understandable. Coordinated control of multiple underwater drones enables adaptive data collection across wide areas, while real-time sensing and rapid 3D reconstruction provide timely visibility into underwater conditions and evolving changes.

Through a hardware-agnostic approach, Fujitsu integrates multimodal data from underwater vehicles, cameras, sonar, environmental sensors, and other sources. The resulting digital representations can be continuously enriched through observation and operations, helping stakeholders improve situational awareness and make informed decisions regarding inspection, maintenance, environmental management, and other interventions. By applying Digital Rehearsal to these Ocean Digital Twin representations, stakeholders can evaluate possible interventions and their implications before actions are taken in the real environment. This creates a continuous cycle of observation, understanding, action, and learning.

This presentation introduces Fujitsu's latest Digital Twin vision and its application to the ocean domain. It will demonstrate how real-time observation, 3D visualization, and multimodal data integration can strengthen ocean intelligence and connect it with operational and societal decision making. Together, these capabilities contribute to more adaptive, resilient, and collaborative management of marine environments and infrastructure.

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