



Subsea Infrastructure Stability

WSense's mesh wireless underwater monitoring system provides real-time infrastructure monitoring in environments where traditional cabled systems are impractical or vulnerable—such as break-water dams, pipelines and port infrastructures.

Functionality Overview

Structural Health

Monitor the integrity and stability of critical underwater structures in real time.

Digital Twin Integrated Subsea-Surface

Combines underwater sensor data with surface vehicles, satellite imagery and remote sensing.

Meteo-Marine Monitoring

Monitors waves, currents, tides, and marine weather conditions.

AUV Coordination

Synchronizes Autonomous Underwater Vehicles for data collection and inspection.

Underwater Gateway

Integration of a subsea gateway into the control system providing continuous seabed network connectivity.

Structural Subsidence

Monitors sedimentation movement and accumulation, measures subsidence of critical structures.

Water Column Parameters

Monitoring of water quality and geochemical data that may compromise infrastructure integrity.

Benefits of IoUT

for Subsea Infrastructure Stability



Prevents failures

and ensures safety during construction and operational phases.



Maintains compliance,

minimize ecological impact, and anticipate risks to structural stability caused by geochemical changes.



Supports long-term operational continuity,

maintains structural integrity



Enables early detection of damage,

biofouling, or anomalies to support preventative maintenance.



Increases efficiency in inspection

and coverage in large-scale marine operations.

Read more on wsense.it or get in touch at wsense@wsense.it

WSense's IoUT in action

Wsense is collaborating on the construction of one of the most significant maritime infrastructures currently underway, providing an advanced underwater monitoring system to ensure safety and efficiency during the building phase.

The Underwater IoT network is equipped with a WNode, WSwitch, and a set of sensors such as accelerometers and piezometers, designed to detect real-time structural movements. The main goal is to monitor the civil work's movements during construction, eliminating the need for cables that are often damaged in complex environments.

Thanks to Wsense's underwater wireless technology, the system enables secure and continuous data collection and transmission, supporting timely decisions and reducing operational risks.

