



Upstream Oil & Gas Operations

WSense is setting a new benchmark for offshore oil and gas operations with its wireless real-time monitoring solutions. From riser integrity to supporting dynamic mission planning for resident AUVs, to long term monitoring of shut-in wells, our technology delivers continuous insights into structural health and environmental conditions without the limitations of cables or costly mobilisation of IMR vessels and ROV's. By enabling real-time detection of anomalies such as pressure variations, vibrations, and seabed shifts, WSense helps operators prevent costly downtime, reduce operational risks, and ensure compliance with stringent safety and environmental regulations.

Functionality Overview

Environmental Hazard Response

Real-time alerts for changes in currents supporting oil spill detection and spill drift prediction.

Digital Twin Integrated Subsea-Surface

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

Structural Health

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

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.

Monitoring of Shut-In Wells

Supports the long term surveillance of Plug & Abandoned wells after the subsea infrastructure is removed.

Benefits of IoUT for Upstream Oil & Gas Operations



Monitors cumulative signs of fatigue

avoiding operational downtime and supporting life extension decisions.



Boosts interconnectivity between sensors and AUV fleets

by leveraging cabled subsea infrastructure as a backbone for communication



Enables proactive measures

to protect infrastructure and minimize environmental impact.



Supports autonomous operations

and includes dynamic mission planning in the event of an unexpected observation during an IMR campaign.



Supports leak prevention

and enhances safety during oil and gas loading and production.

WSense's IoUT in action

WSense partners with an independent Norwegian offshore oil & gas operator, a key innovator of digital transformation in the Oil & Gas sector.

WSense is delivering next-generation underwater communication and monitoring solutions. Our wireless underwater technology integrates seamlessly into the operators existing subsea infrastructure.

This creates connectivity to the surface via the subsea production systems, providing real-time data transmission and supporting the various use cases of structural integrity monitoring and IMR - providing, in turn, predictive analytics for offshore assets.

This collaboration ensures safer, more efficient operations while reducing the need for costly and cable-based solutions.

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

