



Fondazione  
Ordine degli Ingegneri  
Provincia di Roma



Infrastrutture, Sistemi e  
Servizi di posizionamento per  
applicazioni Underwater



# Soluzioni per il monitoraggio delle Underwater Critical Infrastructures, comunicazione wireless, navigazione e IoT

*8 Luglio, Roma*

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W • S E N S E

WE GIVE VOICE TO THE OCEAN

## Underwater IoT Deployments and Impacts

Up to May 2025 | in Mediterranean Sea, North Atlantic Ocean, Red Sea

**2M+**

Data points transmitted in real-time

**37**

Monitored areas

**5**

MPAs deployed

**48**

Water and infrastructure parameters measured

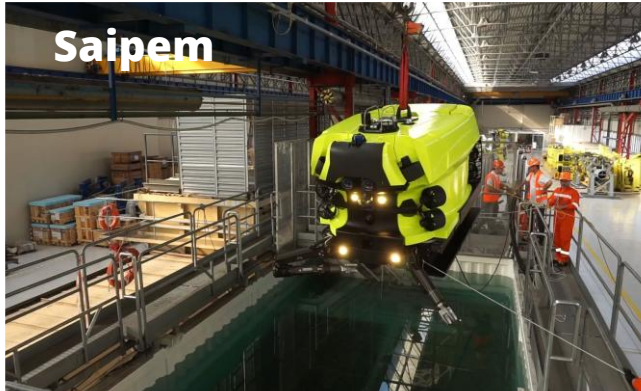
**2.5k**

Real time data points streamed wireless per day

W • S E N S E  
WE GIVE VOICE TO THE OCEAN

- Offices and operations in **Italy, Norway, UK, France, Middle East**
- 2 Global **Patents**
- **60+** Employees
- 30% **PhDs**
- **€+22M Round A and pre-RoundB** closed between '23 & 25





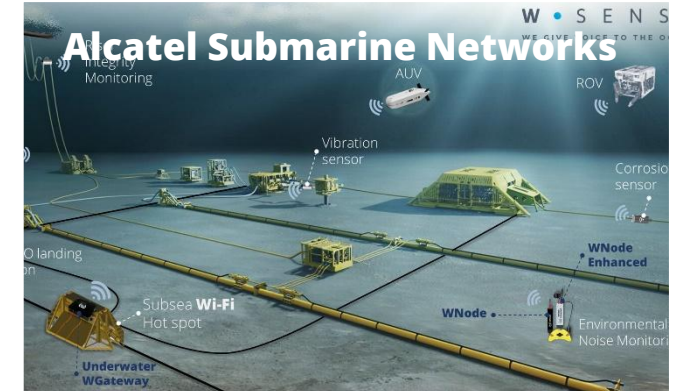
**Saipem**

**AGREEMENT FOR UNDERWATER DRONES  
COMMUNICATION NETWORKS**



**Fincantieri**

**SIGNED AN AGREEMENT ON THE  
UNDERWATER DOMAIN**



**Alcatel Submarine Networks**

**NEXT-GENERATION WIRELESS  
UNDERWATER COMMUNICATION SYSTEMS**



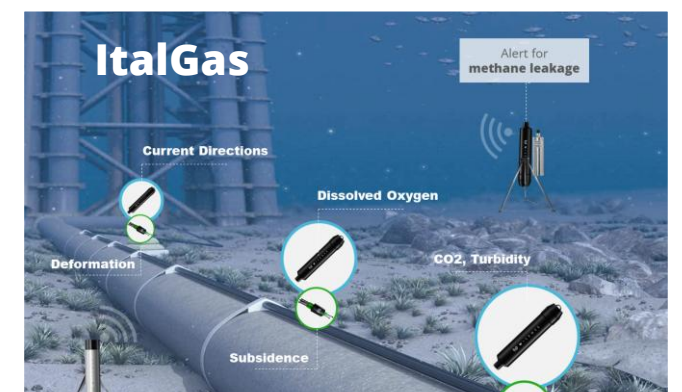
**Terna**

**TERNA LOOKS TO THE FUTURE FOR THE  
INTERNET OF UNDERWATER THINGS**



**Hub Ocean**

**SIGN MOU TO ADVANCE OCEAN  
SUSTAINABILITY AND DATA SHARING**

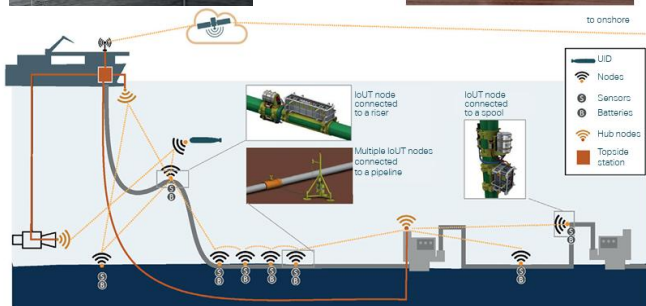


**ItalGas**

**CALL FOR IDEAS WINNER TO REALIZE A  
POC TO MONITOR UNDERWATER PIPELINES**

## ENERGY

### ASSET INTEGRITY MONITORING



### SUBSEA NETWORKS



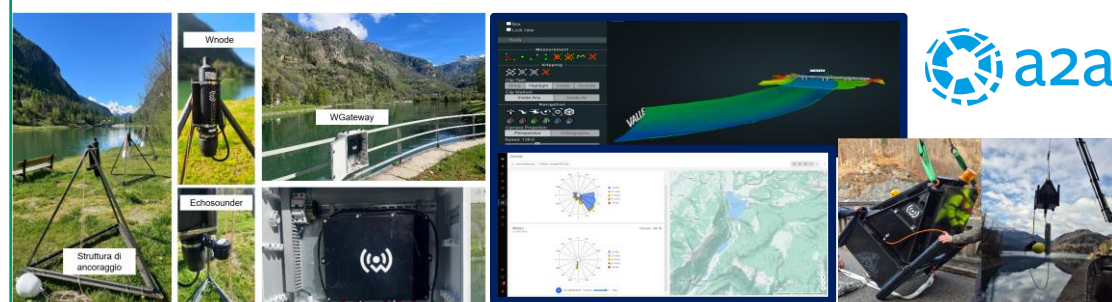
## CRITICAL INFRASTRUCTURE

### CRITICAL INFRASTRUCTURE MONITORING



## INTERNET OF UNDERWATER THINGS

### HYDROELECTRIC BASINS



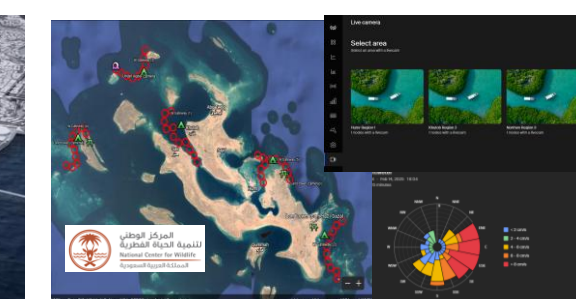
### ENVIRONMENTAL MONITORING AND METEOCEAN DATA



### WIRELESS STRUCTURAL MONITORING



### MARINE PROTECTED AREAS



# WSense TECH SUITE OVERVIEW

**PATENTED UNDERWATER  
WIRELESS MESH NETWORKING**  
+ INTELLIGENCE + CYBERSECURITY



## 1. WPLATFORM

Highly customizable cloud-based data collection and visualization platform for data analytics



## 2. Underwater drone general purpose module

Module for real-time data transmission, remote control, and comms with underwater or surface networks with advanced acoustic and radio-frequency communication technologies



## 3. WMICRO

Real-time miniaturized modem to connect devices such as tablets underwater.



## 4. WNODE & WNODE ENHANCED

Underwater Multi sensor nodes with acoustic modem for shallow water and for deep water (MIL grade)



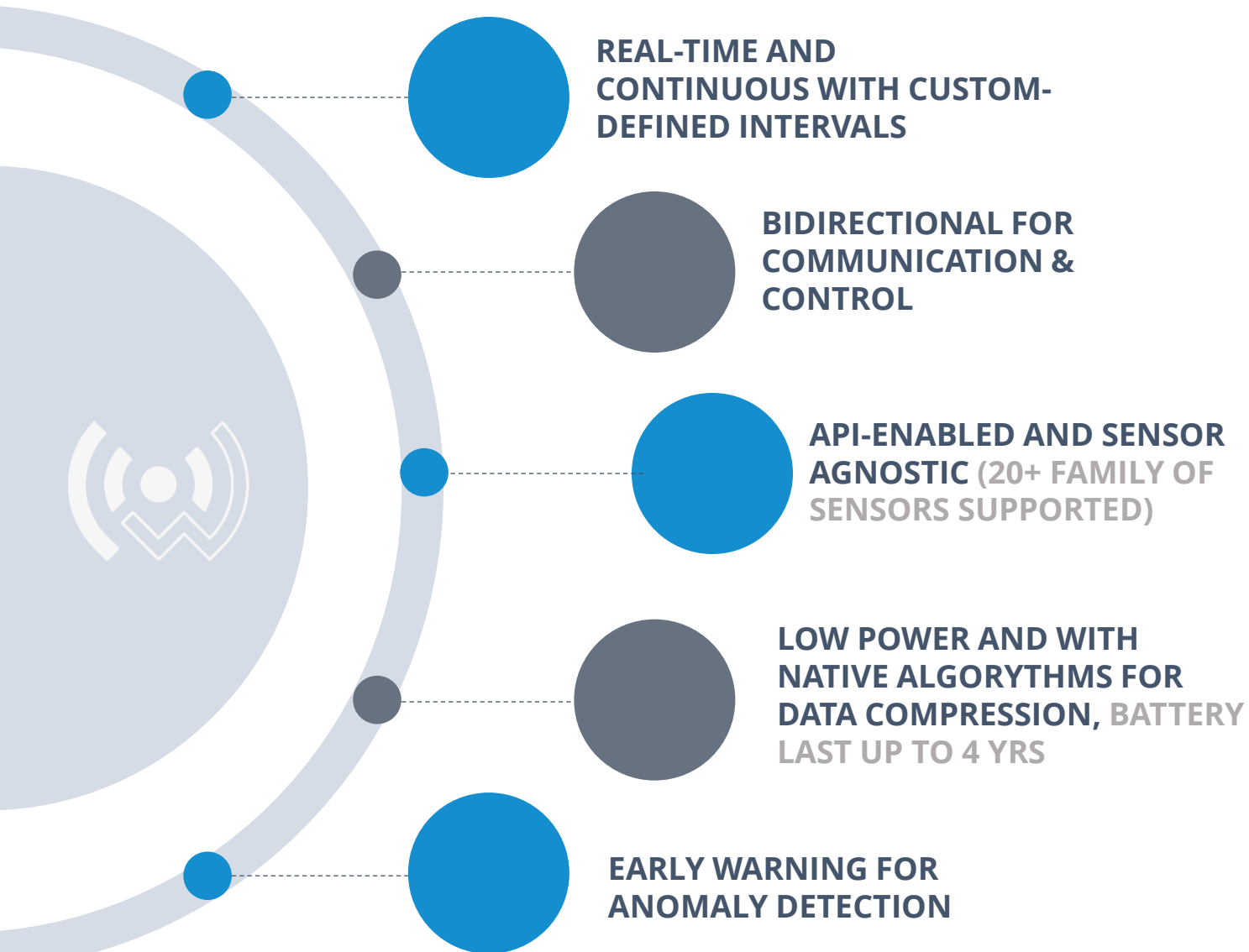
## 5. Underwater gateway, smart cable unit

Underwater Gateway integrated into underwater telecoms table



## 6. Smart Buoys

Advanced, multi-functional floating platform designed to enhance underwater communication, environmental monitoring, and data collection



WSense revolutionizes **underwater data collection** with its reliable wireless IoT solutions, enabling real-time monitoring of **water quality and marine environments in large areas** which is crucial for early detection, comprehensive views, **and deep insights for informed decision-making**



**Smart Cables & Pipelines**

**Hydro Electric basins**

**Off-Shore Energy**

**Defense & Critical Infrastructures**

**Marine Protected Areas**

**Robotics, AUVs Comms**

**Seismic & Volcanic Events**

**Desalination Plants**

WSense is actively involved in the PNS projects, since the first batch:



- **PNS-2024-R-01 – SIMILARS**

Studio e definizione di interfacce standard per lancio, recupero e interazione tra veicoli autonomi subacquei e piattaforme cooperanti

- **PNS-2024-R-03 – MURENA**

Multistatic Underwater Reconnaissance Experimental Network Asset

- **PNS-2024-R-04 – TARAS (WSense Coordinator/Capofila)**

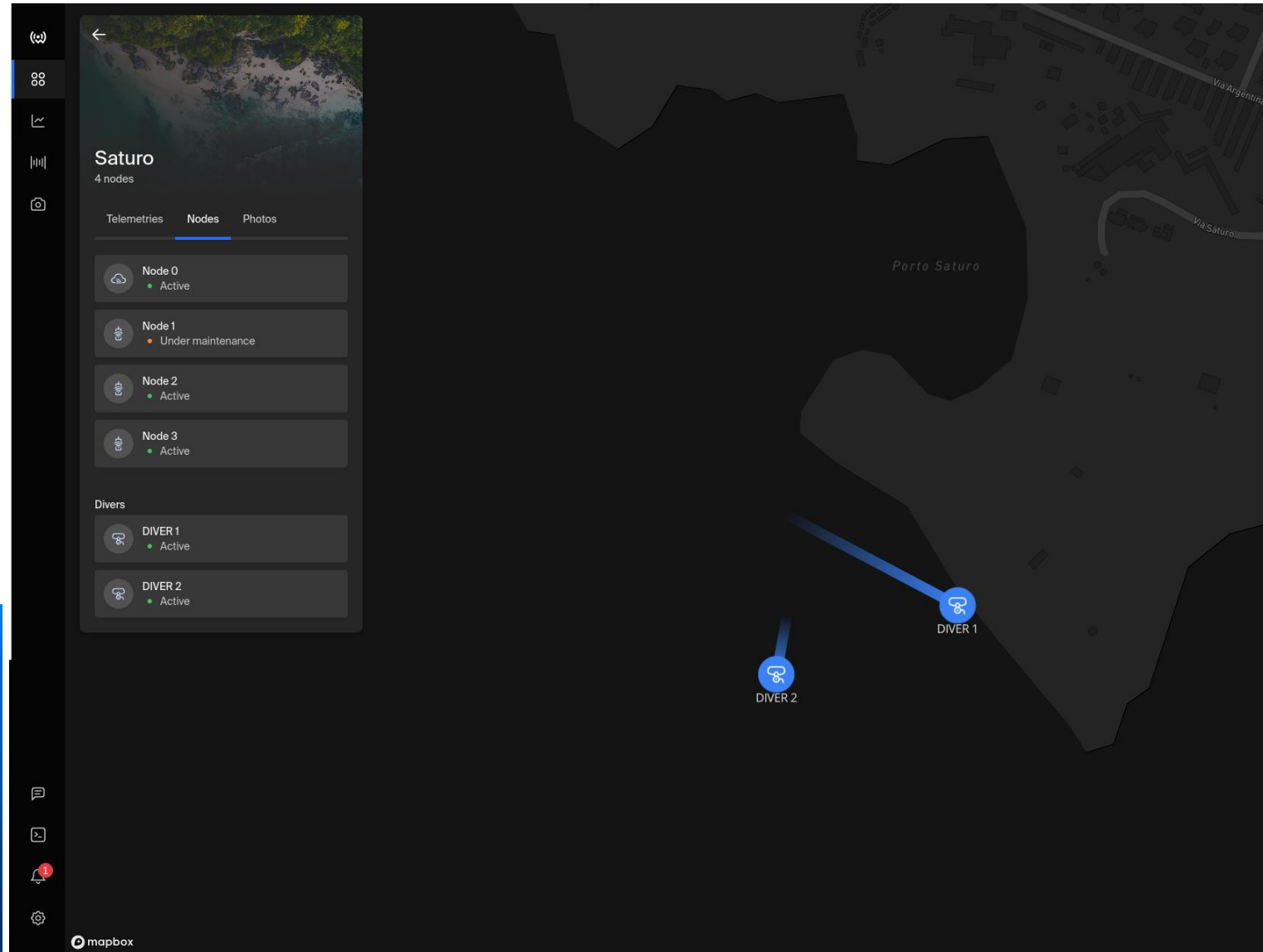
Tecnologie Avanzate di Rete per mezzi Autonomi Sottomarini



- **PNS-2024-R-06 – SENSOMAR**

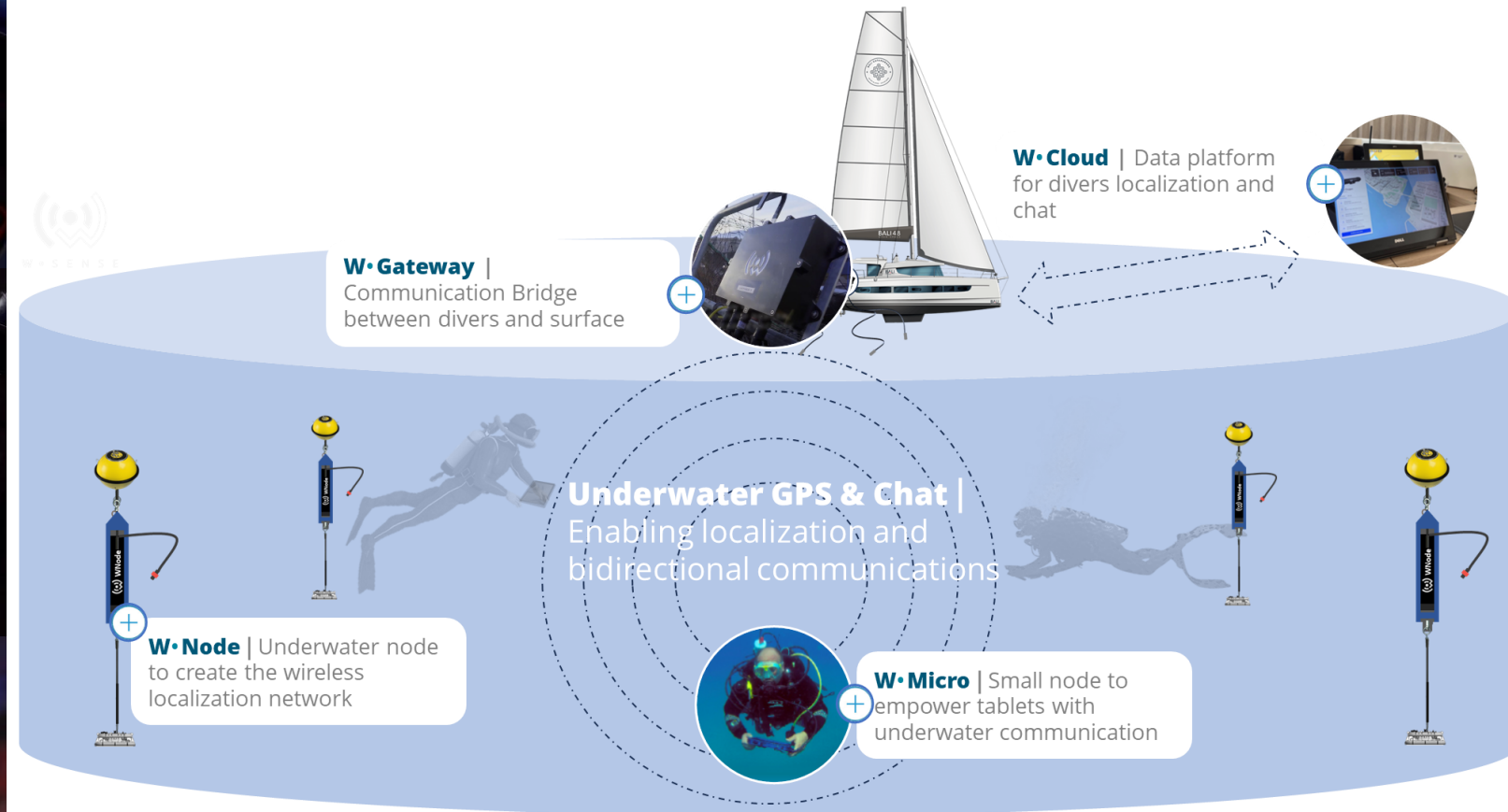
Sistema di Cavi Subacquei Intelligenti per il Monitoraggio Ambientale e la Rilevazione

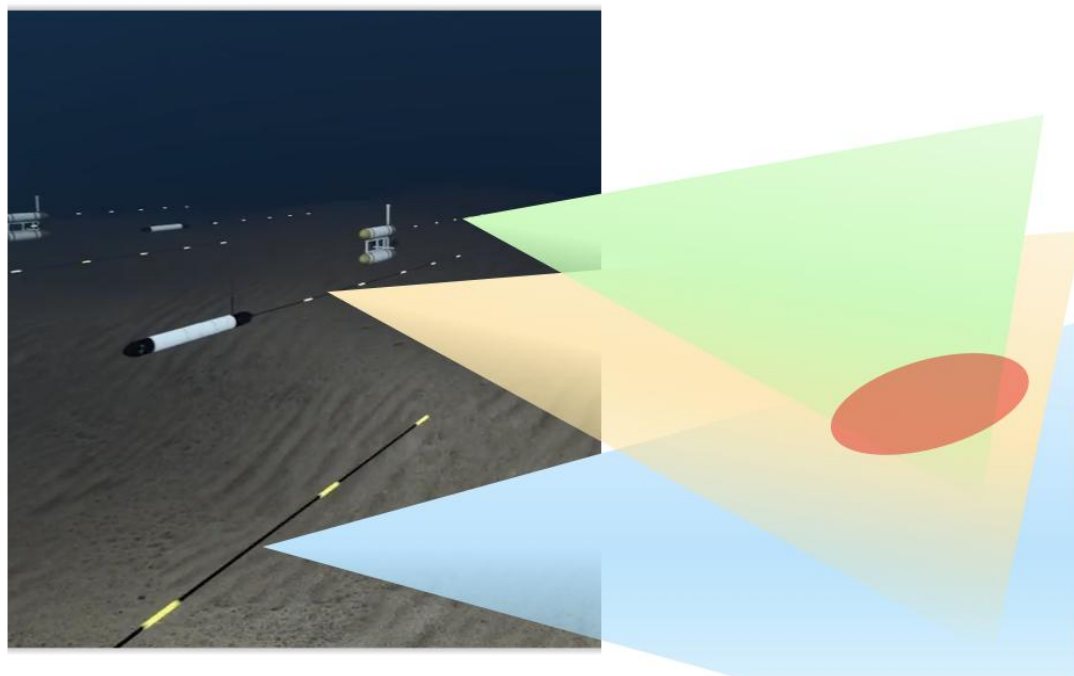
- WSense technologies enable the **underwater GPS (LBL system)** to detect and track the positioning of divers and other underwater relevant systems (such as UW drones)
- The positioning of underwater objects is viewable through the **map on WCloud**, WSense proprietary Cloud-based platform
- WCloud is supported even from **underwater tablet**



# UNDERWATER CHAT AND DIVERS' LOCALIZATION

**WSense** technology enhances **communication** among divers by the use of a **chat** supported on underwater tablets. Communication takes place within the **underwater network** and towards the **WGateway** on a **support boat**.





Cooperative target detection and tracking



SAPIENZA  
UNIVERSITÀ DI ROMA



Monitoring maritime areas by a cooperative Distributed Unmanned System made of heterogeneous Assets



**BLUE INVEST AWARD 2022:** Honored for pioneering AI-based ocean observation technologies supporting the sustainable blue economy.



**EIT DIGITAL CHALLENGE 2022:** Celebrated for merging technological innovation with social impact as a top European digital scale-up: Top 5 deep tech scaleups in EU.



**BLUE CHAMPION BY THE EUROPEAN INVESTMENT BANK AND EU COMMISSION 2024:** Recognized for fostering sustainable growth of marine resources and innovation at the EU level.



**SELECTED FOR THE DEEPTech ALLIANCE CLEAN ENERGY PROGRAM 2023:** Part of the selective program for EU top startups developing cutting-edge tech industry solutions in the energy sector.



**UPLINK WORLD ECONOMIC FORUM OCEAN DATA CHALLENGE 2023:** Awarded for being the most innovative company globally in leveraging data to protect marine ecosystems.



**WSense: SELECTED BY ENDEAVOR ELEVATOR\*** Selected for the Endeavor Elevator Program, a fast track into the Endeavor Program. 1/6th of Endeavor's catalyst fund companies reached unicorn status.



**HARVARD BUSINESS SCHOOL CASE STUDY (OCTOBER 2024):** Featured as a sustainability investment success by SWEN Capital Partners' Blue Ocean Fund.

# W • S E N S E

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ROME  
Italy (HQ)



BERGEN  
Norway



LONDON  
United Kingdom



BORDEAUX  
France



DUBAI  
UAE