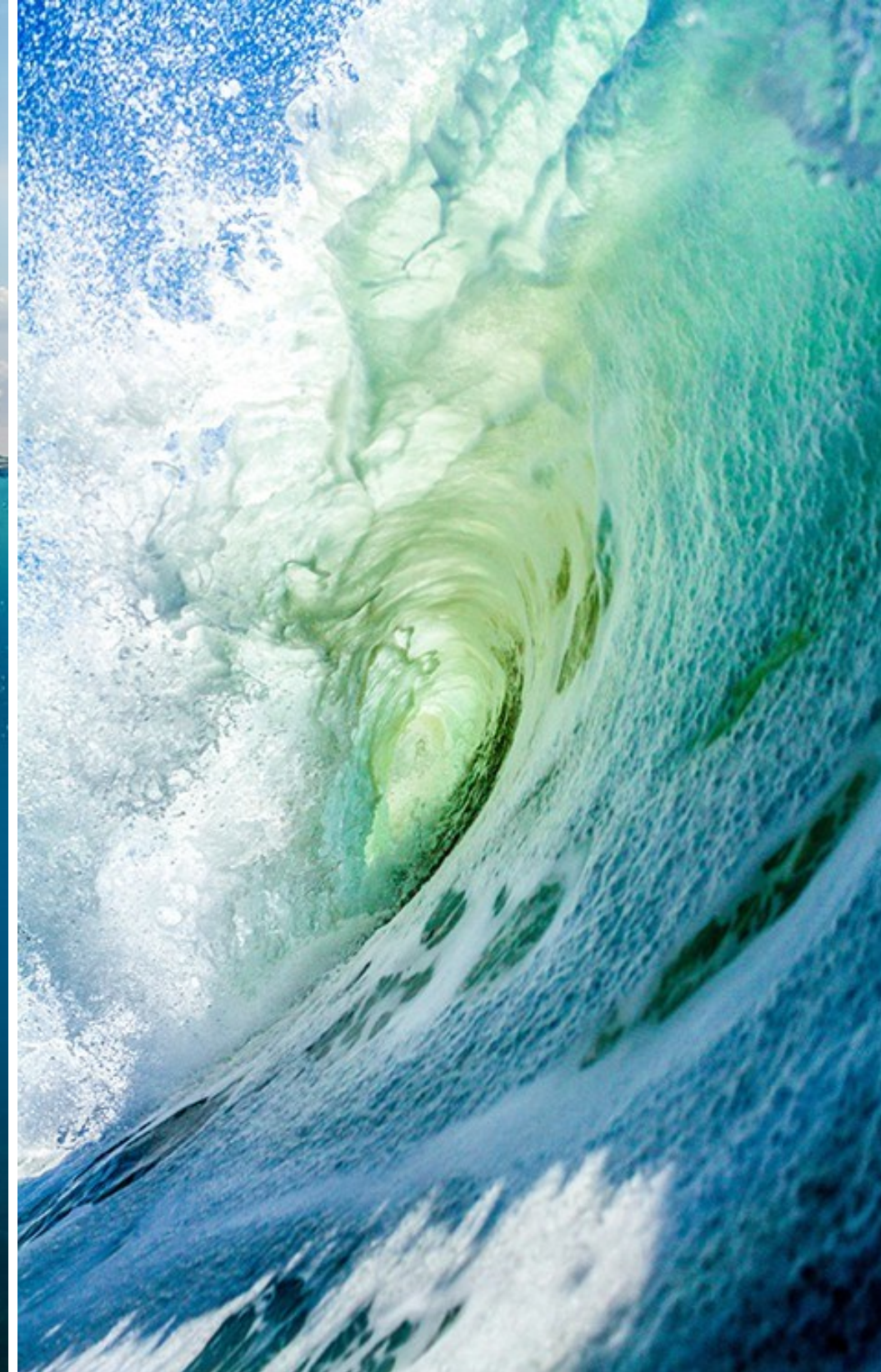
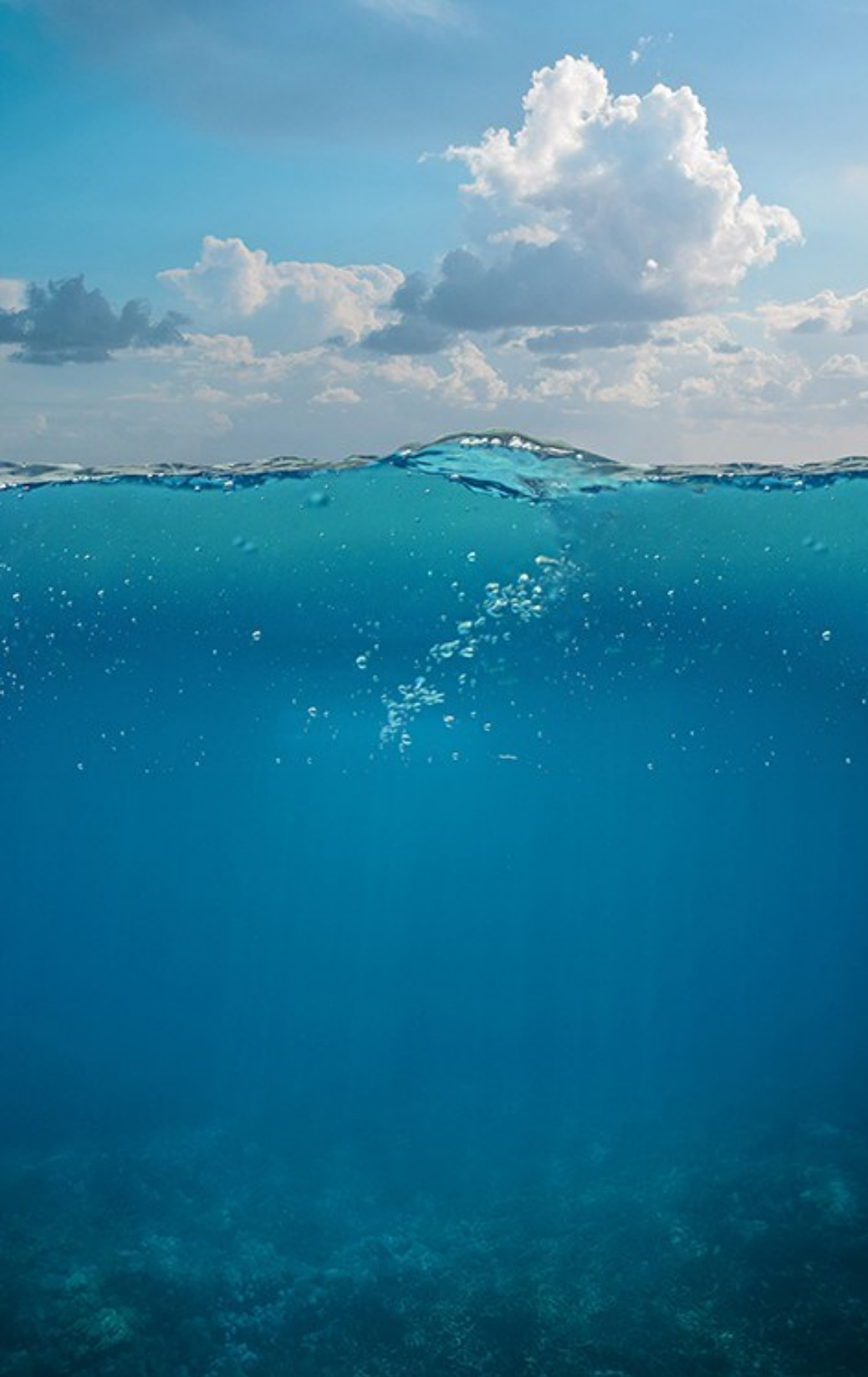




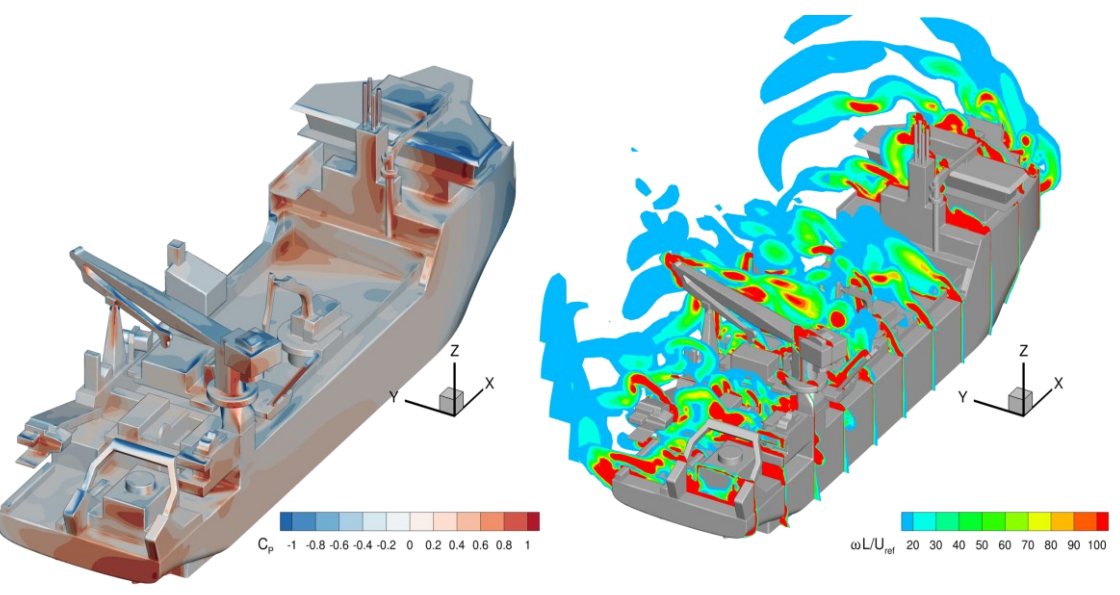
AI&HPC: a must for DeepTechs



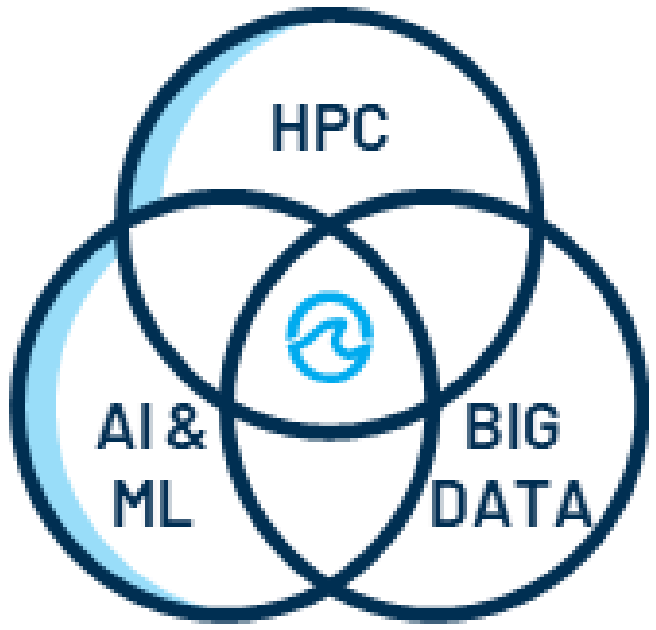
blue **oasis**
ocean sustainable solutions

Introduction

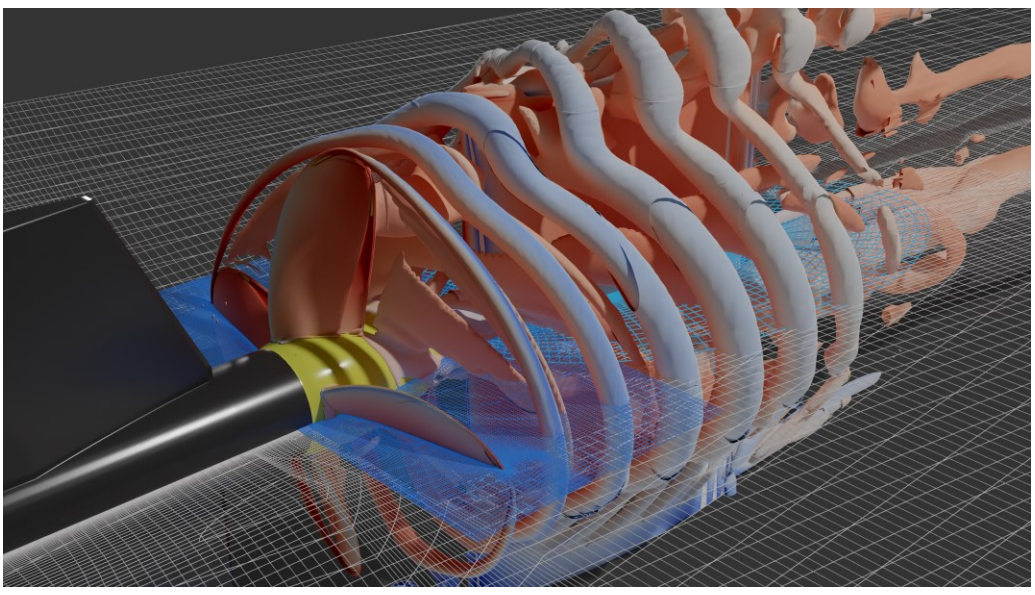
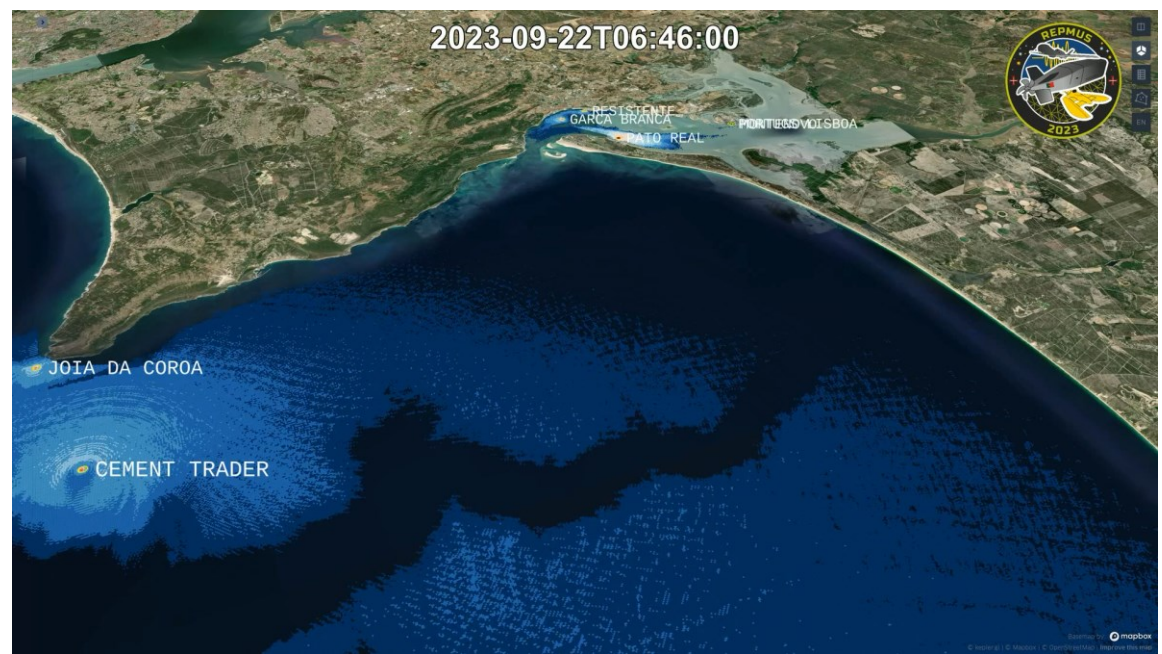
Making the World Green and the Oceans Blue



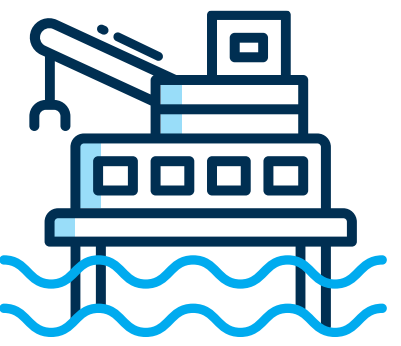
Renewables
Wind, Wave, Current,
Floating Solar



Ocean Cleaning
Chemicals, Plastics,
Underwater Noise



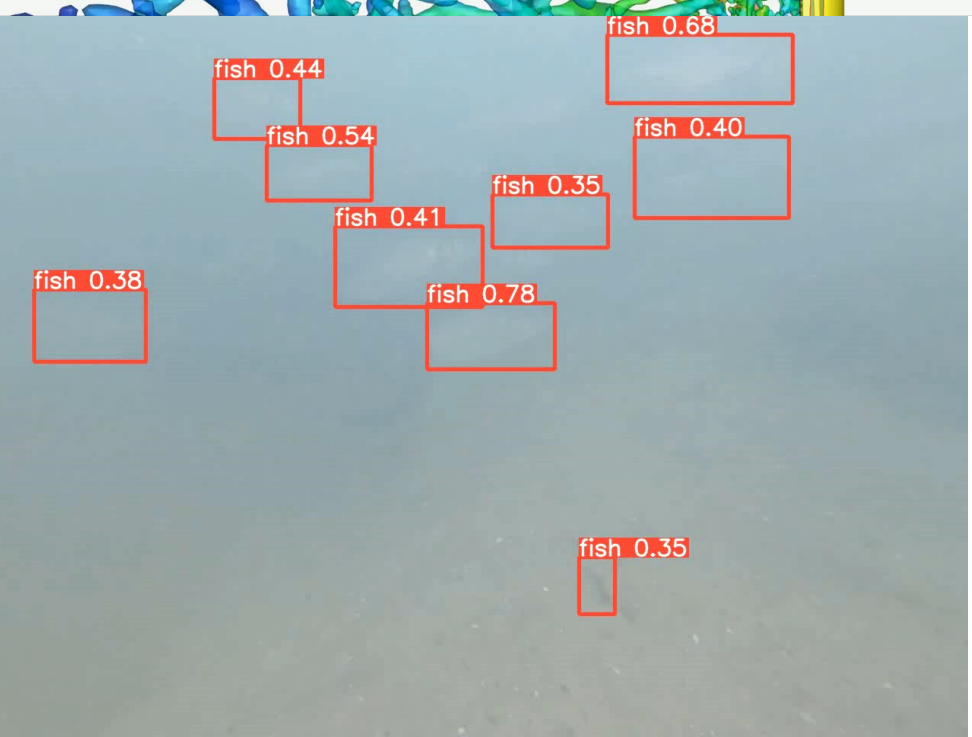
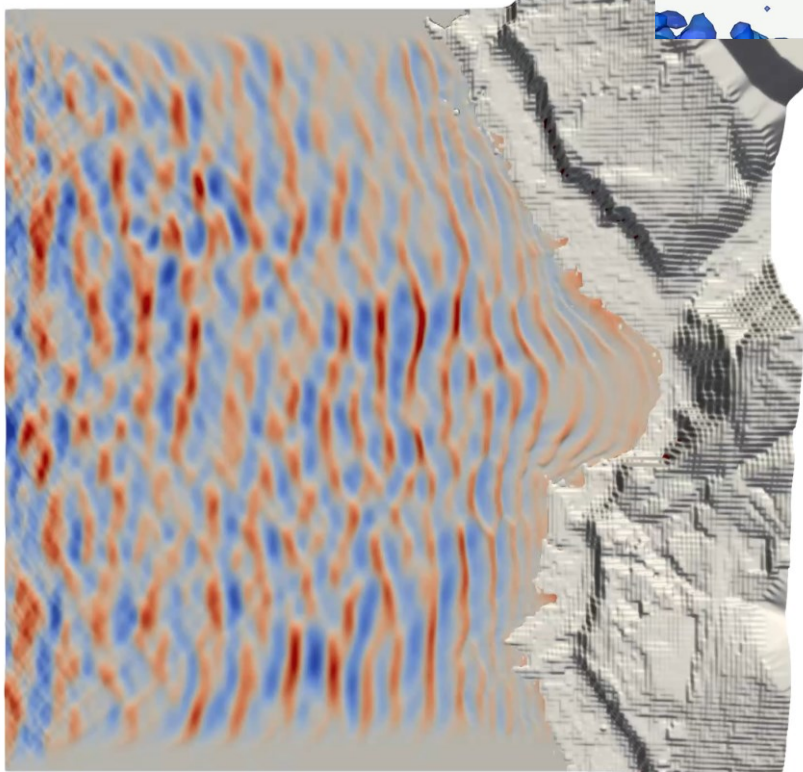
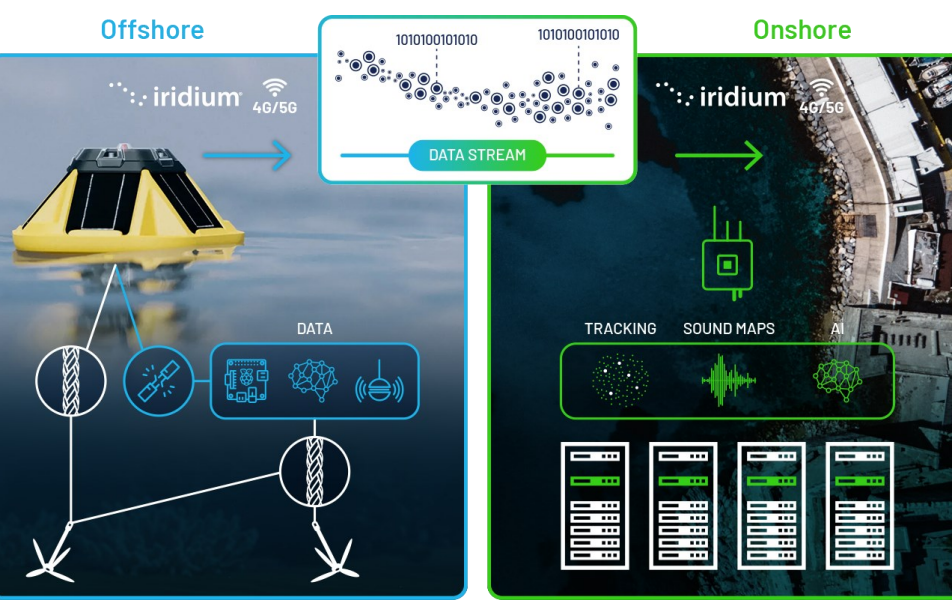
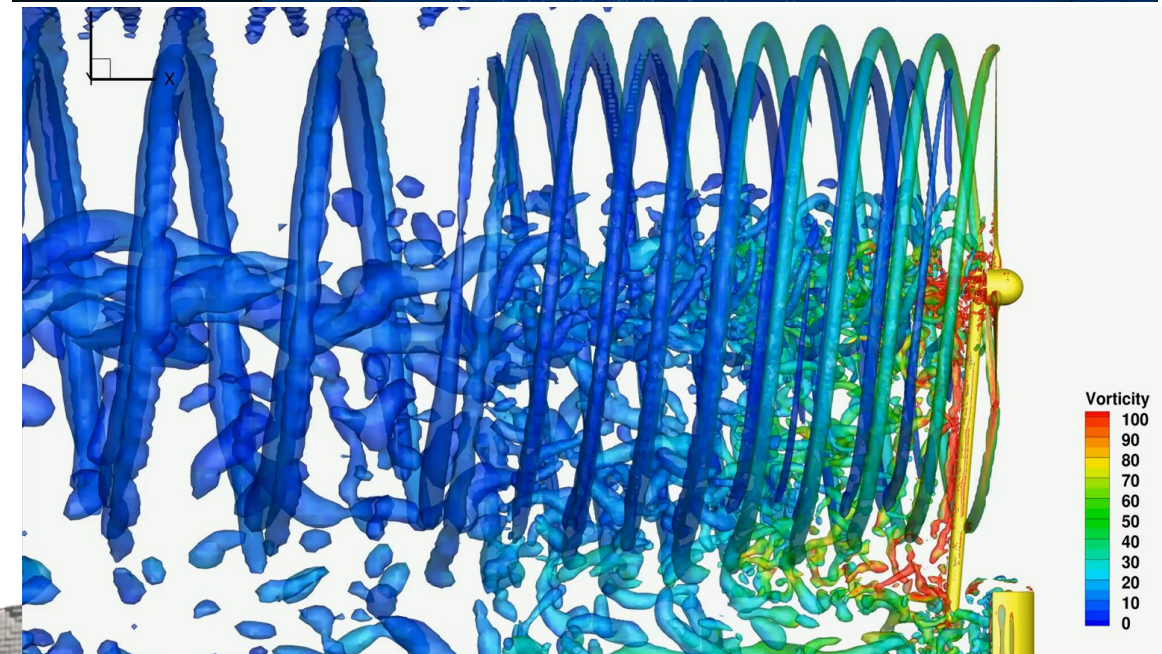
Naval
Holistic Improvements
and Analysis of Naval
Vessels



Maritime
Analysis and Optimization
of Platforms, Vessels,
Underwater Cables



Decarbonization
Alternative Ship Propulsion,
Alternative Offshore Energy



High-Performance-Computing (HPC)

HPC Experts

- Using HPC Tier-x machines
- Since 2004
- System admin level

Own resources

- Linux server.
- Windows server.
- Cluster atNorth

192+384 cores

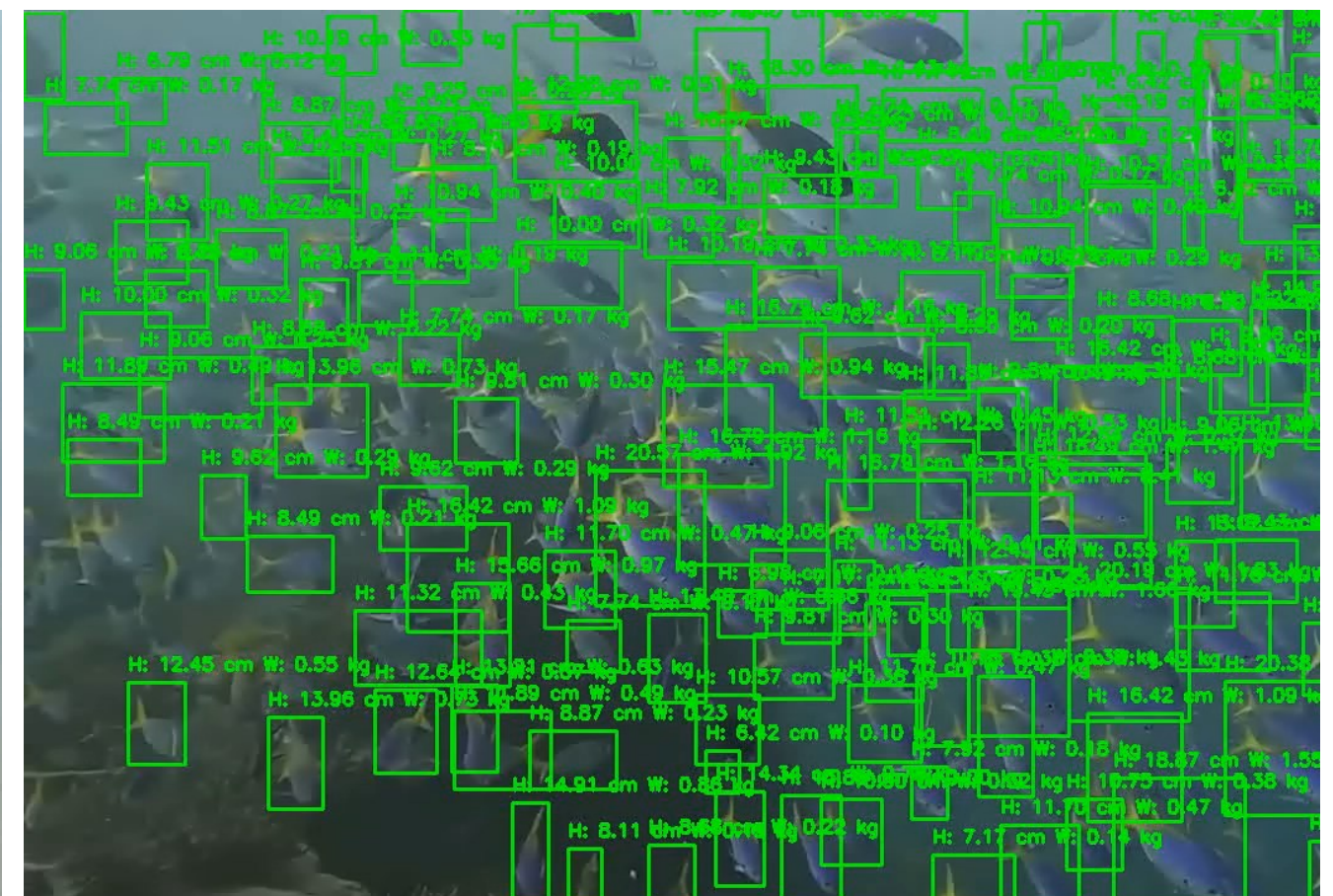
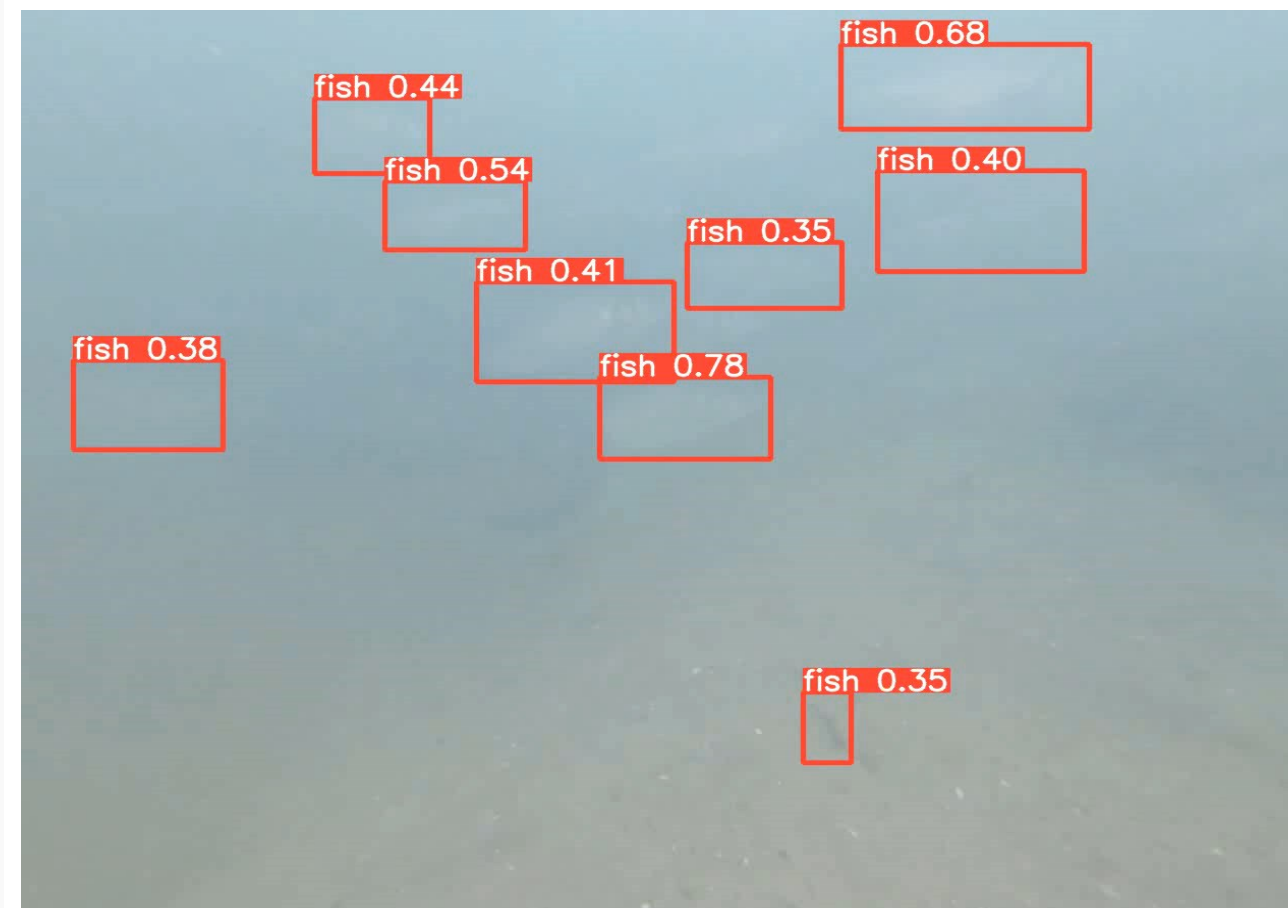
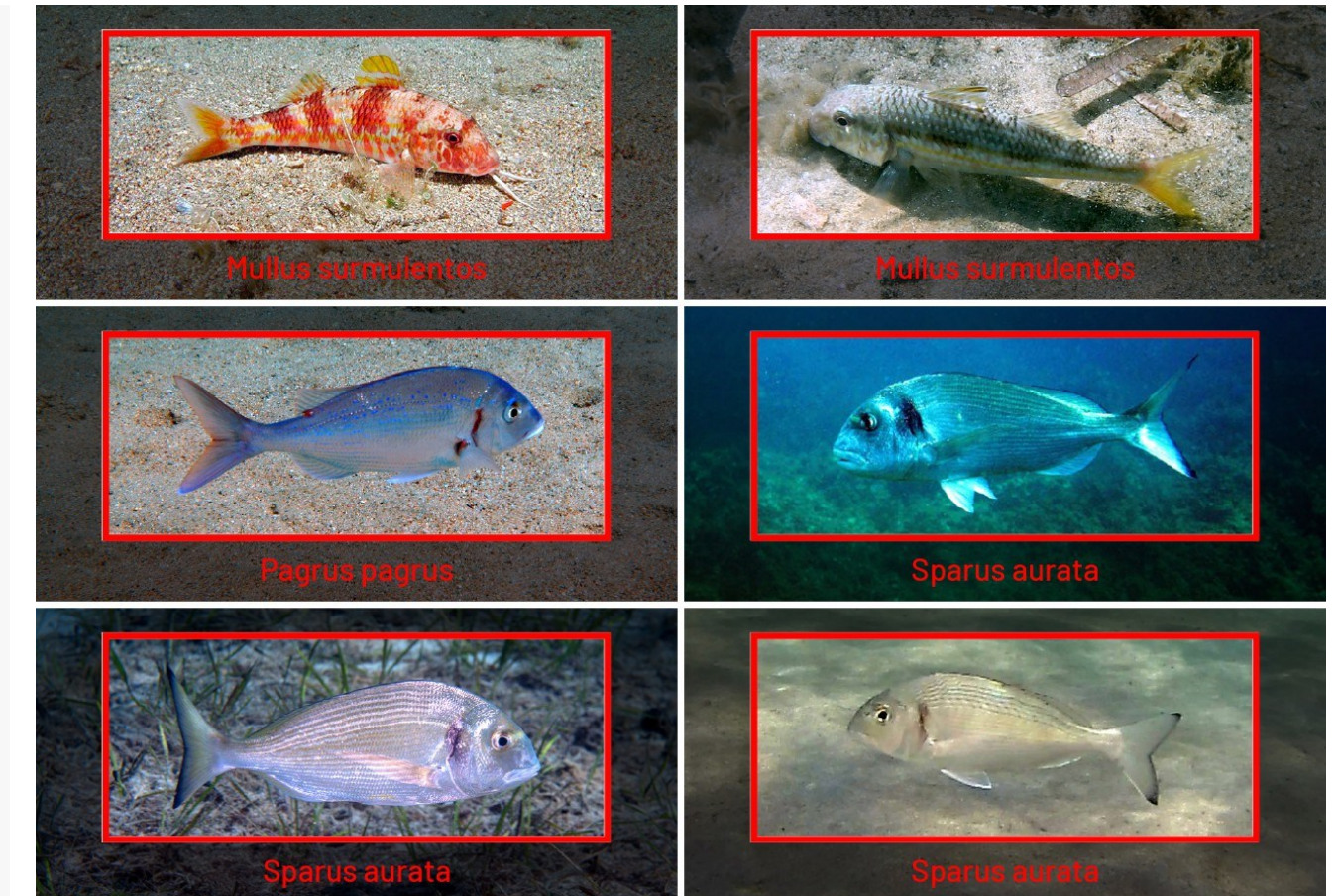
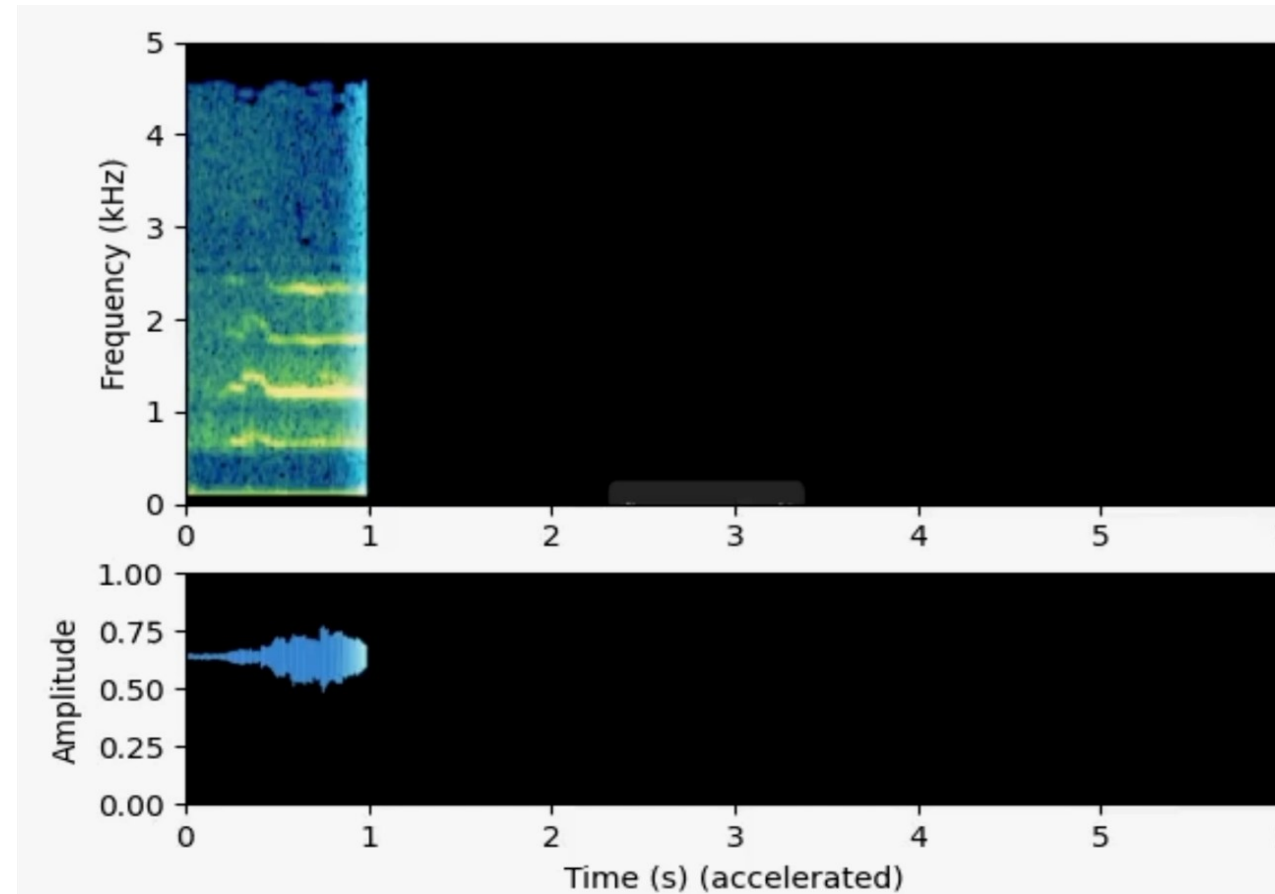
Research resources:

- Iridis5 (UK) 20400 cores
- Marclus4 (NL) 4360 cores (joint R&D)
- **Navigator (PT) 2.25Mcore-hours (2024)**
- **Deucalion (PT) 13.00Mcore-hours (2025)**



AI Applications

- Fog Quantification
- Plastic Detection
- Surface Vessel Detection
- Acoustic Automatic Classification
- Fish Species Recognition
- Fish Biometric Quantification
- Drone Detection





Hydrotwin

blueoasis
ocean sustainable solutions

Hydrotwin is a real-time underwater passive acoustic **AI-based system**.
Built to **detect, classify, track** and “**see**” what happens in the ocean.



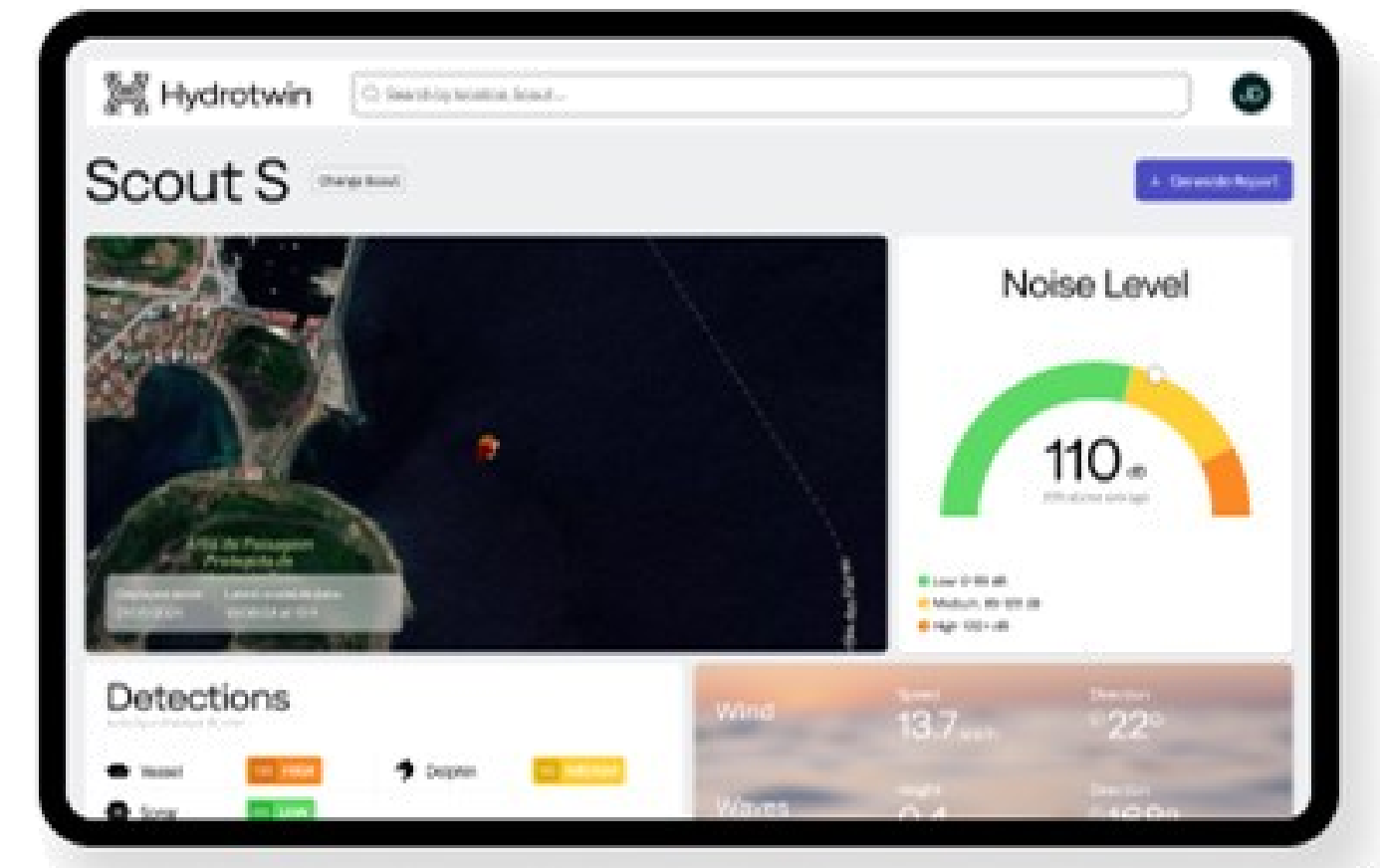
Hydrotwin-S (HT-S)



Hydrotwin-C (HT-C)



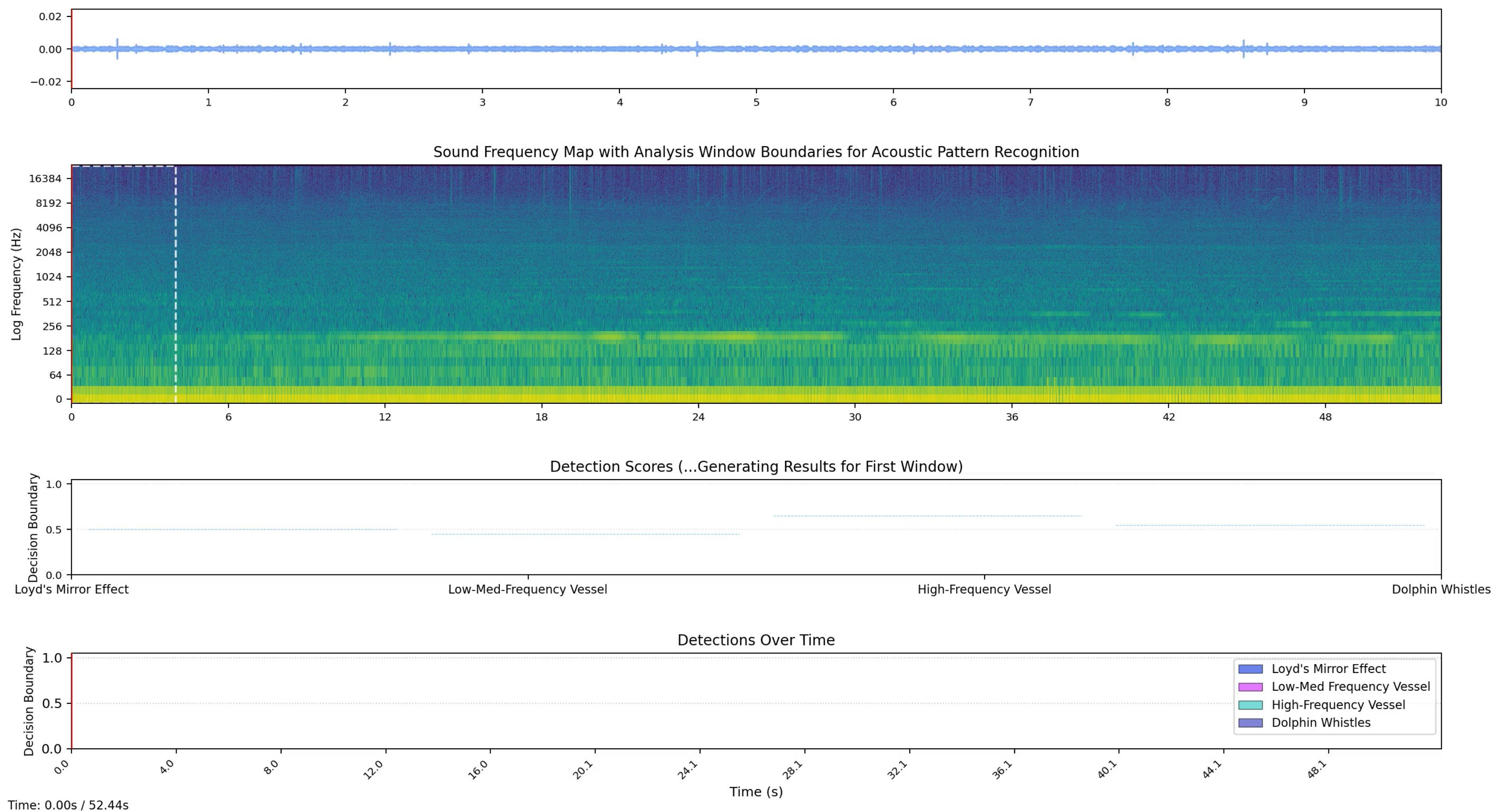
Hydrotwin-Intelligence



SOFAR Spotter-Sound with HT Intelligence



AI. Real-time. Edge. Less than 3Watt power. Own algorithm.





The Future



- **Modelling:**
 - ReFresco
 - Mohid
 - Reef3D
 - Raindrop
- **HPC:**
 - Deucalion/MareNostrum
 - Atlantis own HPC center
 - Focus on models and DTOs
- **AI:**
 - Underwater Vision and Acoustics
 - AI for CFD exascale
 - Surrogate Models
 - Digital Twinning
- **Products (Smart Sensors):**
 - Hydrotwin
 - SmartFisher



Thank you!

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