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Poster n°8

Structural behavior analysis under offshore conditions

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A National First - With Global Potential

The Channel coast is a key zone for offshore wind deployment. Yet, assessing the environmental impacts—both local and cumulative—remains a significant research challenge.

Off the coast of Fécamp, ***DRACCAR*** is setting a new standard in marine ecosystem and **structure monitoring**. As the first research platform of its kind in France, it brings together advanced technology, tools and scientific expertise .

Hosted by ***France Energies Marines***, ***DRACCAR*** serves as a model for future observatories. Its scalable approach paves the way for replication across all offshore wind farm sites.

See: www.france-energies-marines.org/en/projetcs/draccar/

A Living Laboratory at Sea

Equipped with a wide array of cutting-edge tools and sensors, the multi-instrumented platform enables continuous collection of data on **physical and environmental parameters** of the sea, as well as the **biological compartments** of the marine ecosystem/megafauna.

Shaping the Future of Offshore Wind

Real-time and long-term data acquisition—primarily carried out at ***University of Le Havre***—is critical for understanding both local and large-scale interactions between offshore wind structures and **breaking waves**. This *in-situ* monitoring, combined with laboratory-scaled experiments and numerical modelling of structural behaviour, enables valuable cross-comparison, ultimately contributing to the optimization of wind turbines design.

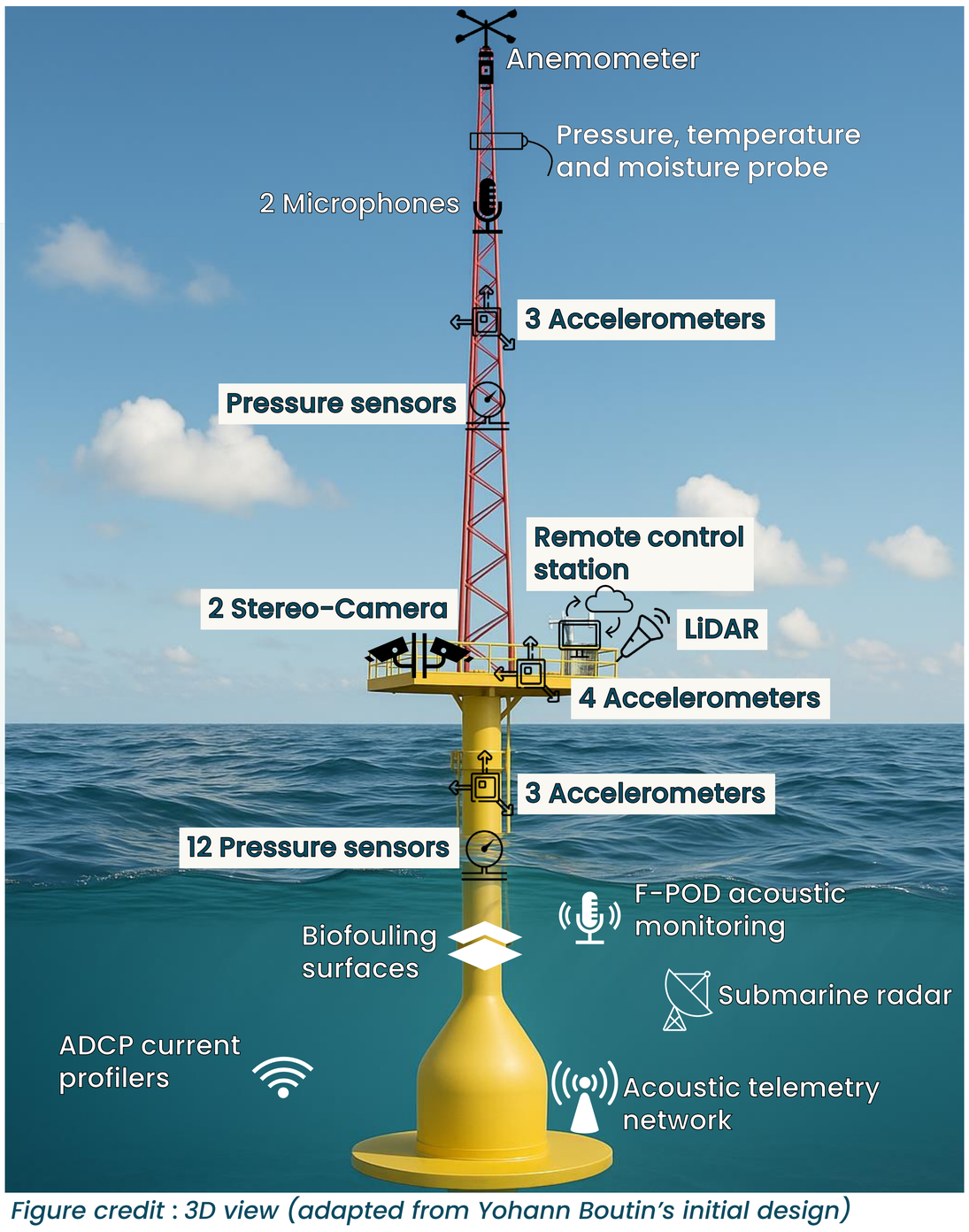
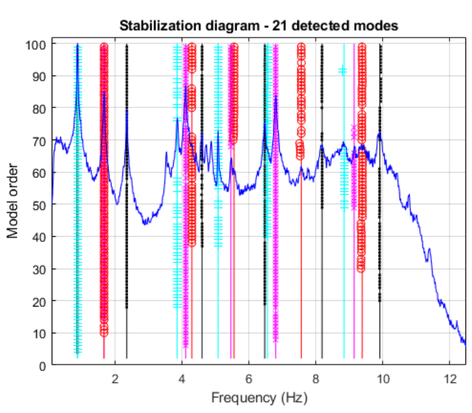
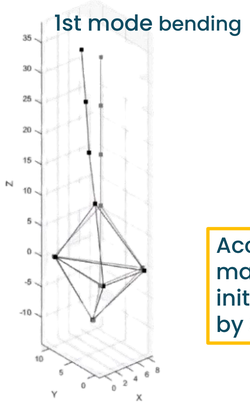


Figure credit : 3D view (adapted from Yohann Boutin's initial design)

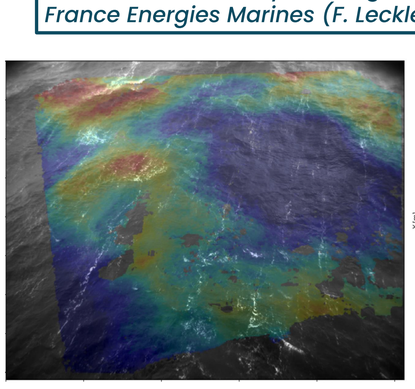


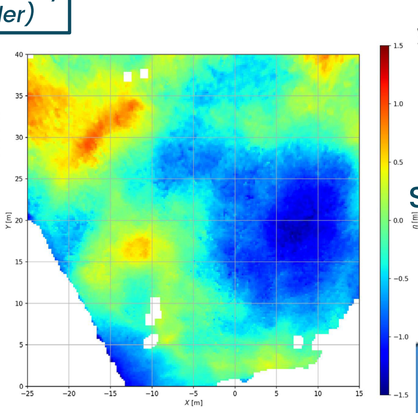


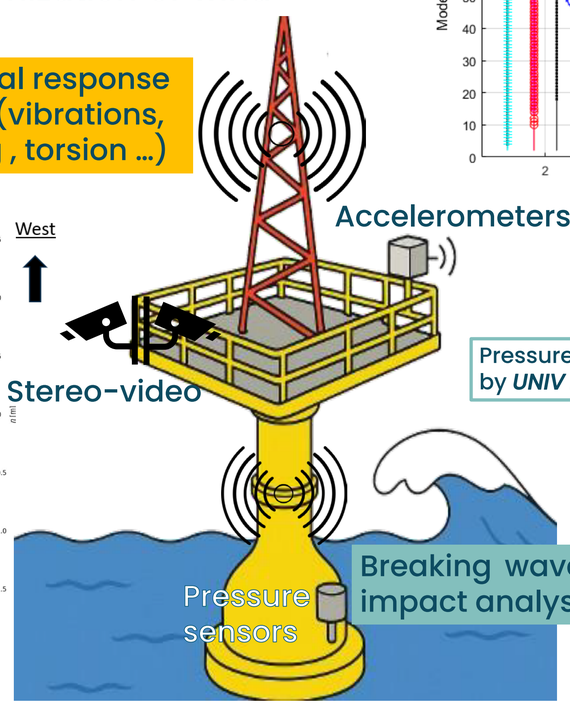
Accelerometers management initially handled by ***SERCEL***

Structural response studies (vibrations, bending , torsion ...)

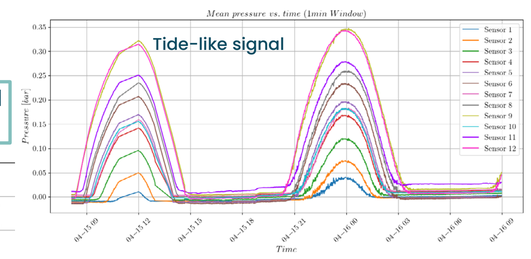
Stereo-video mainly managed by *France Energies Marines (F. Leckler)*

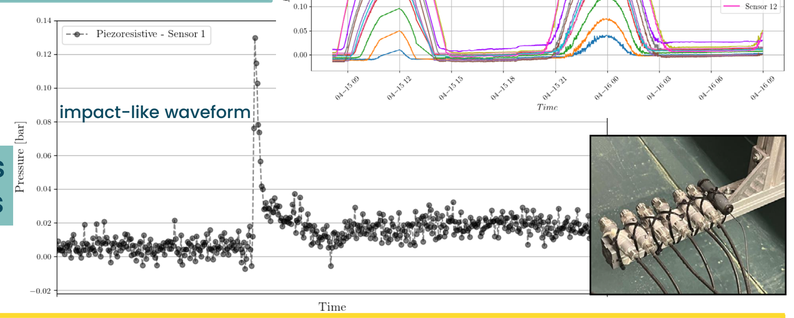






Pressure measurements handled by ***UNIV LE HAVRE and FEM***





Partners and Funding

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