UNOC 2025 : D-ICE announces major update to TACTiCS, integrating new features to improve maritime safety and environmental protection

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Real Challenges.
True Solutions.

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Increasing maritime traffic, coupled with high ship speeds, endangers whale populations. Yet whales are essential for the biodiversity of our planet. So, while awaiting maritime regulations that force ships to reduce their speeds and navigate in specific areas, D-ICE is developing a feature to prevent collisions with large cetaceans.

CARE – CetAcean tRacking fEature

The scientific community has quickly engaged with the issue of whale collisions with commercial ships, making it a highly **collaborative** field. Based on open-source whale observation data from the Ocean Biodiversity Information System (OBIS-SEAMAP), D-ICE has developed a mapping feature integrated into the TACTiCS weather routing software. Datas will be **continuously enriched**. This beta version will allow sailors to identify areas with high concentrations of whale observations and give them the opportunity to adjust their routes and speeds accordingly.
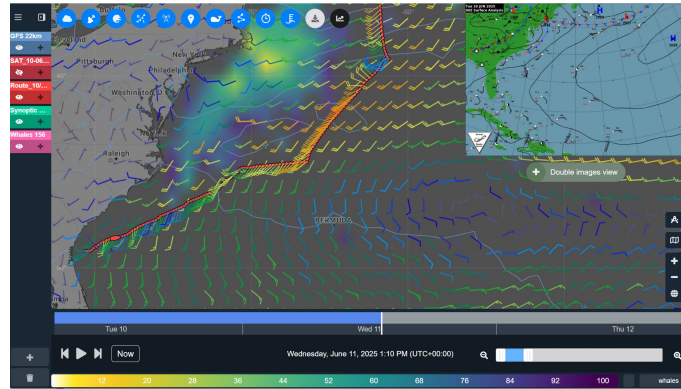
Ongoing developments include integrating **predictive models** of whale presence, **filtering** these data by **subspecies** and **seasons**, generating **alerts** during planning & navigation and integration of **speed reduction** in the routing algorithm. There is still much progress to be made, but TACTiCS is currently the only comprehensive tool that combines weather forecasts, routing, and cetacean data.
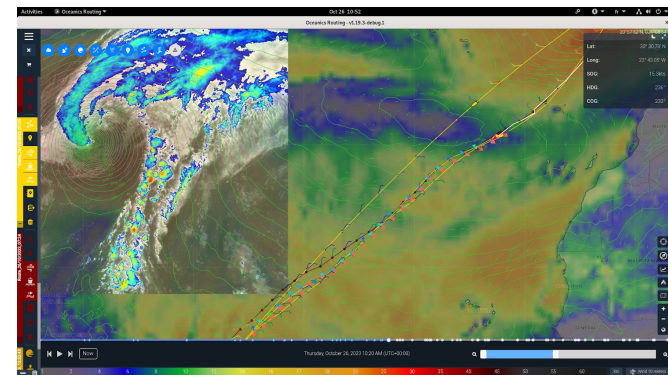
Safety First

TACTiCS is primarily a **safety tool** that provides ships with access to advanced weather forecasts (over 40 models available). Sailors can **compare** these models and challenge them by overlaying satellite observations, weather station data, and other surface data. This method is essential for **assessing the reliability** of forecasts and, consequently, the routing.
After a detailed review of the weather situation, mariners use TACTiCS to calculate optimized routes based on **advanced digital twins** and considering many constraints such as environmental or engine limits.

A Continuously Evolving Solution

In a hyper-dynamic world and thanks to feedback from seafarers, D-ICE is preparing a **new version** of TACTiCS with a **refined design** for next October. This software improvement will make it even more scalable and will continue the development of important features to address this **"navigation warning"** thematic: cetacean collision prevention enhancement, hurricane tracker, drifting model of floating objects (raft, container…), ice reports…
This is the first step towards the integration of **collaborative datasets**, including contributions on biodiversity monitoring and marine events. The objective is to bridge the gap between scientific research and operational use for **concrete action.**

About D-ICE

Founded by scientists and engineers passionate by the oceans, D-ICE Engineering is a deeptech company established in 2015 in Nantes with the ambition to address three major challenges in the maritime world: reducing carbon footprint, improving safety at sea, and contributing to the development of offshore clean energies.
Led by a team of 40 engineers and PhDs specializing in hydrodynamics, applied mathematics, robotics, and artificial intelligence, D-ICE develops multiphysical modeling and simulation tools for maritime operations, as well as innovative systems and software for navigation, control, optimization, and decision support for all types of floating assets.

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