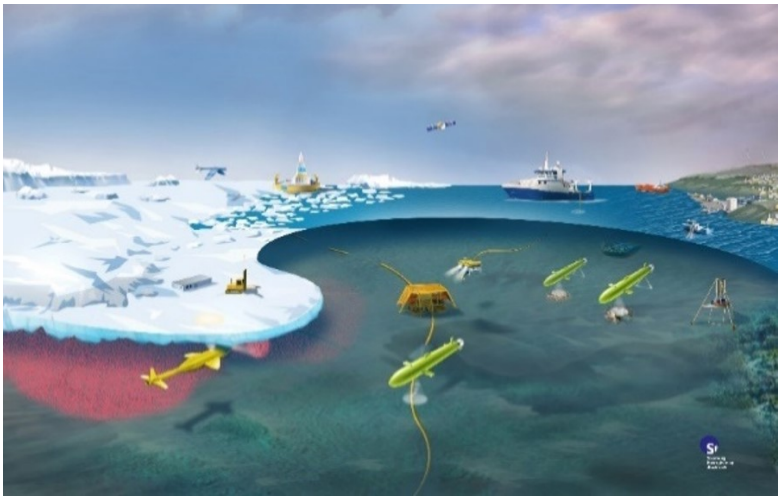
Intelligent autonomous systems for safeguarding operations and infrastructure at sea (SAFEGUARD)

The sabotage of Nord Stream's gas pipeline in the Baltic Sea showed the world that the geopolitical risk picture has changed dramatically. What are scientists doing to respond to the new picture?

To tackle these challenges, a research project called SAFEGUARD is underway. The aim is to enable autonomous robots to patrol the ocean. The project will develop intelligent autonomous systems to monitor and inspect critical infrastructure and production in the ocean. Among other things, the focus will be on how risk management can contribute to developing safer and more efficient autonomous systems.



"The sabotage of Nord Stream demonstrated the vulnerability of important infrastructure in the sea. Both the energy supply and Europe's economy were affected. Imagine robots able to patrol important areas and ensure that it is safe," says Dr. Ingrid Bouwer Utne, Professor at the Department of Marine Technology, NTNU, principal investigator and project manager in SAFEGUARD. "Our aim is to be able to monitor critical infrastructure in the sea more effectively," she says.

"Autonomous systems make it possible to collect large amounts of data. It enables effective monitoring, inspection, and intervention, and it becomes easier to carry out tedious, dirty, and dangerous tasks with less dependence on people. To ensure mission success, we must make the robots even more intelligent and risk aware. We want to push forward solutions for long-endurance operations in the ocean," says Utne.

Collaborating partners in SAFEGUARD are Equinor, Vår Energi, the Norwegian Defense Research Establishment (FFI), and the Department of Marine Technology (IMT) at NTNU. The project combines practical knowledge and experience with scientific expertise and will educate three PhD students.

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