

TITLE: New technology improves our understanding of changes in the marine environment

Authors: Pieri G., Ntoumas M., Martinelli M., Chatzinikolaou E., Martins F., Novellino A., Dimitrova N., Raimund S., King A., Smerdon A., Mazza M., Malarde D., Cocco M., Torres A., Triantafyllou G., Sá S., Bebianno M., Lusher A.

Introduction

The H2020 NAUTILOS project aims to fill in existing marine observation and modelling gaps, through the development of new technologies and their deployment onto different observing platforms promoting innovative and cost-effective methods in a wide range of crucial environmental settings and EU policy-related applications.

Methods and results

NAUTILOS will develop a new generation of cost-effective sensors and samplers for physical (salinity, temperature), chemical (inorganic carbon, nutrients, oxygen), and biological (phytoplankton, zooplankton, marine mammals) essential ocean variables in addition to micro-/nano-plastics. Newly developed technologies will be integrated with different observing platforms (e.g., platforms of opportunity such as commercial vessels, aquaculture plants, fixed stations, animal routes, AUVs etc.) and deployed through novel approaches in a broad range of key environmental settings (e.g., from shore to deep-sea deployments) and EU policy-relevant applications. The impact of the project will be assessed through numerical models. Data products will be made FAIR available to further European and international Ocean Data integrators. Synergies with relevant initiatives, Citizen Science campaigns and capacity building courses will be also organised in order to reach all relevant stakeholders and users.

Conclusion

The project will improve our understanding of environmental fluctuations and anthropogenic impacts connected with aquaculture, fisheries and marine litter. This will also complement and contribute to expanding European observation tools and services in order to obtain data collection at a much higher spatial resolution, temporal regularity and length than currently available at the European scale, and further democratise the marine environment's monitoring to both traditional and non-traditional data users.