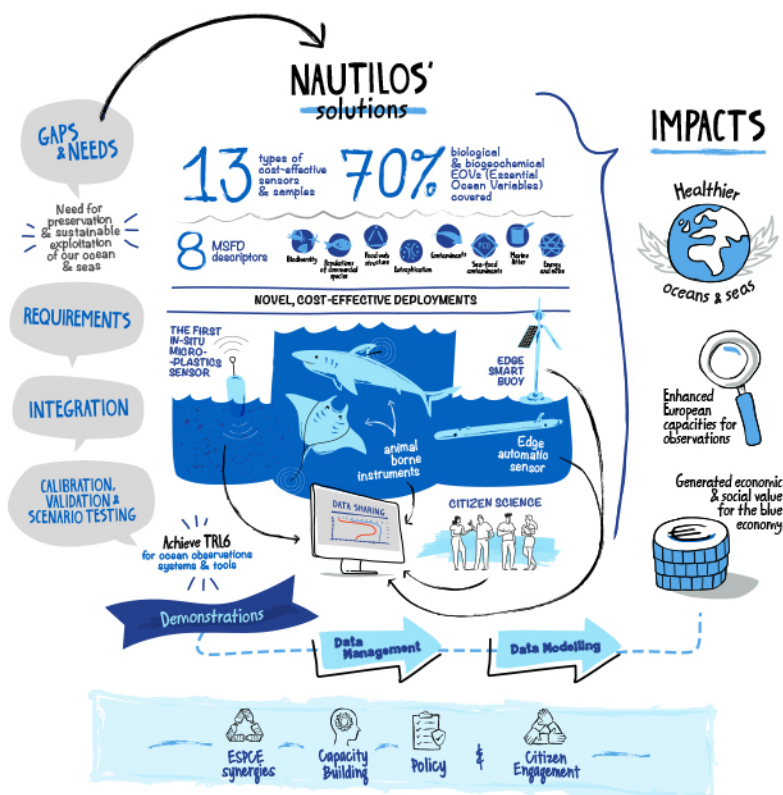




NEW APPROACH TO UNDERWATER TECHNOLOGIES FOR INNOVATIVE, LOW-COST OCEAN OBSERVATION



NAUTILOS' Ai Innovations on fisheries

Nephrops norvegicus (Norway lobster) is a pivotal species in European fisheries, contributing significantly with landings reaching nearly 60000 tonnes; in the Mediterranean Sea, during the last 20 years an average of 3700 tonnes of Norway lobster have been landed every year, but in the last decade there has been a notable decrease in the landings.



As a benthic burrowing decapod crustacean found typically at depths ranging from 50 to 800 metres, the evaluation of *N. norvegicus* stocks are limited to fishery-dependent methods and/or underwater video cameras surveys to access burrow densities. Burrow densities, measured in burrows per square metre, provide valuable insights into stock abundance. Currently, this procedure relies on the direct visual assessment of hours of videos, manually carried out by human operators, that is a demanding task, significantly prone to errors and possibly influenced by human subjectivity.

NAUTILOS, is developing computer science methods and fine tuning machine learning tools, conceived to detect and recognise the burrows and estimate their density, limiting the human subjectivity in analysing UWTV data and reducing the human error and effort.



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