nexos OCEAN SENSORS

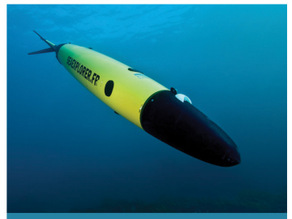
NeXOS has received funding from the European Union's Seventh Programme for research, technological development and demonstration under grant agreement No 614102

Integrating the NeXOS Sensors Into Fixed and Mobile Platforms

Key Project Milestones

Laboratory Tests ..... Jan. 2016
Field Validation Tests ..... Feb. 2017
Demonstrations ..... June 2017

BIOACOUSTICS AND NOISE



GLIDERS

WAVE GLIDER

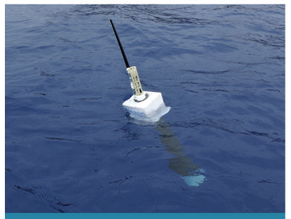
INTEGRATIVE SCENARIOS

- Hydrocarbon observations with gliders
- Observations for sustainable fisheries
- Characterising the underwater soundscape, with a focus on areas where human activities are taking place
- Carbon sequestration observation with Ferrybox
- Detection and characterization of phytoplankton blooms

DEMONSTRATION LOCATIONS

- Mediterranean
- Atlantic
- Norway

FISHING BOATS

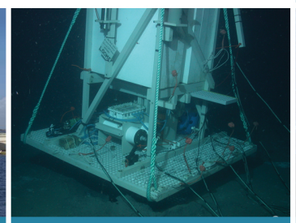


PROFILERS

SAIL BUOY

OFFSHORE STRUCTURES

FERRY BOATS



OCEAN OBSERVATORY

MARINE MONITORING

**Transition from sensor prototypes to commercial production—
Our small and medium-sized enterprise's path to the future.**

For more information, please visit **www.nexosproject.eu** or contact NeXOS Coordinator, Eric Delory at: info@nexosproject.eu

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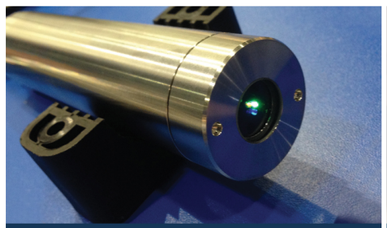
Multifunctional Web Enabled Sensors for the Monitoring of a Changing Ocean

- Lower Capital and Operating Expenses for Observing Systems
- Multifunctional Sensor Packages Configured for Multiple Platforms
- Standard Web Interfaces
- Extended Deployment Duration

NeXOS Innovative Technologies Improve End-to-End Ocean Information for Users

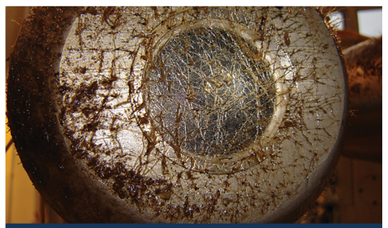


Compact/Cost-efficient Sensors

- Optical sensors for greenhouse gases, contaminants, and phytoplankton
- Passive acoustic sensors for noise/bioacoustics
- New robust EAF sensors

Effortless Information Access

- Smart sensor interface and web components
- Plug and play sensors
- Real-time standard Web Services
- End-to-end operable chain



Reliability and Availablility

- Biofouling prevention
- Detection of the earliest stage of biological growth on sensor surface
- Conductive coating on the transducing interface of the sensor
- Instrument with coated biofouling protection operates since Sept 2014

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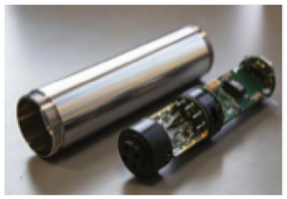
NeXOS — New Innovative and Multifunctional Optical, Acoustic and Fisheries Management Sensors Configured for Implementation on Multiple Cost-Effective Platforms

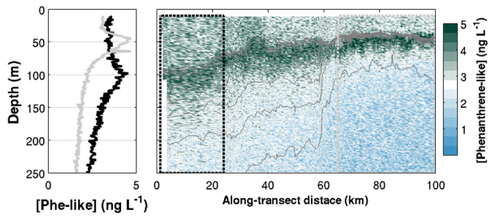
FLUORESCENCE

O1. Hydrocarbons & Fluorescent Dissolved Organic Matters
(O1-MatrixFlu and O1-Mini-Fluo)



UV-Version
PAH monitoring,
FDOM classification

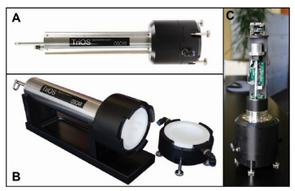
Vis-Version
Algae, FDOM Turbidity Monitor



Glider Test for Mini-Fluo (FDOM Phenantrene)

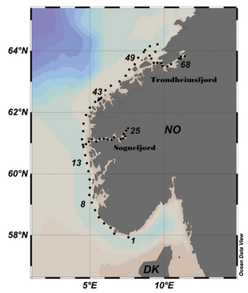
ABSORPTION

O2. Phytoplankton Id
(HyAbs/Oscar G2)



Flow-through hyperspectral cavity absorption sensor system

Reliable identification of at least 7 phytoplankton groups

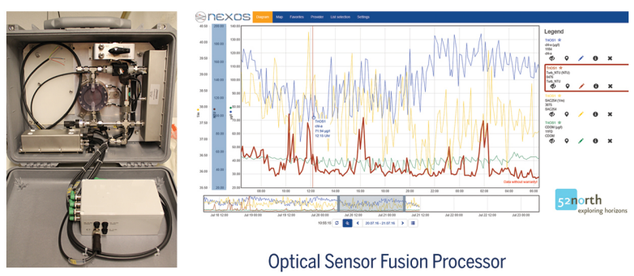


NeXOS Cruise Summer 2015

CHEMO-OPTIC

O3. Carbon Sensor System

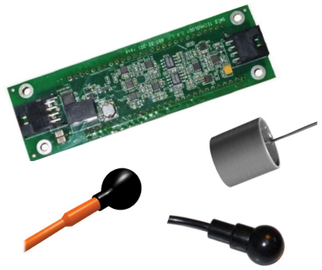
Measure Carbon cycle relevant parameters such as pH, CO2, and alkalinity using photochemical reactions; 3 pH/PCO2 sensor configurations for ferry box & sail-buoy



Optical Sensor Fusion Processor

PASSIVE ACOUSTICS

A1 — Digital Hydrophone with Embedded Preprocessing



Compact, low power for autonomous and mobile platforms

Embedded pre-processing of acoustic data; OGC PUCK & SWE enabled

Measures bioacoustics and ambient noise characteristics

PASSIVE ACOUSTICS

A2— Volumetric Hydrophone System

Array of 4 A1 with Ethernet interfaces and 1 master synchronization unit

Capable of providing directional sound source information

Real-time waveform streaming aimed at platforms with higher power and communication capabilities

Reprogrammable, open source

Deep water capable

Choose RS232 or Ethernet connectivity

FISHERIES

Two New NeXOS RECOPESCA Sensors

Net mounted Oxygen and fluorescence (chlorophyll-a) sensor probes for an Ecosystem Approach to Fisheries (EAF)

Development of fluorescence probe for temperature and pressure measurements "STPFlu"

PARTNERS

PLOCAN · UPC · ISMAR · marum · ECORYS · ALSEAMAR · TriOS · Aix-Marseille université · CTN · Ifremer · SMID · 52°north · Helmholtz-Zentrum Geesthacht · uni Research · NIVA · Runde Miljøsenter · Universität Oldenburg · IEEE · nke Instrumentation · FRANATECH · cmr