Multi-platform underwater passive acoustics instrument for a more cost-efficient assessment of ocean ecosystems

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This paper describes the development of cost-efficient, innovative and interoperable ocean passive acoustics sensors systems deployable from multiple platforms in the European FP7 project NeXOS (Next generation Low-Cost Multifunctional Web Enabled Ocean Sensor Systems Empowering Marine, Maritime and Fisheries Management). The objective of the NeXOS project is to develop cost-effective, innovative, and compact multifunctional sensor systems in ocean optics, ocean passive acoustics and for an Ecosystem Approach to Fisheries (EAF), which can be deployed from mobile and fixed platforms, with data services contributing to the GEOSS, the Marine Strategy Framework Directive (MSFD) and the Common Fisheries Policy of the European Union. Development of a new generation of multifunctional sensor systems is underway to address ocean monitoring challenges. The development of innovative hydrophones will focus on the pre and post-processing of acoustic information and improved transducer integration, reducing size and overall procurement and operations cost while increasing functionality. An important part of the effort will focus on the need for greater dynamic range and the integration on autonomous platforms, such as gliders and profilers.

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