

## **The EGIM, modular though generic addresses the requirements of the EMSO platforms**

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The EGIM (EMSO Generic Instrument Module) is designed to consistently and continuously measure parameters of interest for most major science areas covered by EMSO. This research infrastructure provides accurate records on marine environmental changes from distributed regional nodes around Europe. The system can deliver data that can support the Global Ocean Observing System – Essential Ocean Variables concept, as well as the Marine Strategy Framework Directive towards evaluating environmental status.

The EGIM is flexible for adaptation according to site and discipline specific requirements. Interoperability and capacity of future evolution of the system are key aspects of the modularity.

The EGIM is able to operate on any EMSO node type: mooring line, sea bed station, cabled or non-cabled and surface buoy to monitor environmental parameters over a wide depth range. Operating modes, power requirements, mechanical design can adapt to the various EMSO node configurations.

In addition to sensors already included in the EGIM prototype (temperature, conductivity, pressure, dissolved Oxygen, Turbidity, currents and passive acoustics) the EGIM can host up to five additional sensors such as chl-a, pCO<sub>2</sub>, pH, seismic and photographic/video images or new sensors. The EGIM provides all the sensor hosting services required, for instance power distribution, positioning, and protection against bio-fouling.

Within EMSO, the EGIM aims to have a number of ocean locations where the same set of core variables are measured homogeneously: using the same hardware, same sensor references, same qualification methods, same calibration methods, same data format and access and the same maintenance procedures. It's compact and modular nature allows for flexible deployment scenarios that include being able to accommodate new instruments such for Essential Ocean Variables and other needs as their technology readiness levels improve.