

# Joint Action

## European Marine Sensor Calibration Network

### Action Description

**Lead Country:** Greece

#### Background

Europe spends €1.4 billion p.a. for marine data collection: €0.4 billion for satellite data and €1.0 billion for in-situ observations, respectively. But to be useful for research and decision-making at a transnational level, all the incoming data have to be comparable and amenable to fitness-for-purpose assessments in relation to specific user-group requirements. This will require measurements to be metrologically referenced, and instruments to be working within known specifications at all times despite prolonged deployment in harsh conditions. In fact, the degree to which these two conditions are realized constitutes the only consistent indicator of the quality of a measurement, and hence, of the validity and value of any resulting data.

The JPI Oceans European Marine Sensor Calibration Network (EMSCN) action will pursue the establishment of a permanent working group for calibration activities, proposing a future strategic plan towards a permanent, pan-European calibration grid to support the activities of marine observatories. The action involves the research community, the national metrology institutes and the industry.

#### Objectives

- Connect the calibration operators and facilities within EU in an efficient and productive way;
- Standardize and harmonize operations across the European facilities;
- Reduce costs through sharing the existing calibration infrastructures within the network;
- Capacity building through the exchange and transfer of know-how within the network through a series of workshops, seminars and staff exchanges.

### Progress

- 1st Meeting on the EMSCN (June 2016, Brussel). The participants discussed the main challenges and agreed to hold a meeting alongside "Sea Tech Week" in Brest, France, with the involvement of the most important stakeholders (research community, National Metrology Institutes (NMIs), industry).
- 2nd Meeting on the EMSCN (October 13 2016, Brest). The participants agreed that, when it comes to oceanographic data/measurements, although a few recognized standards are in place, no certified reference material is available. As a result, the oceanographers face great difficulties when it comes to ensuring reliable data acquisition, with inevitable consequences on the quality of the research they conduct. Therefore, one of the thrusts for this action is to ensure manufacturers follow a standard calibration procedure to ensure quality assurance and quality control of the products delivered to the field – a process that could follow the form of a certification procedure. To this end, the National Metrology Institutes can contribute by helping the oceanographers and manufacturers to establish validated metrological procedures.
- Following the meeting in Brest, the expert group has composed one white paper and four factsheets, one for each of the following parameters: pH, salinity, pCO<sub>2</sub> and chlorophyll fluorescence. These documents, in addition to presenting the current status, include suggestions about how to proceed with calibration for each parameter.

### Next steps

The JPI Oceans Management Board will decide which activities will be pursued first.

## Participating countries

| Name                    | Organisation   | Country |
|-------------------------|--|---------|
| Florence Salvetat       | French Research Institute for Exploration of the Sea (Ifremer)       | France  |
| Laurent Delauney        | French Research Institute for Exploration of the Sea (Ifremer)       | France  |
| Daniela Stoica          | Laboratoire National de Métrologie et d'Essais (LNE)                 | France  |
| Fernando Sparasci       | LNE-CNAM   | France  |
| Marc Le Menn            | Naval Hydrographic and Oceanographic Service (SHOM)                  | France  |
| Steffen Seitz           | National Metrology Institute of Germany (PtB)                        | Germany |
| Christoph Waldmann      | University of Bremen/MARUM   | Germany |
| Jukka Seppälä           | Finnish Environment Institute (FEI/SYKE)                             | Finland |
| George Petihakis        | Hellenic centre for marine research (HCMR)                           | Greece  |
| Rajesh Nair             | National Institute of Oceanography and Experimental Geophysics (OGS) | Italy   |
| Michela Segà            | National Institute of Metrological Research (INRIM)                  | Italy   |
| Henning Wehde           | Institute of Marine Research Norway (IMR)                            | Norway  |
| Carmen García Izquierdo | Spanish Center of Metrology  | Spain   |
| Joaquin del Rio         | Polytechnic University of Catalonia                                  | Spain   |