

Over the last years, several projects have addressed the challenge to ensure interoperability when sharing (in-situ) ocean observation data within research data infrastructures. Most of these activities were centred around established standards such as those of the Open Geospatial Consortium's (OGC) Sensor Web Enablement (SWE) framework: Sensor Observation Service (SOS), Sensor Model Language (SensorML), as well as Observations and Measurements (O&M).

Based on these standards, different best practices to improve syntactic and semantic interoperability were achieved. However, due to the rather complex nature of these standards (e.g., often XML as encoding format), the efficient development of client applications remains a challenge.

The existing specifications are now being complemented by a new generation of standards: the emerging OGC API family of standards with several specifications for sharing geographic information as well as the OGC SensorThings API which is gaining more and more attention. As these new specifications are especially designed to facilitate application development through the use of more lightweight technologies, they have a significant potential to further enhance the value of research data to users.

Consequently, this presentation is intended to discuss the opportunities associated to the new generation of interoperability standards. Specific consideration will be given to potential pathways how to integrate these new approaches with the achievements that resulted from the Sensor Web-related activities that were conducted during the last years.