



EMODnet Ingestion and safe-keeping of marine data

4th Quarterly Report

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1. Highlights in this reporting period

- The 2nd plenary project meeting took place in Limassol – Cyprus, 10th – 12th April 2017, hosted by ORION. .
- The **Summary Records** service has been developed for publishing the submission forms and retrieving data packages ‘as is’; it is coupled to the Data Submission service. The Summary Records service for the time being is available as Beta service and coupled to the test Data Submission service output for beta testing. The Summary Records service goes public at the Data Ingestion portal once a first set of data submissions have been completed for phase I.
- A **test version** of the Data Submission service has been set up for instructing and practicing by the data centres that are engaged in the pathways for reviewing and completing submissions.
- The Sensor Web Enablement (SWE) pilot concerns real time oceanographic monitoring systems, allowing direct standardised access to selected data types from selected monitoring instruments. Very good progress has been made with formulating SWE profiles for selected platforms and sensors and final versions are expected soon.
- A plan for promotion and outreach activities in the coming years involving all consortium members and supported by several promotion media has been discussed at the 2nd plenary project meeting. Moreover at the meeting a first inventory of 466 potential data sources from 26 countries has been discussed. This inventory provides a basis for the outreach activities.

2. Work package progress

WPO – Project Management:

The 2nd plenary meeting of the full consortium of the EMODnet Ingestion project took place 10th – 12th April 2017 in Limassol – Cyprus, co-organised with the local host, ORION. The meeting was dedicated to monitoring the progress of the project since its start 19 May 2016, discussing the coming activities, and providing input for preparing the 1st annual progress report to the EU. All presentations of the meeting as well as extensive minutes and list of actions have been made available at the extranet.

In the quarterly reporting period the coordinator or members of the EMODnet Ingestion consortium have participated in the following relevant meetings:

Date	Location	Topic	Short Description
10 – 12 April 2017	Limassol - Cyprus	2nd EMODnet Ingestion Projectgroup meeting	To present and discuss progress with the portal and services; to discuss inventory of potential data sources and the plan for outreach
19 April 2017	Milan - Italy	EMODnet Physics 3 kick-off meeting	To introduce EMODnet Ingestion and its planned cooperation with EMODnet Physics 3 project and network
4 May 2017	Bologna - Italy	SeaDataCloud TTG meeting	To introduce EMODnet Ingestion and its planned cooperation with SeaDataCloud
10 May 2017	Poole – United Kingdom	European Maritime Day 2017	To present EMODnet Ingestion
17 May 2017	Trieste - Italy	EMODnet Chemistry 3 kick-off meeting	To introduce EMODnet Ingestion and its planned cooperation with EMODnet Chemistry 3 project and network
30-31 May 2017	Espoo - Finland	EMODnet Geology 3 kick-off meeting	To introduce EMODnet Ingestion and its planned cooperation with EMODnet Chemistry 3 project and network

The coordinator prepared the 3rd quarterly progress report which was accepted by the EU (EASME and DG MARE). In addition the coordinator drafted the first Annual Progress Report which was submitted, together with the 1st invoice, to the EU (EASME and DG MARE) and the EMODnet Secretariat at 12th June 2017. So far no feedback has been received.

WP1 – Construct and operate central Data Ingestion portal with services:

The data submission service is a core service of the EMODnet Ingestion portal. This was launched in February 2017 as part of the overall portal launch. Recently also a TEST Submission service has been developed as a complete copy in order to facilitate training by the Data Centres in the operation of the

system and to get used to the roles of Data Submitter and Data Centre. The test system is available at:
<http://submission-test.emodnet-ingestion.eu>

The resulting metadata forms and associated data packages of phase I will be made publicly available by means of the **Summary Records service**. MARIS and HCMR have developed this service, starting with Phase I. It reads the output of the Data Submission service for completed forms. The Summary Records service for now is coupled to the output of the test submission service and can be tested at:

https://www.emodnet-ingestion.eu/datasets/browse_step.php

It will be added and launched at the public portal as soon as the Submission Service has achieved a critical mass of completed Phase I submission forms.

Work is ongoing for the **Data Wanted service**. Considering the direct relation with the Summary Records service, it was decided that MARIS will develop it. The format for the Data Wanted service is extracted from the format of the Summary Records service in order to allow matching. The test launch is planned in July 2017. Finally a **Key Indicators function** has been added to the dashboard of the Submission Service. It facilitates generating and screening indicators for progress of the EMODnet Ingestion workflow. This will be used for future reports, once there are completed submission forms. Additional work is undertaken by HCMR for reviewing and optimising the Data Submission service. Also an easy guideline is being drafted by HCMR for users and data centres.

WP2 – Implement pathways to forward submitted data to the appropriate repository:

MARIS has asked all thematic coordinators to engage their networks in the pathways for EMODnet Ingestion. The issue was raised by MARIS at the EMODnet Steering Committee meeting of 15th – 16th February 2017 and at the 2nd EMODnet Ingestion Projectgroup meeting of 10th – 12th April 2017. The idea received a positive response and it was agreed that each of the EMODnet Thematic lots would include an EMODnet Ingestion presentation at its kick-off meeting to inform their network members and to request cooperation for the pathway tasks. This has been implemented as follows:

- EMODnet HRSM – 20 March 2017 – by MARIS
- EMODnet Physics 3 – 19 April 2017 – by MARIS
- EMODnet Chemistry 3 – 17 May 2017 – by MARIS
- EMODnet Geology 30 – 31 May 2017 – by BGS

Again a positive feedback was received. This will be converted into approaching individual data centres for making them aware of the Submission Service procedures and for registering them in the DC Catalogue. For Human Activities and Physics 3 it is already arranged by registering relevant parties.

WP3 – Facilitate machine-to-machine transfers:

The **NRT machine-to-machine ingestion** aims at identifying and arranging additional NRT data stations for EMODnet Physics. These will originate from additional operators that are willing to get connected

and share their NRT data freely in EMODnet Physics. At the launch of the Ingestion portal already standards and procedure for NRT data and a list of receiving repositories for NRT data have been published at the portal. The portal explains how the NRT exchange is organised between operators of observing stations and EuroGOOS – Copernicus and it gives a link to the EMODnet Physics portal to show how NRT stations can be displayed and used. Moreover a set of stepwise instructions is included.

The **Sensor Web Enablement (SWE) pilot** concerns real time monitoring systems, allowing direct standardised access to selected data types from selected monitoring instruments. There are several subtasks. This activity is led by BODC. The pilot is set up with four consortium members BODC, IFREMER, ETT and OGS which already had SOS implementations in place. The formulating of SWE profiles for the related platforms and sensors is almost finalised. This builds on work on-going in related EU projects to define SensorML and O&M templates such as ‘AtlantOS’, ‘BRIDGES’, ‘ODIP’ and “the Marine SWE profiles wiki” as well as in USA for IOOS. The ongoing work is also shared with the SWE marine community using the Marine SWE profiles wiki. Four types of profiles are currently being built for Version 2.0. Distinction is made in platforms and sensors. Additional distinction is made on models and instances of platforms and sensors. The pilot SOS service will be set up for the four partners and this will become a SWE demonstrator that will be hosted at the EMODnet Physics portal and ‘advertised’ at the EMODnet Data Ingestion portal. Detailed documentation and instructions will be prepared and made available at both portals for adoption by other operators of comparable monitoring stations who wish to join the demonstrator service. These activities will be finalised end October 2017. Thereafter the demonstrator is open for inserting additional platforms and sensors from other operators.

WP4 – Marketing and outreach activities:

So far most action has focused on the technical development of the portal and its ingestion services and involving only a few core partners. However the marketing and outreach activities as planned in WP4 are equally important and require involvement of all consortium members in the coming 2 years of the project. An important aim of WP4 is to identify, approach and convince potential data submitters to make use of the EMODnet Ingestion service for ingesting their data sets. In addition WP4 aims to undertake promotion.

A guideline was prepared by MARIS, HCMR and RBINS together with input of EMODnet Thematic coordinators for preparing an inventory per country of potential data providers, taking into account priority topics for thematic portals and tips how to gather the required insights. Following the guideline and survey template each data centre consortium member has completed an inventory for its country. These were bundled by RBINS and further discussed at the EMODnet Ingestion 2nd Plenary Meeting. It has delivered an overall inventory of EMODnet Ingestion members, comprising **in total 26 countries reporting 466 potential new data sources**. It is planned that each data centre consortium member will use the resulting shopping list to undertake actions towards the identified data providers. The ultimate

goal is to achieve willingness and cooperation with the identified potential data providers for submitting selected data sets to the EMODnet Ingestion portal. This requires that the consortium members first of all prepare themselves well for representing EMODnet and EMODnet Ingestion. The members will function as EMODnet ambassadors. Therefore each member must become well aware of the EMODnet background, learn how to operate and demonstrate the EMODnet Thematic portals, and become very knowledgeable in the procedures and used formats for the EMODnet Ingestion portal and well experienced in using the Submission service. The latter requires serious practicing with the test submission service. Once well trained, it is planned that consortium members will approach potential data providers in order to learn more about their potential data sources and to explore possibilities for setting up a meeting to present EMODnet and to discuss their possible cooperation with EMODnet Ingestion. If positive, the consortium member should offer support to the data provider for the actual data submissions. Thereby the consortium member might also help to organise the local data collection in a series of data packages of data sets including relevant documentation that can be submitted and more easily handled by the assigned data centres. Also it might be considered to organise some local workshops, involving multiple potential data providers, to promote EMODnet and cooperating with EMODnet Ingestion in a more effective way. These follow-up activities will be supported by the central promotion campaign and the set of promotion materials which will be made available by RBINS. They are making progress with promotion items. All data centre consortium members will maintain a progress report of their activities and achievements, both negative and positive, that will be regularly shared with RBINS, MARIS and HCMR for inclusion in progress reports and to learn best practices which can be shared also with the whole consortium.

In the reporting period, EMODnet Ingestion has been presented at the following events:

- EMODnet Physics 3 kick-off meeting, 19 April 2017, Milan – Italy
- SeaDataCloud TTG meeting, 4 May 2017, Bologna – Italy
- European Maritime Day 2017, 10 May 2017, Poole – United Kingdom
- EMODnet Chemistry 3 kick-off meeting, 17 May 2017, Trieste – Italy
- EMODnet Geology 3 kick-off meeting, 30-31 May 2017, Espoo – Finland.

Most of these events are inward directed and used for further developing of the technical facilities of the EMODnet Data Ingestion portal and services. In the coming years more events will be visited for promoting the uptake of the Ingestion portal by data providers.

3. Unexpected difficulties encountered

Nothing to report.