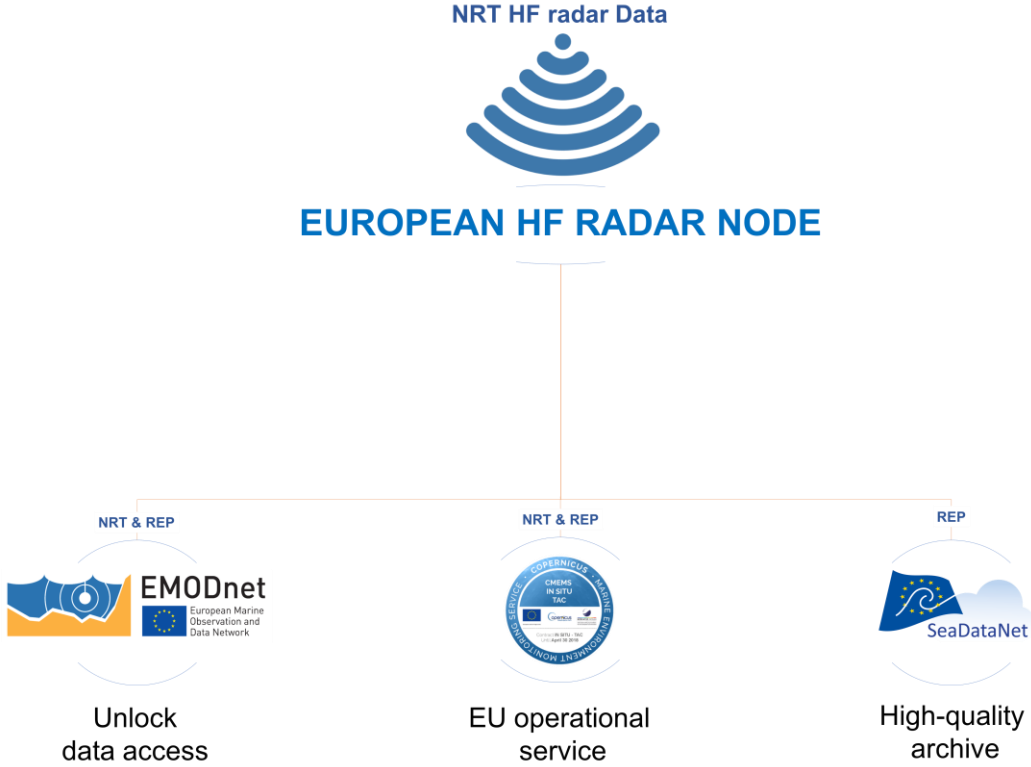
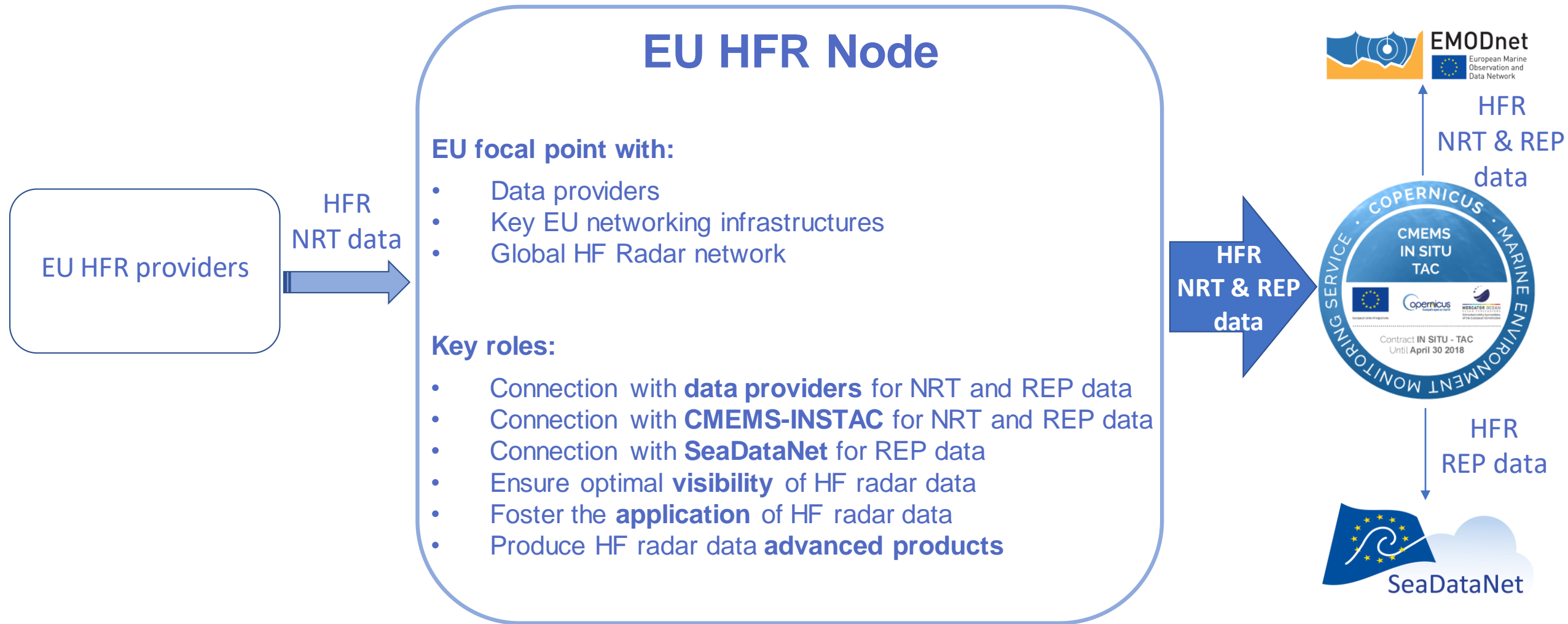


# SeaDataNet metadata for data discovery



# EU HFR Node architecture



# Metadata for data discovery

- › Description of data (in the most general meaning) is crucial for enforcing discovery and access within the Big Data paradigm.
- › Comprehensive metadata description is a prerequisite for the full implementation of EuroGOOS providing an inventory of the continuously available data for operational models.
- › It is also necessary for creating and giving an overview of marine monitoring programmes relevant for the Marine Strategy Framework Directive (MSFD) implementation.

# Metadata for data discovery

- › The purpose of the format specification is to ensure **efficient and automated HFR data discovery and interoperability**, with tools and services across distributed and heterogeneous earth science data systems.
- › The **European common data and metadata model for real-time HFR data** is intended to be the **unique model for HFR data distribution in Europe**.
- › **It integrates CMEMS and SeaDataCloud (SDC) requirements:**
  - › CF-1.6 convention
  - › OceanSITES convention
  - › CMEMS IN-SITU TAC conventions
  - › SDC CF extension requirements
  - › INSPIRE Directive

# Metadata for data discovery

- › The European common data and metadata model integrates the SDC requirements about the **SeaDataNet metadata services** (<https://www.seadatanet.org/Metadata>) for enforcing **discovery and access** of HFR data and in order to gain visibility and **valorization for the projects and the institutions producing HFR data**.
- › The SeaDataNet metadata services are:
  - › European Directory of Marine Organisations (**EDMO**)
  - › European Directory of the Initial Ocean-observing Systems (**EDIOS**)
  - › Common Data Index (**CDI**)
  - › European Directory Of Marine Environmental Research Projects (**EDMERP**)
  - › European Directory of Marine Environmental Data Sets (**EDMED**)

# Metadata for data discovery

- › European Directory of Marine Organisations (**EDMO**)
  - › it contains up-to-date addresses and activity profiles of **research institutes, data holding centres, monitoring agencies, governmental and private organisations**, that are in one way or another **engaged in oceanographic and marine research activities, data and information management and/or data acquisition activities**.
  - › Catalog: <https://www.seadatanet.org/Metadata/EDMO-Organisations>
  - › Submission and modification: [sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org)

# Metadata for data discovery

- › European Directory of the Initial Ocean-observing Systems (**EDIOS**)
  - › it gives an overview of the **ocean measuring and monitoring systems** operated by European countries. This directory includes discovery information on **location, measured parameters, data availability, responsible institutes** and links to data-holding agencies plus some more technical information on instruments.
  - › Catalog: <https://www.seadatanet.org/Metadata/EDIOS-Observing-systems>

# Metadata for data discovery

- › European Directory of the Initial Ocean-observing Systems (**EDIOS**)
  - › There are 3 types of EDIOS entries:
    - **EDIOS Program** for the **measurement networks**, e.g. CNR-ISMAR Coastal Current and Wave Measurement Network (CurWavNet).
    - **EDIOS Series** for the **measurement infrastructures**, e.g. HFR network in the Tyrrhenian and Ligurian Seas (HFR-TirLig) belonging to CurWavNet Program.
    - **EDIOS Platform** for the **single measurement sites**, e.g. Tino HFR station belonging to HFR-TirLig Series.



# Metadata for data discovery

## › Common Data Index (CDI)

- › it gives users a highly detailed insight in the **availability and geographical spreading of marine data sets** and it provides a **unique interface for requesting access**, and if granted, for downloading data sets from the distributed data centres across Europe.
- › Catalog: <https://www.seadatanet.org/Metadata/CDI-Common-Data-Index>

# Metadata for data discovery

- › European Directory Of Marine Environmental Research Projects (**EDMERP**)
  - › it covers **marine research projects** for a wide range of disciplines. Research projects are described as metadata factsheets with their most relevant aspects. The primary objective is to **support users in identifying interesting research activities** and in **connecting them to involved research managers and organizations** across Europe.
  - › Catalog: <https://www.seadatanet.org/Metadata/EDMERP-Projects>

# Metadata for data discovery

- › European Directory of Marine Environmental Data Sets (**EDMED**)
  - › it is a comprehensive reference to the **marine data sets** and collections held within European research laboratories, so as to provide marine scientists, engineers and policy makers with a simple mechanism for their **identification**. It covers a wide range of disciplines.
  - › Catalog: <https://www.seadatanet.org/Metadata/EDMED-Datasets>

# Metadata for data discovery

- › **EDMERP, EDMED, EDIOS** and **CDI** entries are xml files to be prepared using **Mikado** software.
- › **Mikado** software and documentation is available at <https://www.seadatanet.org/Software/MIKADO>
- › Entries have to be mailed to [sdn-userdesk@seadatanet.org](mailto:sdn-userdesk@seadatanet.org) for **ingestion**.

# Metadata for data discovery

- › **HFR data providers are asked to have EDMO, EDIOS and CDI entries (mandatory entries).**
- › **HFR data providers are invited to provide EDMERP and EDMED entries (recommended entries).**
- › **CDIs will be automatically generated by the EU HFR Node while time aggregating the NRT datasets to produce the REP datasets to be delivered to CMEMS-INSTAC and SDC distribution platforms.**