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INCREASE: Innovation and Networking for the integration of Coastal Radars into European mArine SErvices

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High Frequency radar (HFR) is a land-based remote sensing instrument offering a unique insight to coastal ocean variability, by providing synoptic, high frequency and high resolution data at the ocean atmosphere interface. HFRs have become invaluable tools in the field of operational oceanography for measuring surface currents, waves and winds, with direct applications in different sectors and an unprecedented potential for the integrated management of the coastal zone.
To further the use of HFRs into the Copernicus Marine environment monitoring service, CMEMS, is becoming crucial to ensure the improved management of several related key issues such as Marine Safety, Marine Resources, Coastal & Marine Environment, Weather, Climate & Seasonal Forecast.

In this context, INCREASE (Innovation and Networking for the integration of Coastal Radars into European mArine SErvices) project aims to set the necessary developments towards the integration of the existing European HFR operational systems into the CMEMS, following five main objectives:
(i) Define and implement a common data and metadata model for HFR real-time data;
(ii) Provide HFR quality controlled real-time surface currents and key derived products;
(iii) Set the basis for the management of historical data and methodologies for advanced delayed mode quality-control techniques;
(iv) Advance the use of HFR data for improving CMEMS numerical modelling systems; and
(v) Enable an HFR European operational node to ensure the link with operational CMEMS.

In cooperation with other ongoing initiatives (like the EuroGOOS HFR Task Team and the European project JERICO_NEXT), INCREASE has already set up the data management infrastructure to manage and make discoverable and accessible near real time data from 30 systems in Europe. This paper presents the achieved results and available products and features.