



GRANT N°: 871153
PROJECT ACRONYME : JERICO-S3
PROJECT NAME : Joint European Research Infrastructure for Coastal Observatories - Science, services, sustainability
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JERICO-S3 MILESTONE	
Joint European Research Infrastructure network for Coastal Observatory Science, Services, Sustainability	
MS#, WP# and full title	JERICO-S3 MS38 - WP7 - " Demonstration of VA infrastructure"
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Lead beneficiary	SOCIB
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Contributors	
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→ Please specify the type of milestone:

- Report after a workshop or a meeting (TEMPLATE A)**
- Report after a specific action (TEMPLATE B) (test, diagnostic, implementation,...)
- Document (TEMPLATE B) (guidelines,...)
- Other (TEMPLATE B) (to specify)

Diffusion list			
<u>Consortium beneficiaries</u>	Third parties	Associated Partners	other

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1. Attendees

Plenary room.

2. Statement of Decisions

No decisions were made during the presentation.

3. Main report and conclusions

JERICO-CORE was first demonstrated during the JERICO-Days in Lisbon on June 28th 2022. The purpose of this demonstration was to share the current status of the infrastructure, to collect feedback from JERICO partners and to perform a final validation of the solution before the transfer to operations. The demonstration was set in the production environment in SOCIB. We also performed an important manual cleaning of the resource catalogue to face the various obstacles encountered in the harvester mechanisms. This includes:

- Merged entities that were duplicated due to the mismatch of identifiers between various providers
- Removed entities that did not contain metadata. These assets usually existed because they were in the metadata of another asset but not defined among the providers that were used for the JERICO-CORE prototype.
- Identified the JERICO resources. Although we need a clear definition of what is a JERICO resource at the consortium level, we made a certain number of assumptions. Organisations that were part of any JERICO project are considered as JERICO assets in the catalogue. Any asset that is linked to these organisations are considered JERICO. The graph is traversed except for some of the resource types such as the variables. Projects are also skipped because organisations could belong to a project that has partners that do not belong to JERICO. This would include assets of these organisations which clearly should not be labelled as JERICO.

The demo session included a hands-on demonstration and a presentation. Notes and minutes are available in the [Tuesday JERICO-Core-JERICO-Days2022-SESSION](#) document. A certain number of questions and concerns were raised during the session:

- Difficulty of identifying JERICO resources. We need to clarify this at the JERICO-RI level. This issue was raised and it will be considered in future developments of JERICO-RI.
- The source of information should be expanded when resources are available in other projects. SeaDatamet datasets, Copernicus Marine Service and Argo are of particular interest.
- Difficulty of collecting data in real time because of the intensive manual work with the current approach. It is necessary to design a more flexible approach to collect resources that at the same time can adapt to the current variability and variety of metadata.

- Need to identify the key users and their needs. These needs must be documented for the long term plans in the ESFRI roadmap.
- Need to build on ENVRI-FAIR and engage with ENVRI community.
- Need to enhance through JERICO-CORE the role of JERICO in the coastal domain.
- Need to define the role of JERICO-CORE internally among the consortium partners.

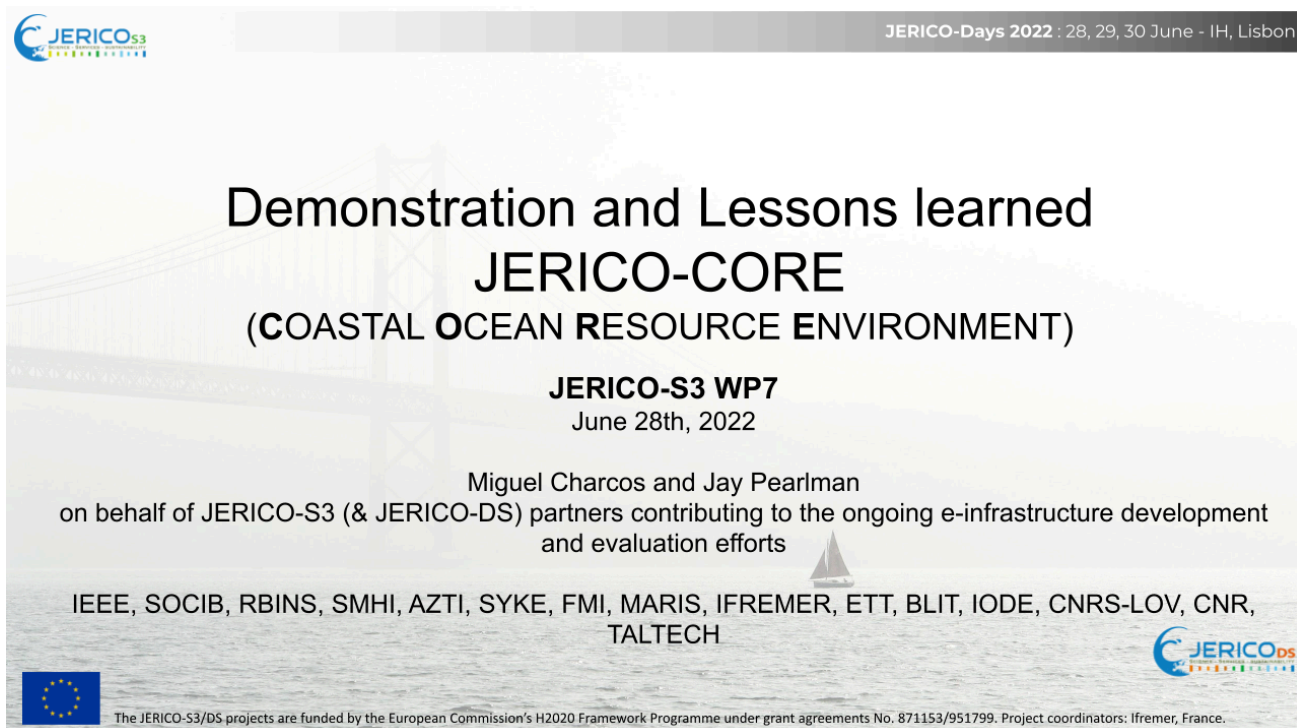
These concerns must be addressed in the context of JERICO-DS WP3 for a long-term sustained infrastructure. Moreover, there are lessons learned along the way that should be considered. We include below a list of those and the developments that could not be implemented in the duration of the task 7.5.

- The harvesting process is of high importance but it is very delicate. We need another mechanism of harvesting the information that supports the existence of non-ideal metadata at the provider level. Ideally, this mechanism should support the process of identifying and correcting the gaps of the metadata at the provider level.
- It is important to perform careful work in defining the metadata schema that shows the relevant information of JERICO assets.
- The Blue-Cloud VLab currently is the system powering the VRE capacity of the JERICO-CORE prototype. This option will be studied in depth during the JERICO-DS project.
- We should update the architecture proposed in the context of JERICO-S3 based on new inputs of JERICO stakeholders. In particular, for the components that were not implemented in the context of task 7.5, we should consider if they need to be implemented in future versions of JERICO-CORE. These components are:
 - Peer-to-peer functionality should be re-evaluated
 - Complete Harvester SDK with scheduler
 - Enhanced monitoring capabilities with AUDIT, logger and network monitoring integrated.
 - Configuration manager of the different components of JERICO-CORE
 - RDF Queue ingestion layers
 - Clusterization of the Data Storage
 - Continue integration SWE sensors and Helgoland viewer
 - Integration/use of DDAS and/or ERDDAP for accessing datasets
 - Creation of a access layer to access federated resources
 - Develop API client
- We should continue creating services at the different working group levels. This will already be performed in the context of the Blue-Cloud 2026 project. But it is important that we promote the availability of JERICO-CORE to support the work of JERICO.



- We should propose other interfaces at the USER layer that are customised for specific needs of users.
- We should integrate JERICO-CORE to other external infrastructures. With the experience of integrating EPOS it will be possible to interoperate with the EPOS platform and create a Thematic Service that integrates coastal and oceanographic with Earth Science data. This will probably require some work at the API level and additional work creating WMS and WFS to return GIS datasets from the JERICO-CORE TS.

4. Annex 1: Presentation during the JERICO Days in Lisbon




JERICO^{S3} JERICO-Days 2022 : 28, 29, 30 June - IH, Lisbon


Demonstration and Lessons learned JERICO-CORE (COASTAL OCEAN RESOURCE ENVIRONMENT)

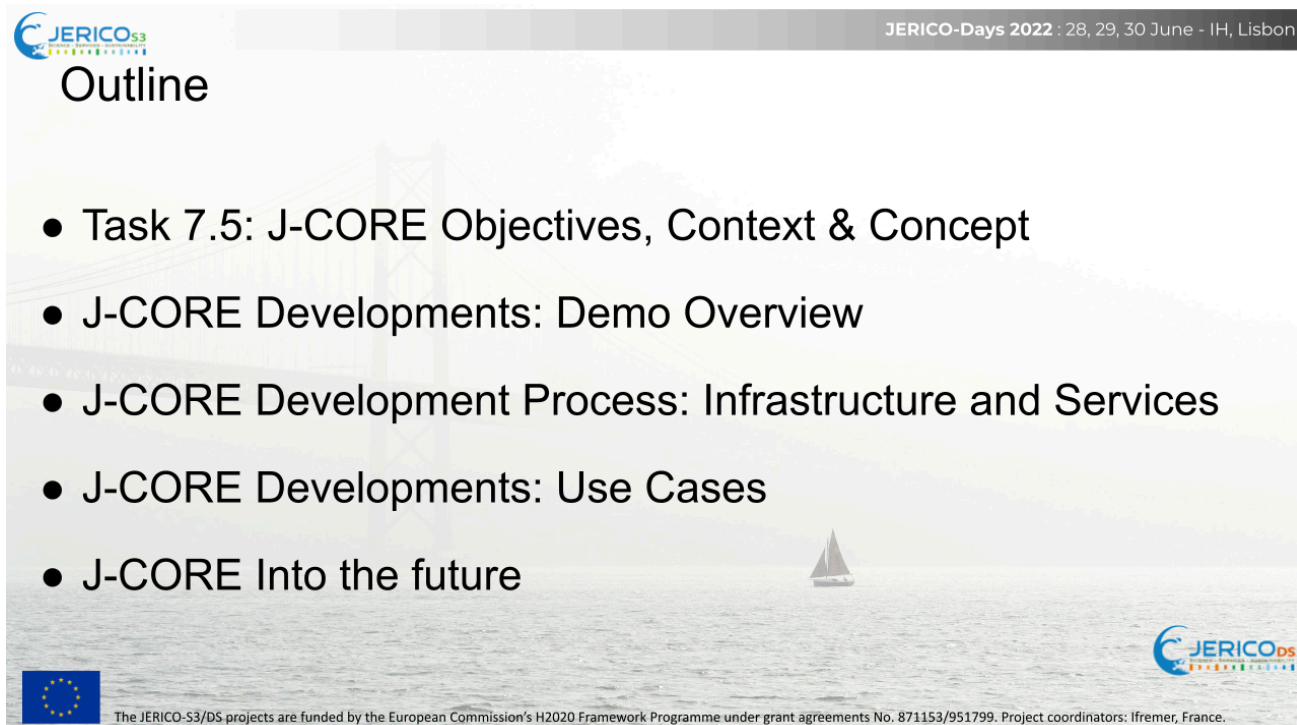
JERICO-S3 WP7
June 28th, 2022

Miguel Charcos and Jay Pearlman
on behalf of JERICO-S3 (& JERICO-DS) partners contributing to the ongoing e-infrastructure development and evaluation efforts

IEEE, SOCIB, RBINS, SMHI, AZTI, SYKE, FMI, MARIS, IFREMER, ETT, BLIT, IODE, CNRS-LOV, CNR, TALTECH




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JERICO^{S3} JERICO-Days 2022 : 28, 29, 30 June - IH, Lisbon

Outline

- Task 7.5: J-CORE Objectives, Context & Concept
- J-CORE Developments: Demo Overview
- J-CORE Development Process: Infrastructure and Services
- J-CORE Developments: Use Cases
- J-CORE Into the future



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Description and Objectives of T7.5

Define and develop a Virtual Access (VA) scalable framework that allows the visibility and access of the JERICO-S3 resources with the aim of increasing the scientific and societal impact in a long-term sustained RI.

- **Subtask 7.5.1 VA Portal development (M1-M30):**
 - Operational **requirements** will be derived with JERICO-RI partners, modelers, product developers and other experts in collaboration with WP11. Requirements will be used for detailed design of the VA portal.
 - This development will include a:
 - **User Interface (UI),**
 - **an IT infrastructure,**
 - **connectivity to the JERICO data and services catalogues,**
 - **access to the best practices systems and an e-library for tools and similar resources.**
 - In addition, the VA may provide **access to aggregators** like ROOSes/CMEMS (NRT), SeaDataNet (validated archives), EMODNet Physics and Biology portals.
 - Access to **priority/mature tools from partners** will be incorporated into the VA and will help to test the e-infrastructure performance.
 - This activity will set up the first elements of the JERICO e-infrastructure, e-JERICO, that will be **operated in WP11 VA** to support users.



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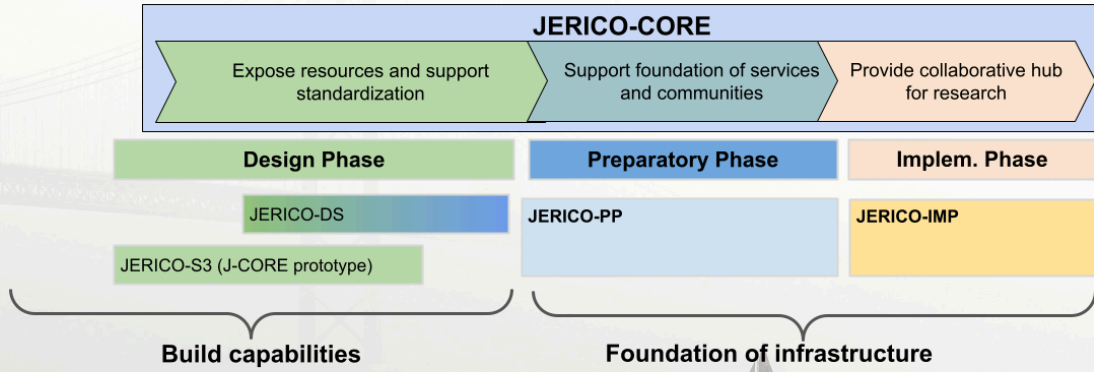
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 - **HF-Radar tailored products D2PTS**
 - **Estimation of sea water masses types and transport monitoring D2PTS**
 - **Biogeochemical state of coastal areas D2PTS**
 - **JERICO-EcoTaxa D2PTS:**



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J-CORE Context and Long Term Planning

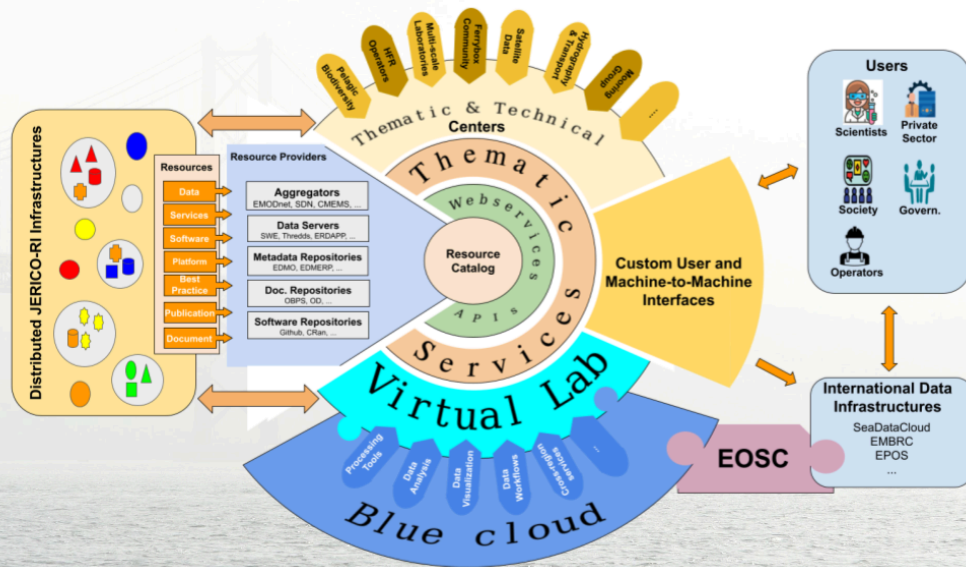


J-CORE Concept



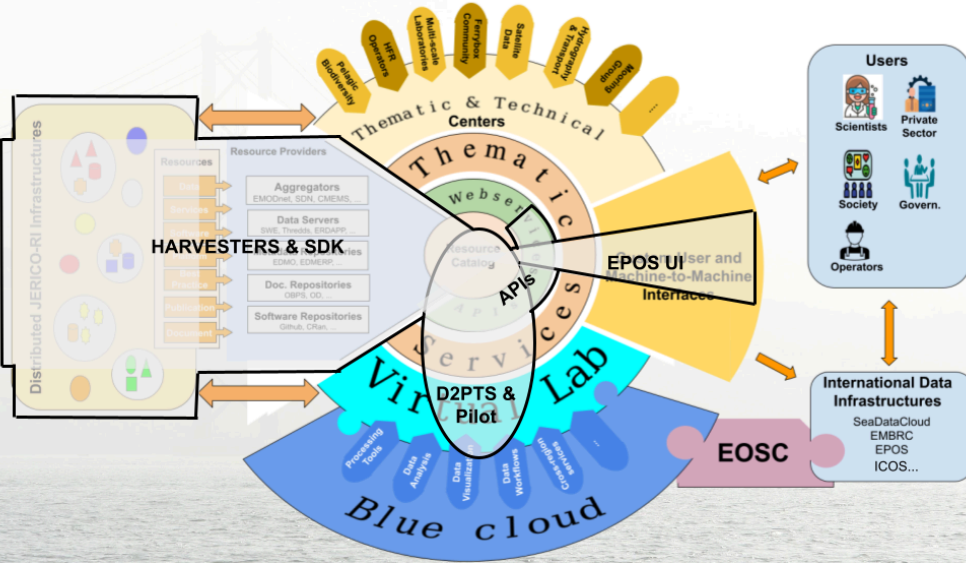
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J-CORE Concept



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J-CORE Concept and Developments



J-CORE Prototype

Why a pilot fountain?

- To understand user needs and existing solutions
- To analyse the status of JERICO assets (e.g. metadata, accessibility to information,...)
- To explore technologies and understand their limitations

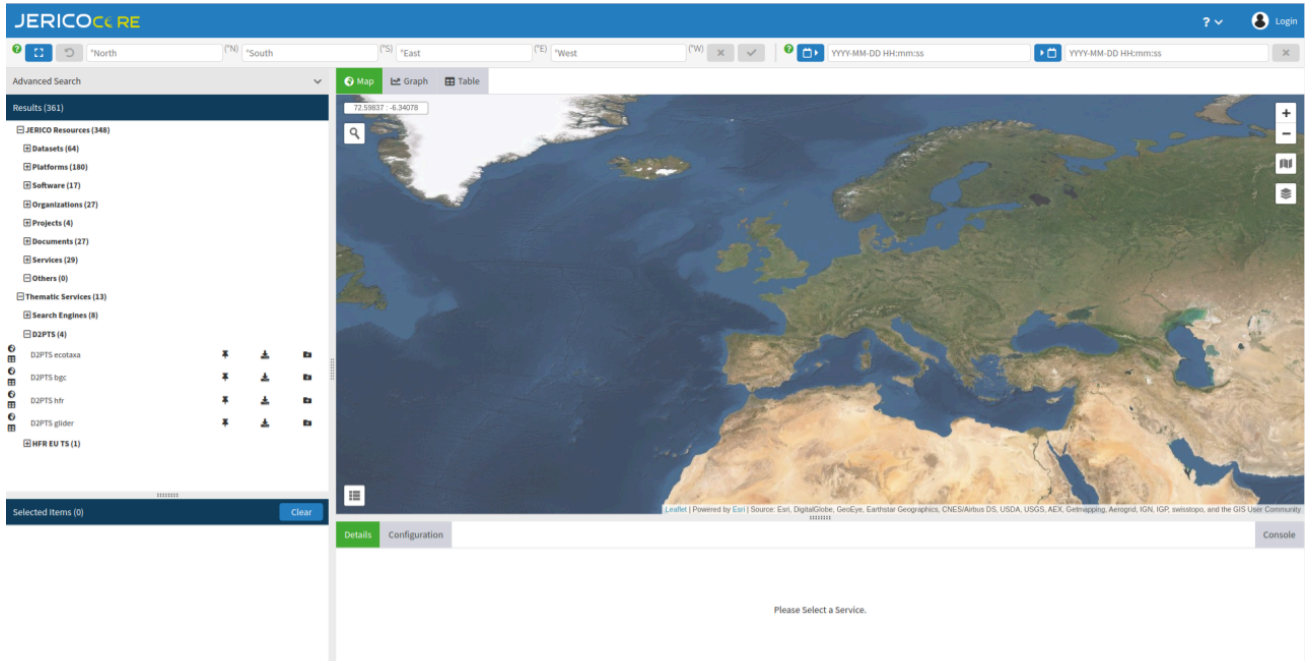


Outline

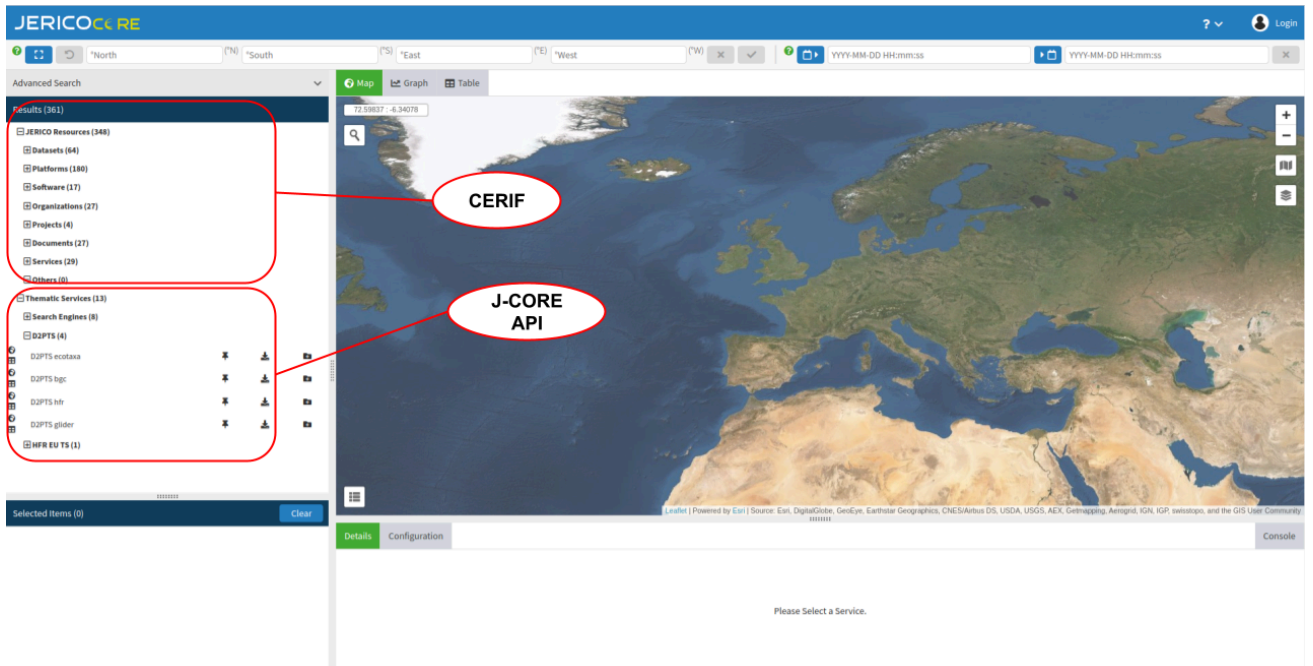
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JERICO C&RE

Advanced Search

Results (361)

- JERICO Resources (348)
 - Datasets (64)
 - Platforms (180)
 - Software (17)
 - Organizations (27)
 - Projects (4)
 - Documents (27)
 - Services (29)
 - Others (0)
- Thematic Services (13)
 - Search Engines (8)
 - D2PTS (4)
 - D2PTS ecotaxa
 - D2PTS hgc
 - D2PTS htr
 - D2PTS glider
 - NFR EU TS (1)

Selected Items (0) [Clear](#)

Map | Graph | Table

77.58107° -6.34078°

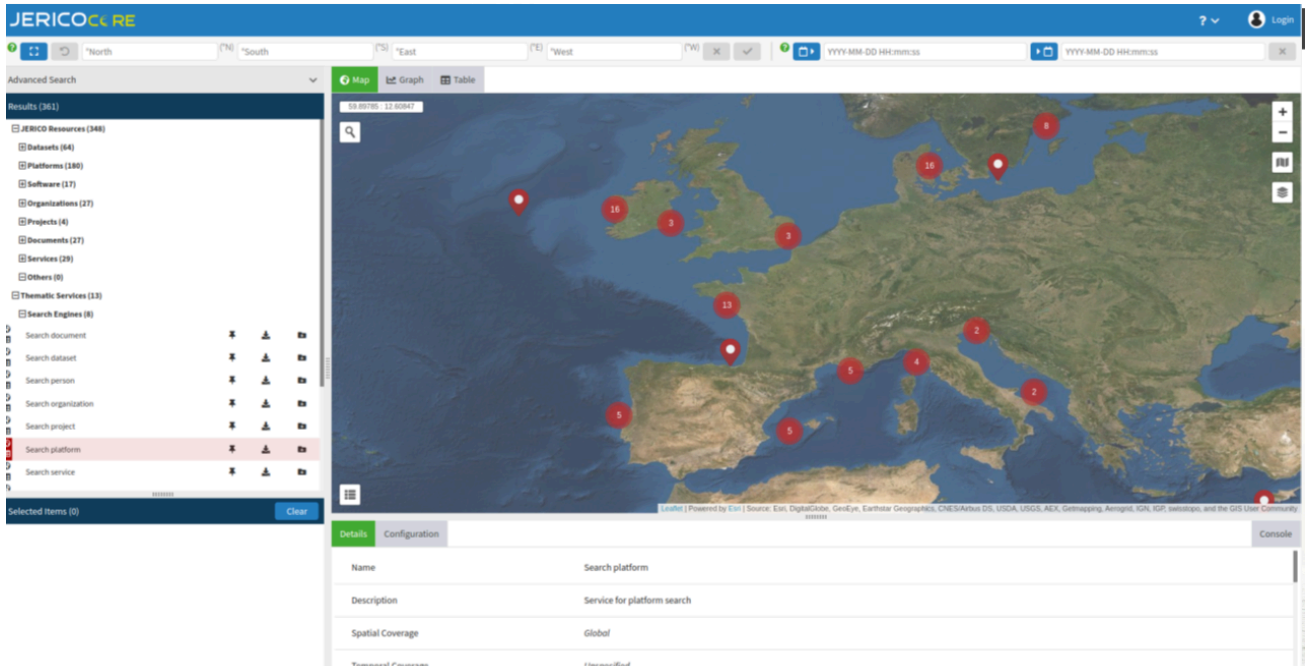
CERIF

J-CORE API

Please Select a Service.



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 - Search Engines (8)
 - Search document
 - Search dataset
 - Search person
 - Search organization
 - Search project
 - Search platform
 - Search service

Selected Items (0) [Clear](#)

Map | Graph | Table

89.8976° -11.80947°

16, 16, 3, 3, 13, 2, 5, 4, 2, 5, 5

Search platform

Name: Search platform

Description: Service for platform search

Spatial Coverage: Global



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Name	Type	Details	longitude, latitude
IOOS_3801502	Platform	Details	-91.889,-1.0995
Sea22	Platform	Details	-52.92216,48.72212
IOOS_4801933	Platform	Details	-118.1227,33.308
Landort Niorna	Platform	Details	17.8589,58.7689
missing platform name (jmodnetID:R000582)	Platform	Details	-2.65065,47.51156
BOURNEUF	Platform	Details	-2.03046,47
missing platform name (jmodnetID:T8901)	Platform	Details	175.101,-76.1
Wexford	Platform	Details	-6.4589,52.3385
missing platform name (jmodnetID:68462)	Platform	Details	9.28017,43.7407
Smatch ILE-D-HEU	Platform	Details	-2.2903,46.7022
Uvelo	Platform	Details	20.10422,61.19791
IOOS_4801943	Platform	Details	-122.13266,36.754295
6801612	Platform	Details	3.6609576,69.64088
AMETS Berth A Wave Buoy	Platform	Details	-10.2715,54.2856

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Map view showing search results on a geographical map of Europe. Red markers indicate the locations of various platforms. The configuration panel below the map allows filtering search results.

Configuration Panel:

- Only JERICOS Resources*: True
- Owner Name:
- Platform Type:
- Title:
- Keywords:
- Platform Name:
- Related Software:
- Variable Concept:

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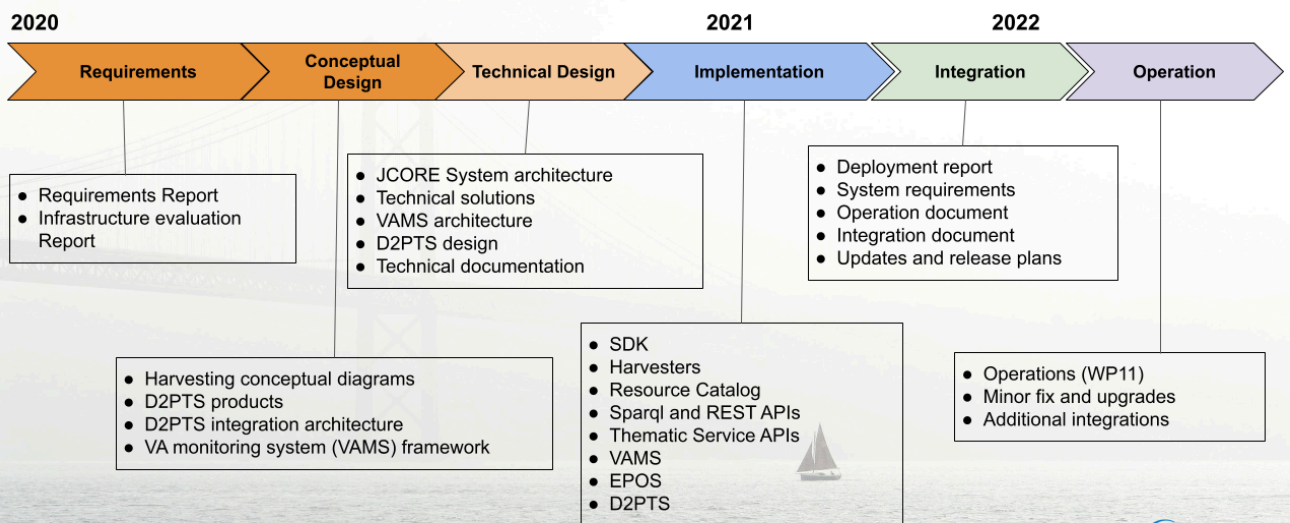
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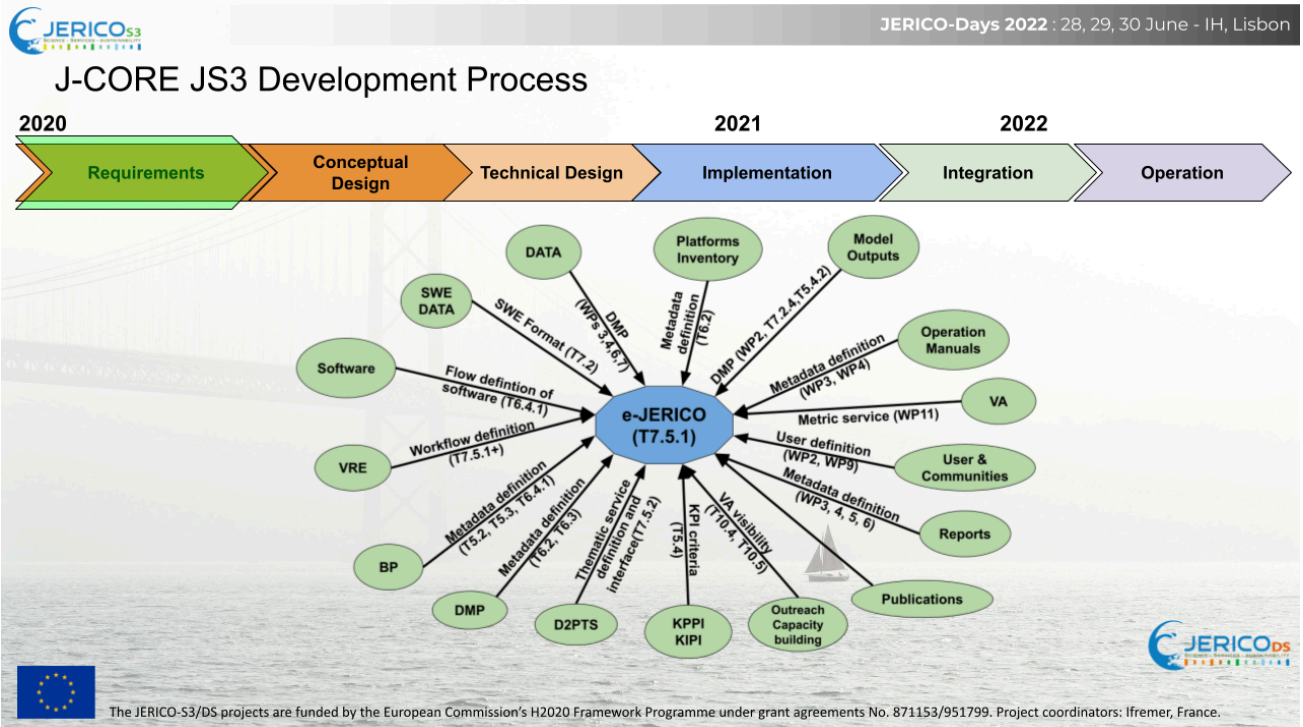
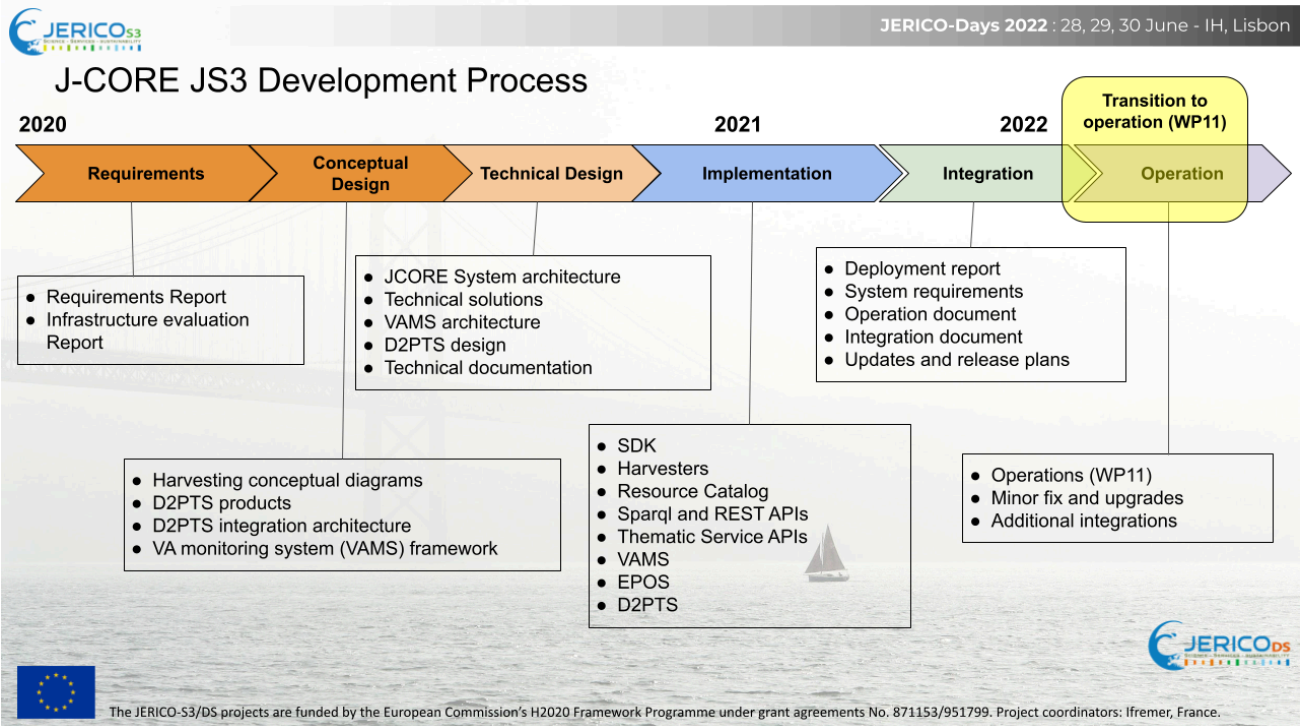


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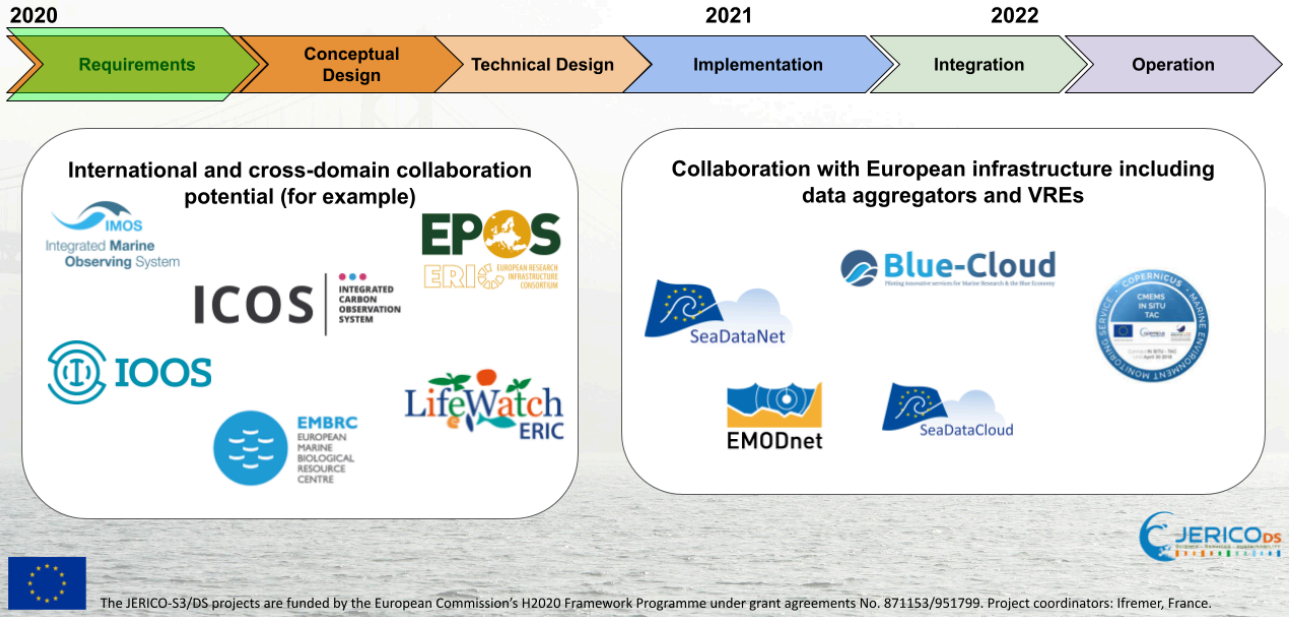
J-CORE JS3 Development Process



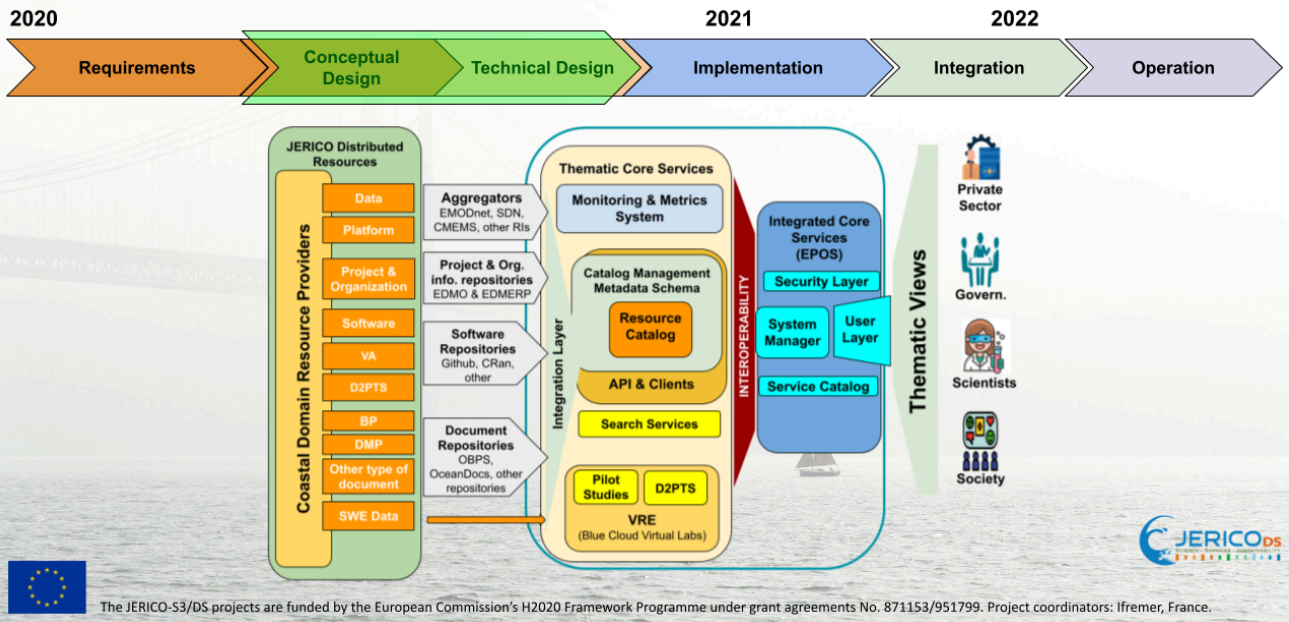
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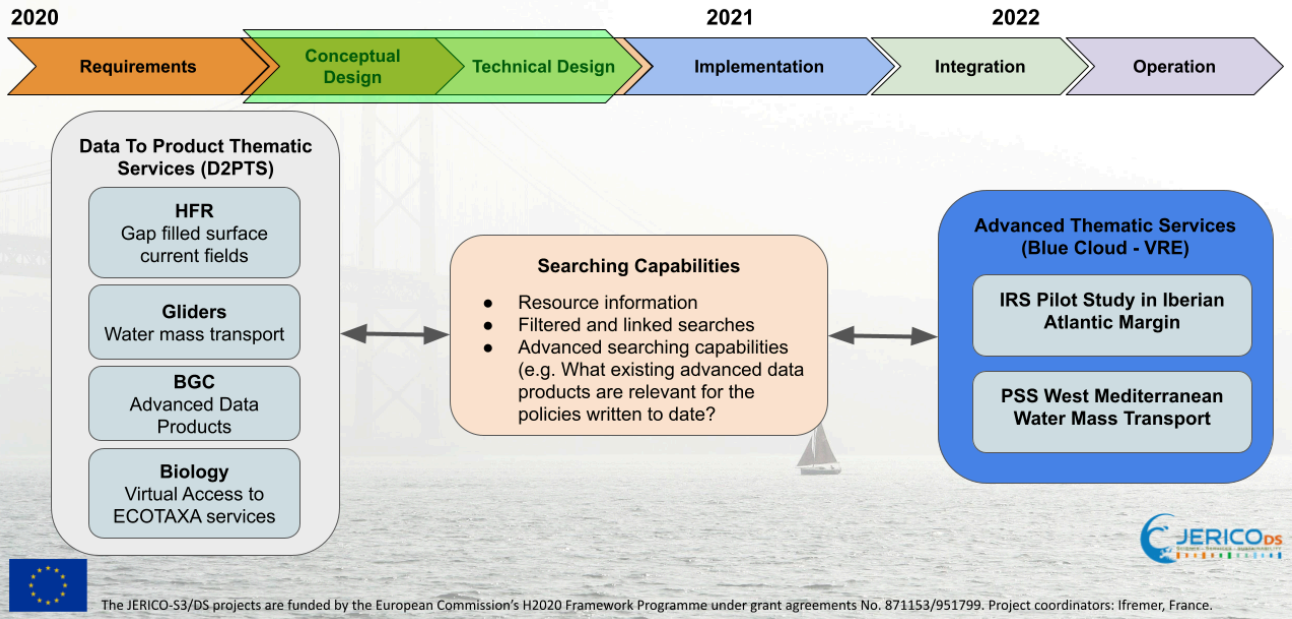
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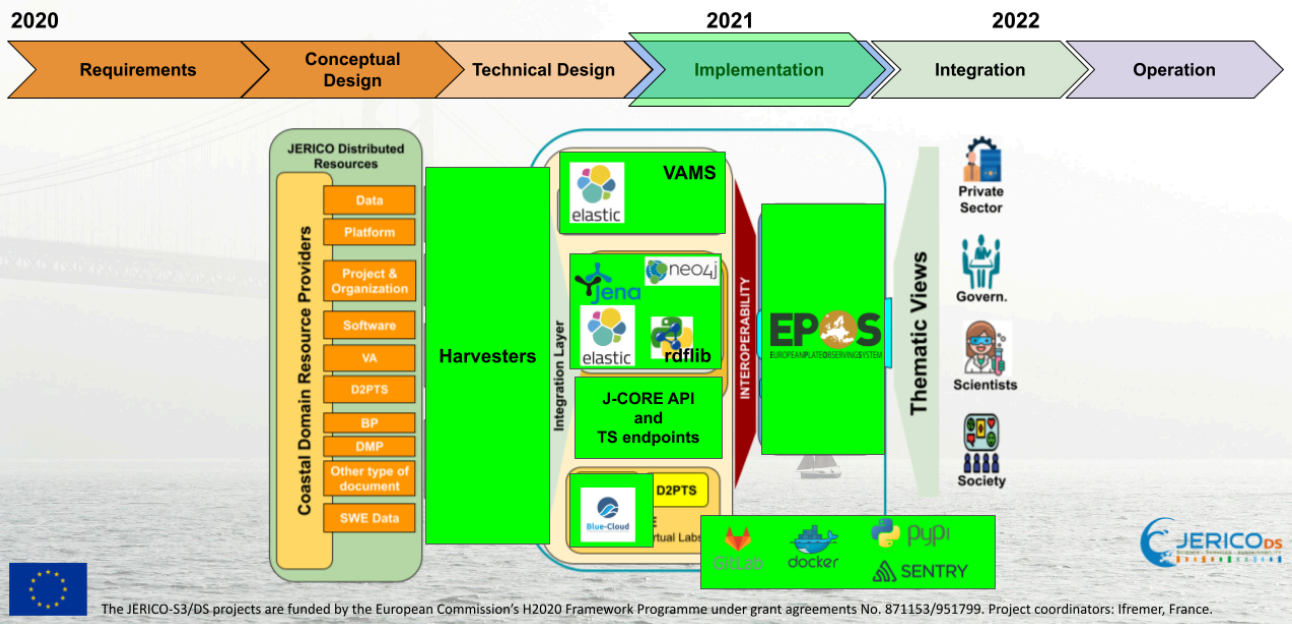


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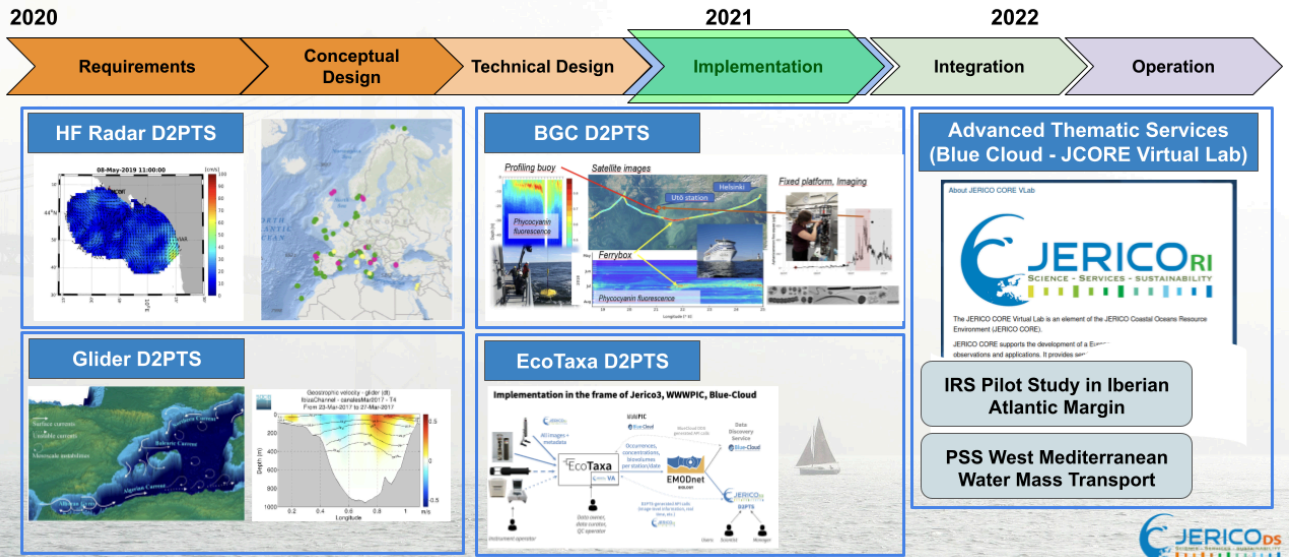
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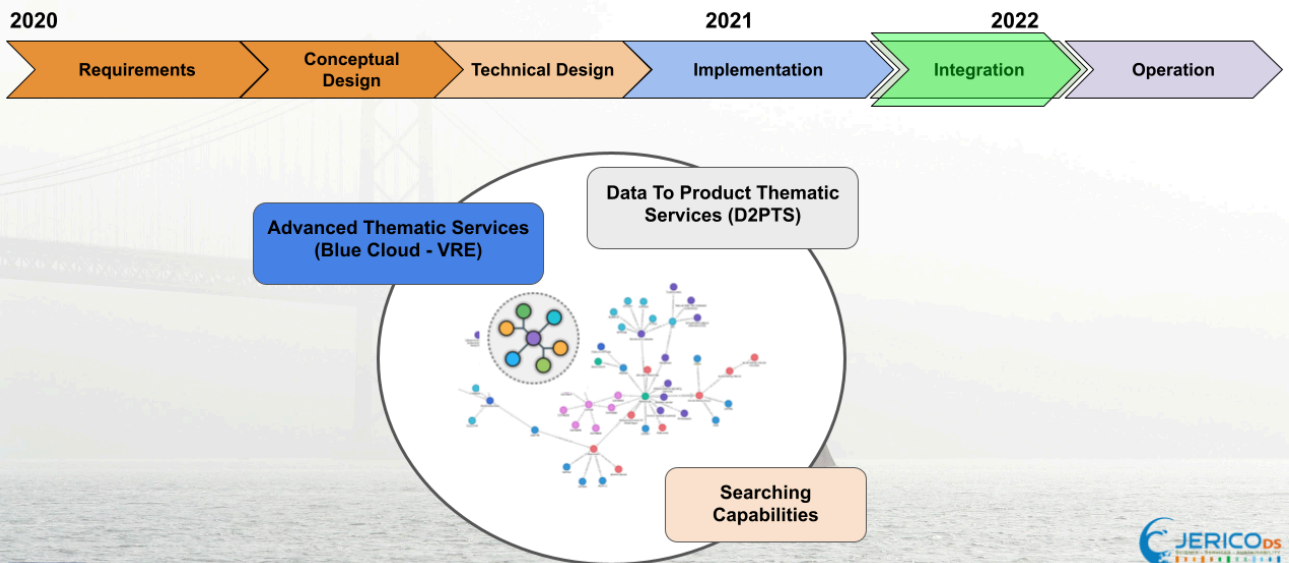
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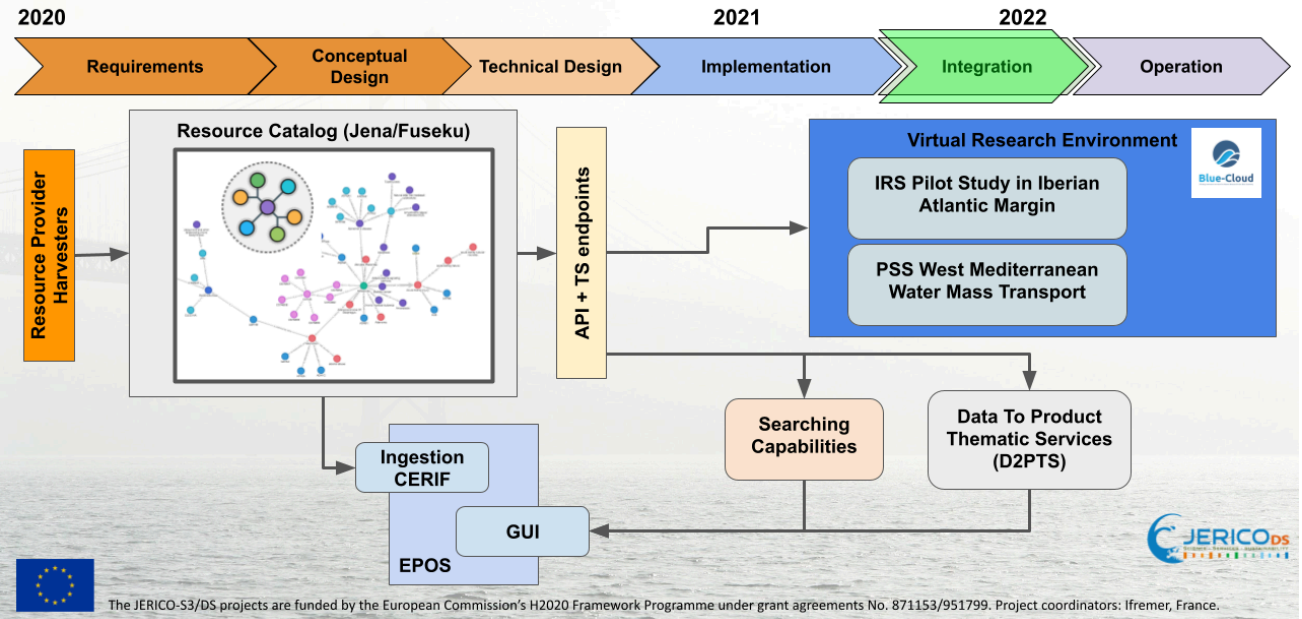
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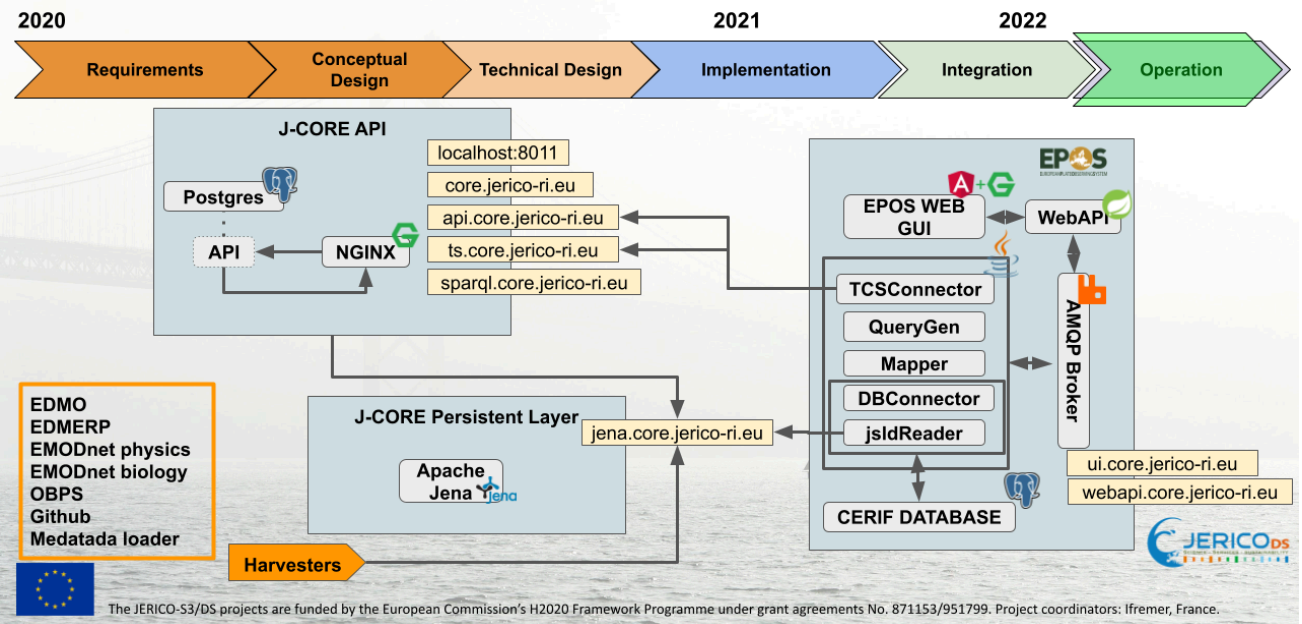


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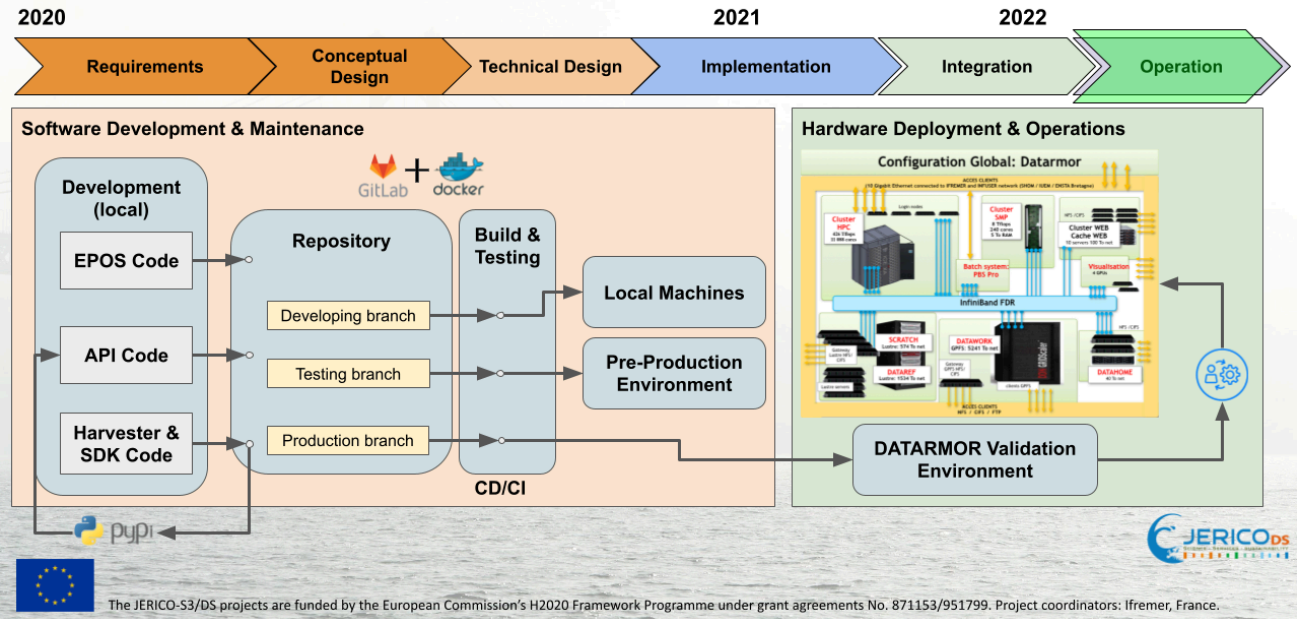
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• Subtask 7.5.1 VA Portal development (M1-M30):

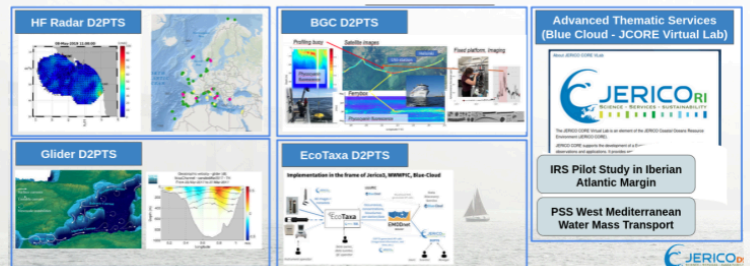
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J-CORE Developments: Use Cases (Discoverability)

- Prepare observational proposals or grants
 - Find platforms of a specific type (HFR)
 - Find existing data in a region
- Search and access software for processing or analysis
 - Find toolboxes that processes related to a specific type of platform
 - Impact of software: Find datasets that used a specific software
 - Identify BPs and find gaps
- Technical support
 - Find organizations that have a specific platform
 - Identify DMPs support and guidelines



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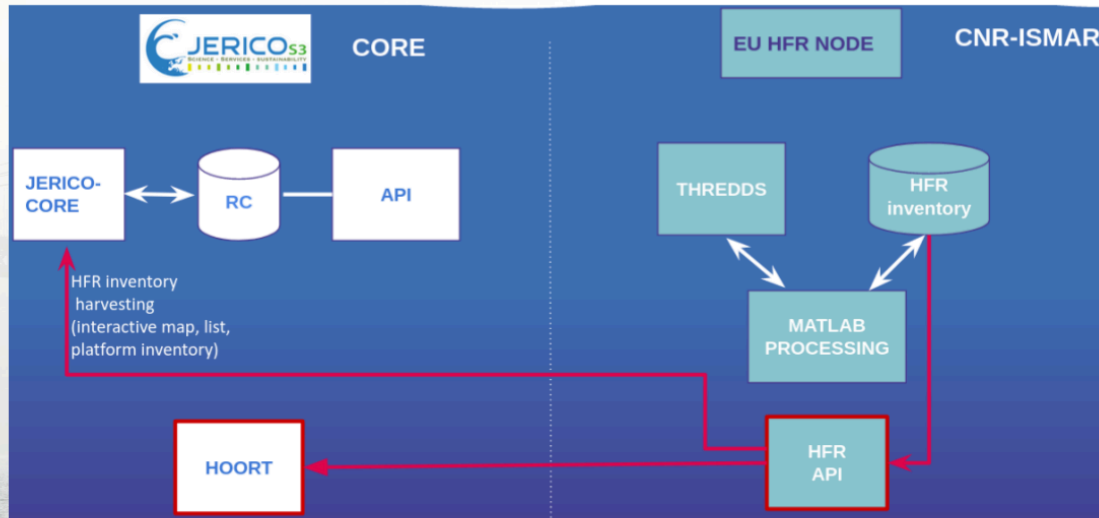
J-CORE Developments: Use Cases (Thematic Center Support)

- Advanced Service integration
(https://blue-cloud.d4science.org/group/jerico_core/jupyterhub)
- Ensure JERICO data are labelled as "JERICO" to raise the visibility
- Impact metrics (relevance of software, document, datasets, contributions from organizations or people,...)
- Create a JERICO event alarm system (tsunamis, Baltic inflows, HABs,...)
- Tools to provide platform operation status (based on technical center requirements).
- Tool to track the data flow i.e. what data goes where
- Provide a "new data" alert with notification for registered users of new data available
- Tools to assess the implementation of Best Practices,
- ...



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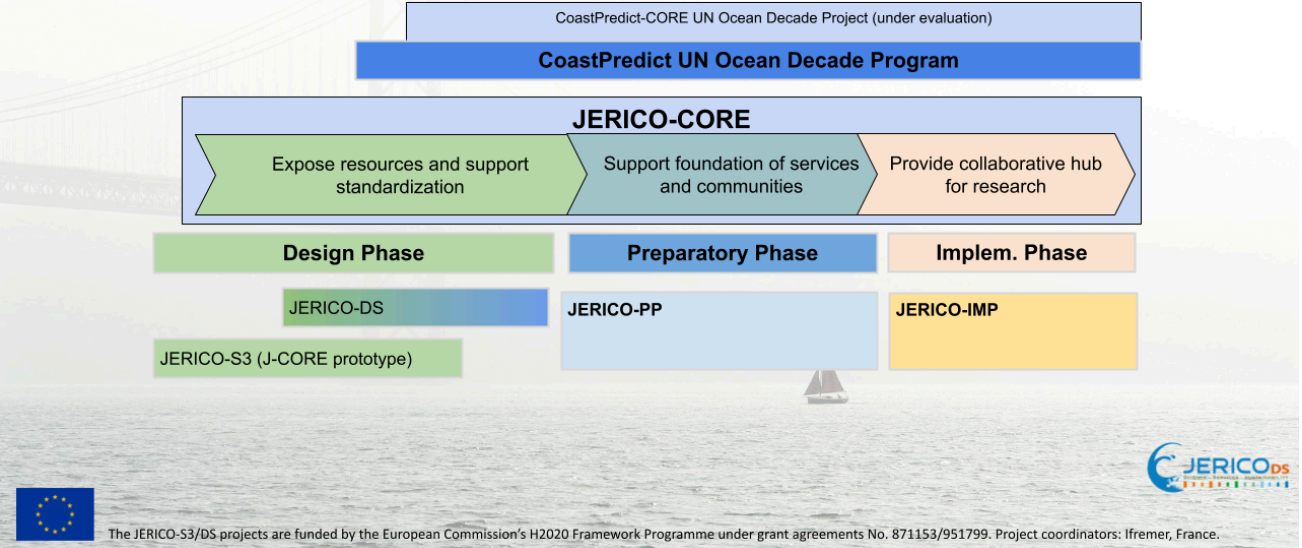
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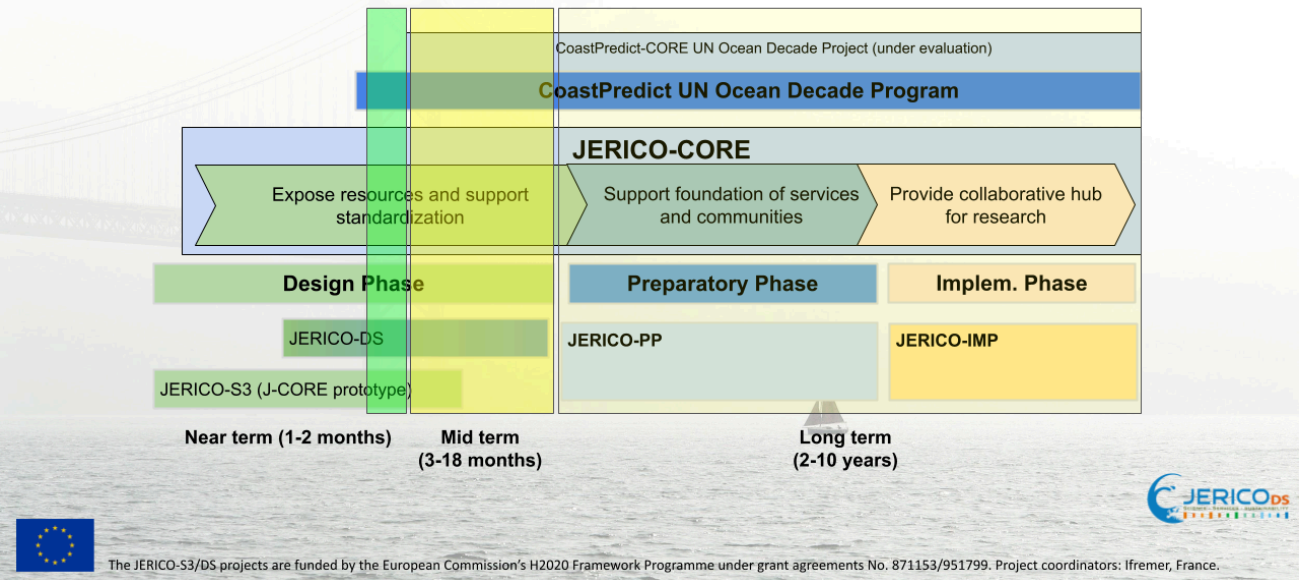
Outline

- Task 7.5: J-CORE Objectives, Context and Concept
- J-CORE Developments: Demo Overview
- J-CORE Development Process: Infrastructure and Services
- J-CORE Developments: Use Cases
- **J-CORE Into the Future**

JCORE into the Future



JCORE into the Future



Near term (1-2 months)

- Finalize Datarmor deployment (testing and data validation)
- Finalize documentation
- Continue testing and collect user feedback
- Integration of IRS pilot study
- Provide guidelines and support for the creation of new TS in BC virtual lab
- Integration to WP11 Virtual Access Metrics System (VAMS)



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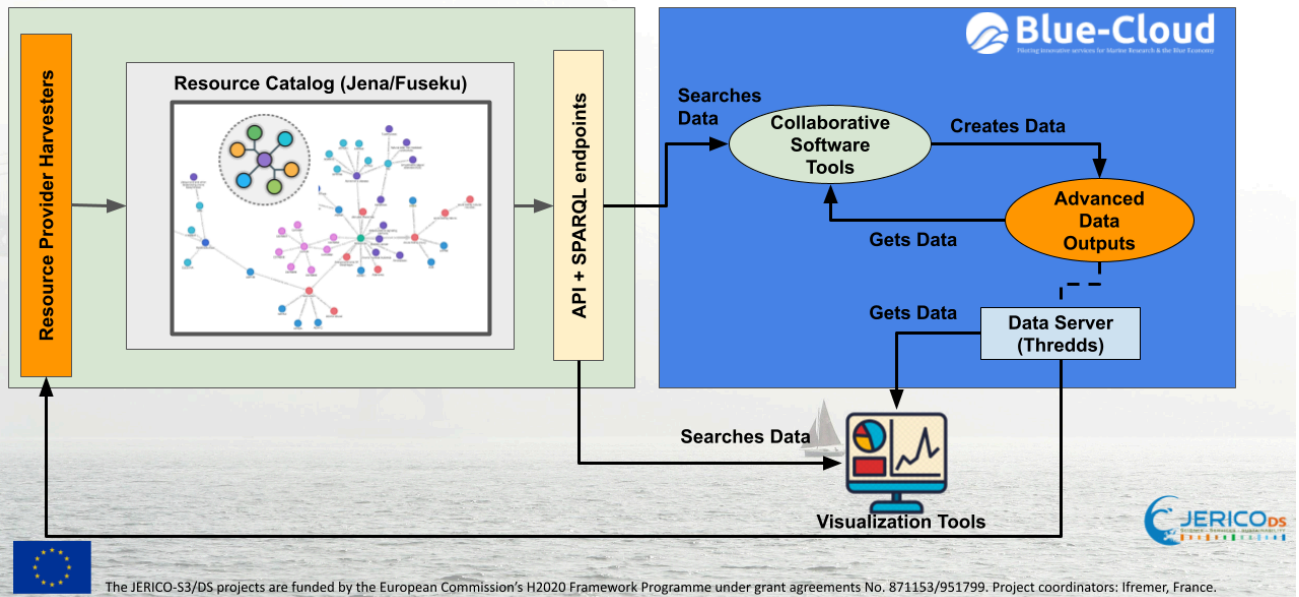
Mid term (3-18 months)

- Design and implement procedures for maintenance and upgrades of JCORE
 - Mechanisms to collect feedback and track response
 - Feedback from assessment panel
- Design and implement procedures for improvement of JERICO metadata
 - Implement metrics of resources
 - Provide feedback about metadata quality and gaps
 - Co-designed and/or co-delivered to facilitating the uptake of science and ocean knowledge for policy, decision-making, management and/or innovation
- Prepare long term technical design and road map (JDS), including:
 - Implement real-time information and metadata collection
 - Integration of advanced thematic services in JERICO-RI Blue Cloud Virtual Lab (guidelines and support)



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JCORE and JERICO-RI Blue Cloud Virtual Lab



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Long term (2-10 years)

- ESFRI roadmap
 - Expand source of information (incorporate new providers)
 - Guaranty clean JERICO information metadata following ENVRI FAIR guidelines
 - Further developments during the various phases of ESFRI roadmap
- CoastPredict (UN Ocean Decade)
 - Expand use cases, information sources and drive interoperability across global coastal oceans.
 - Provide broader access to common methods (best practices) and standards
 - Improve access to near real-time data of different nature for nowcasting, hazardous response and mitigation.
 - Expand access to the next generation Data Lakes and Digital Twins of the Oceans (e.g. DITTO)

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JCORE Impacts - moving to a Research Infrastructure

Trusted information resource for policy and science that moves beyond data

Unified access to all JERICO assets, (observations, tools, best practices, etc)

Support for harmonization

Recognition as a JERICO contribution to European Marine sustainability

Opportunity to bring global value for/to JERICO



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