



KER5: Services in the EOSC Service Portfolio – Thematic services

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Dissemination level: Public

Disclosing Party: Project consortium

Recipient Party: European Commission





Enterprise: Boost innovation



Digital Innovation Hub:
Platform for industrial
collaborations with EOSC



**EOSC Hub Operators: Develop the EOSC
landscape**



**Service Providers:
Provide services for
Researchers**



Rules of Participation

Internal services in the Hub portfolio



Service Management
System

Business and sustainability models for
services and the Hub



Interoperability &
Integration Guidelines

**Services in the EOSC Service
Portfolio**



**Researchers and research communities:
Empower my research**



**EOSC-hub
Key Exploitable
Results**

*Educate, inform
and support my
team and
community*

Training
courses and
Materials

EOSC
Portal
and
Marketplace

Description

EOSC provides a "one-stop-shop" for a range of services and solutions to speed up the research process of the disciplines and enable cross-disciplinary collaboration and reuse of tools and results. Together with the EOSC Portal and Service Management System, the KER provides a comprehensive and robust set of services to researchers.

Type

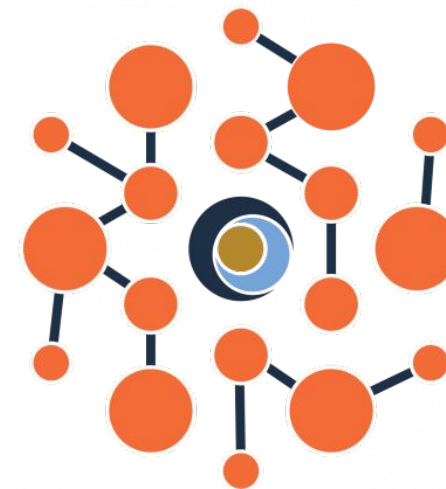
Set of services

Key innovation

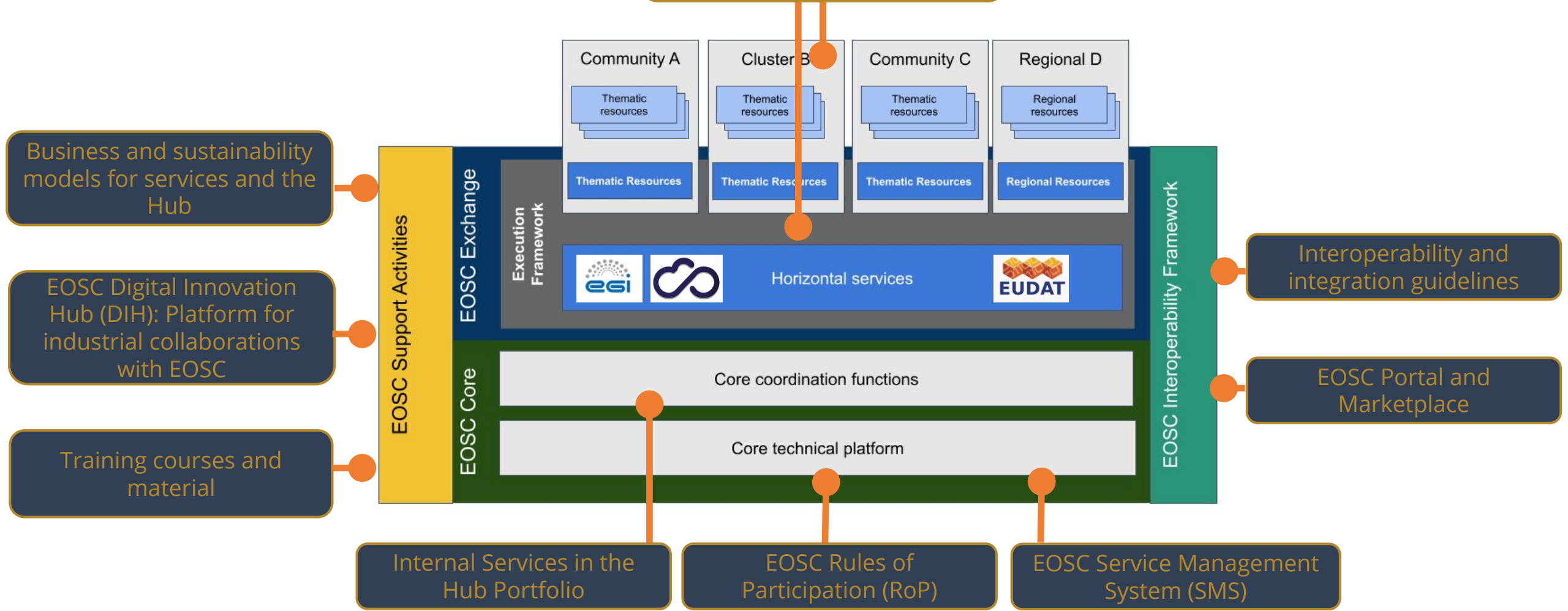
Larger number of high-quality, interoperable services for faster and higher quality research results.

Related information

Thematic services are primarily focused on the research challenges of specific research communities, but EOSC integration also encourages cross-pollination between research communities.

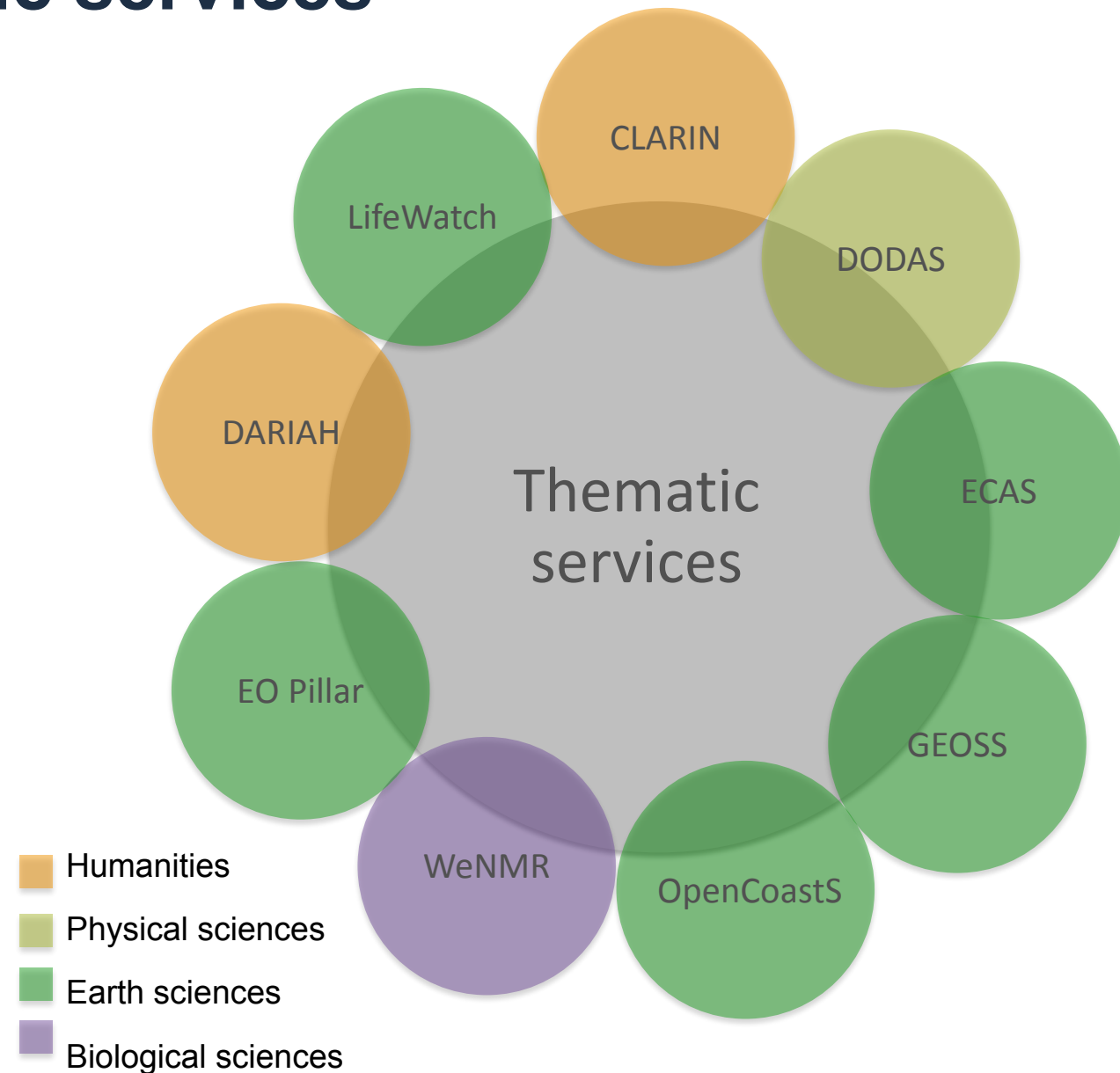


Services in the EOSC Service Portfolio



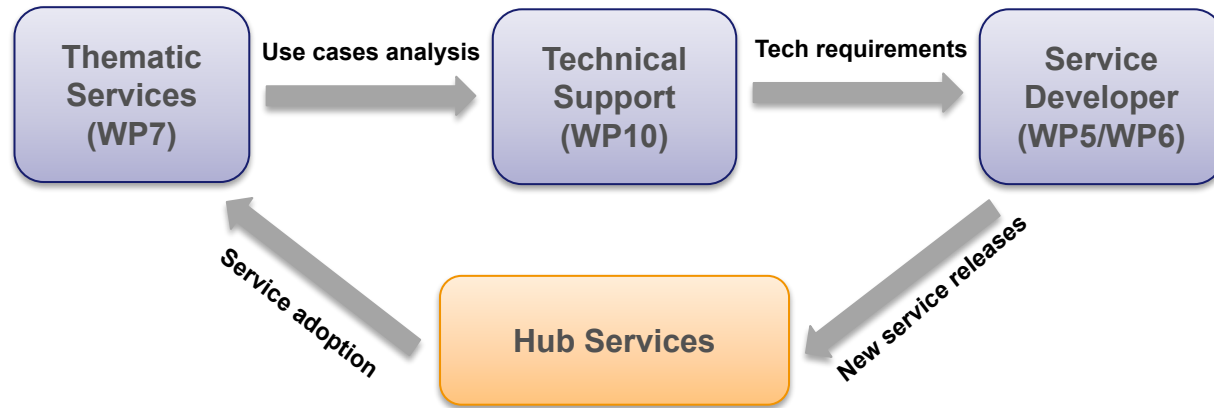
EOSC-hub Role of Thematic services

- User can search, find and access different type of services in the EOSC Marketplace
- Thematic services:
 - scientific applications like those offered by the Research Infrastructures
 - research data, data brokering and analysis capabilities for specific research communities and multidisciplinary research

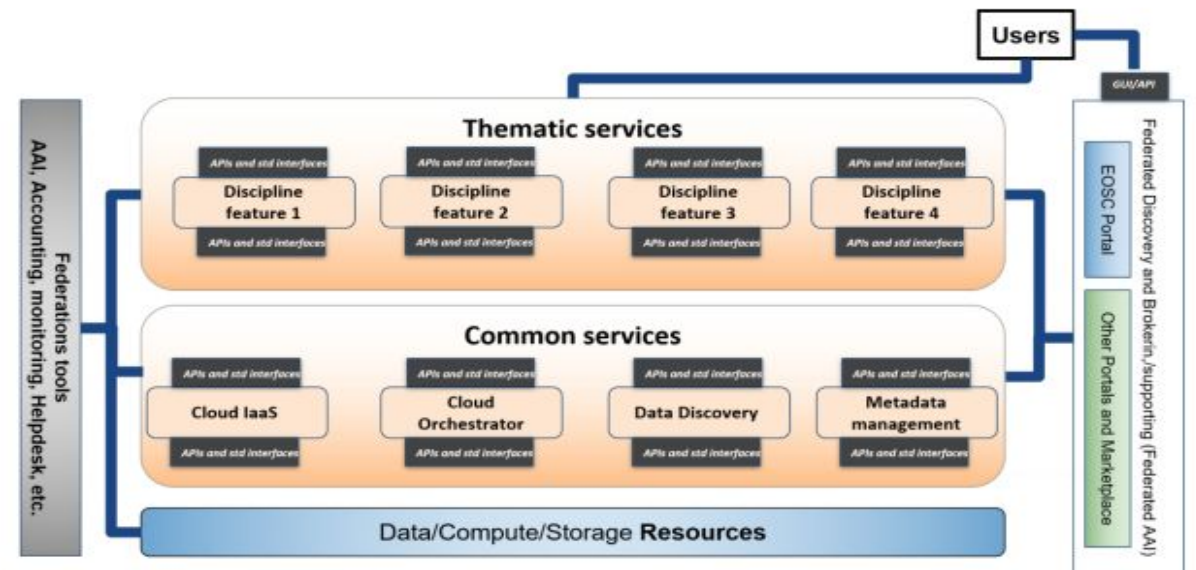


- Source of requirements for EOSC-hub enabling and common services
- Drive the evolution of the other services

Enhance the hub to better serve Thematic services



Early adopters of the EOSC-hub services





Innovation

Motivation

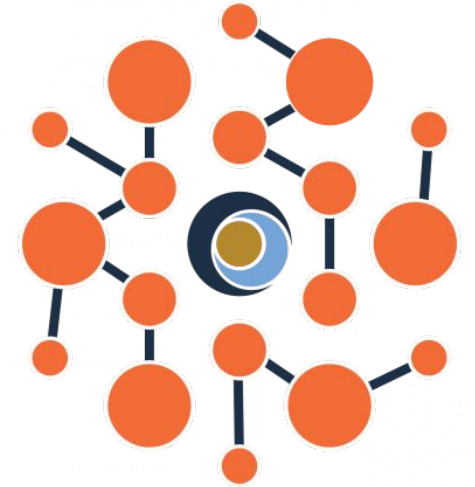
- To increase the number of services addressing communities needs in the EOSC Portal
- **To increase interoperability with the common services provided by EOSC**

Implementation aspects

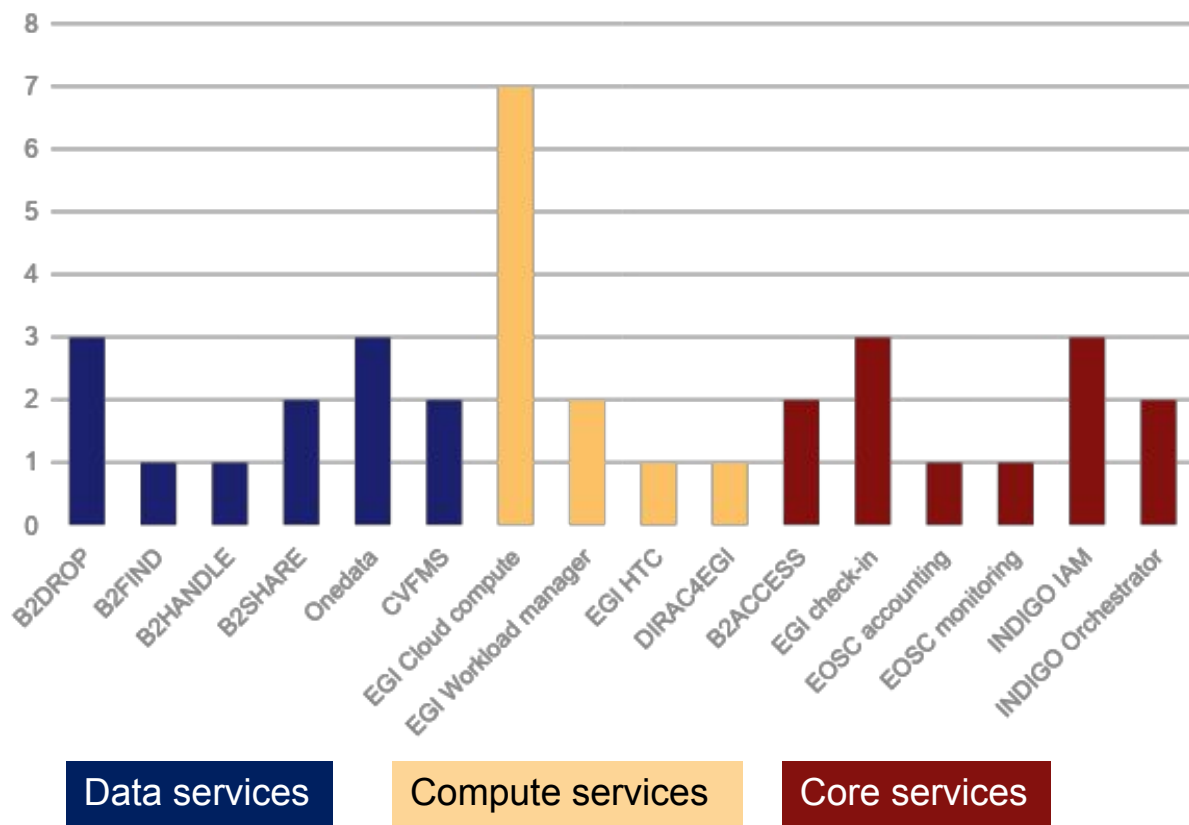
- Thematic services have worked to integrate common and core services to the thematic ones
- Thematic services have been improved to address communities needs and made available via the EOSC Portal

Contribution to EOSC

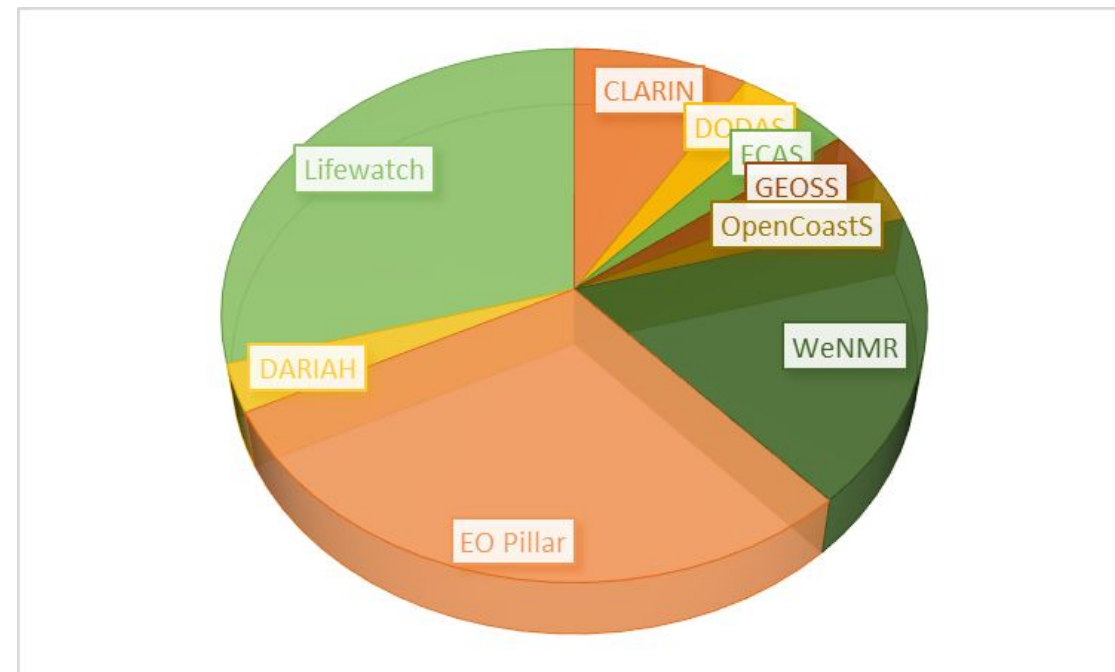
- **New set of services addressing communities' needs** has been made available to researchers and communities



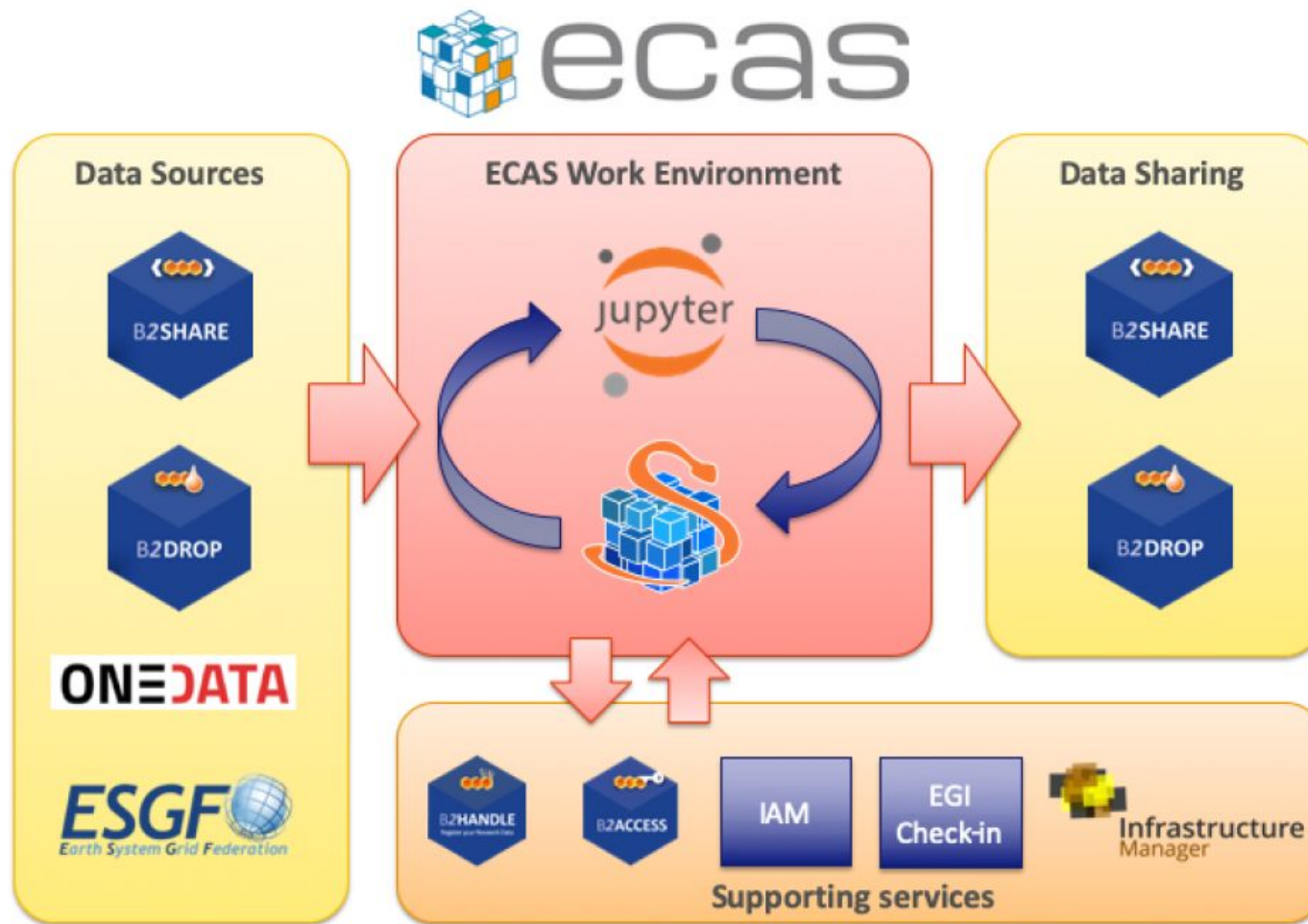
Total of 35 integrations achieved

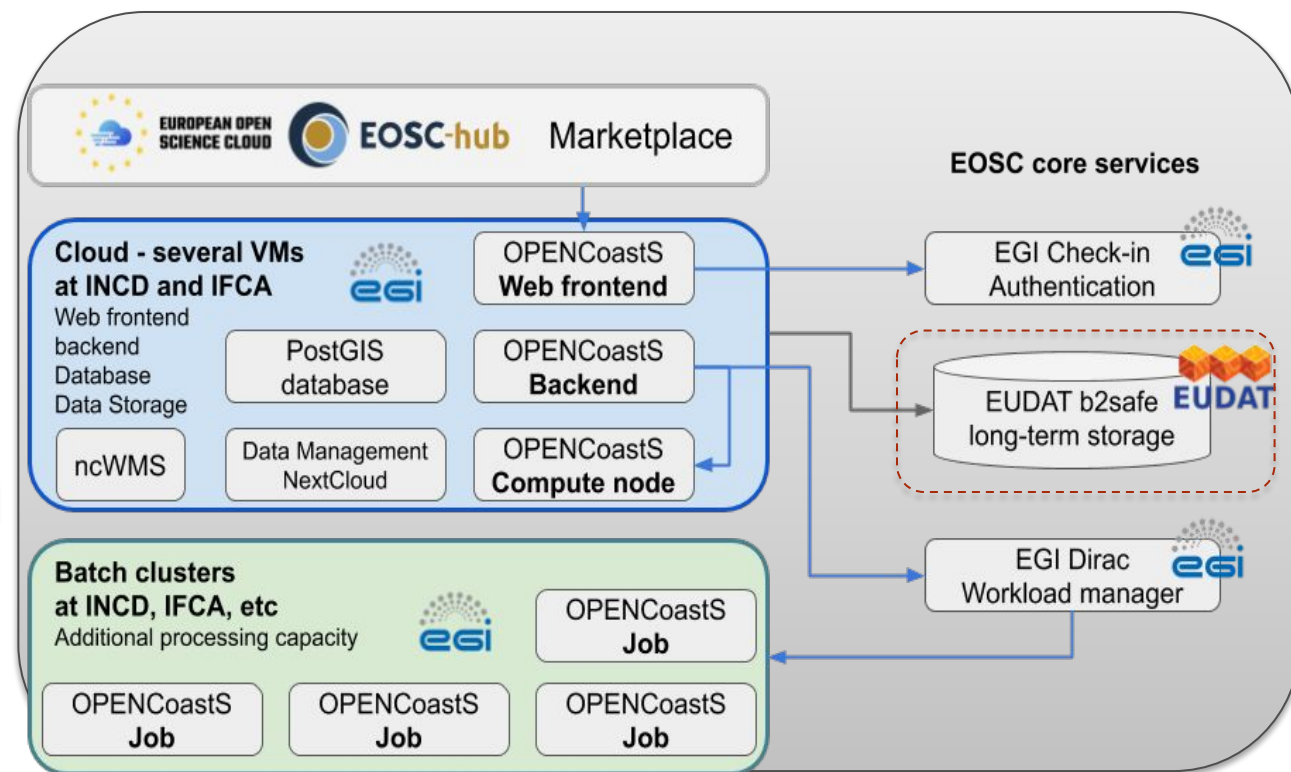
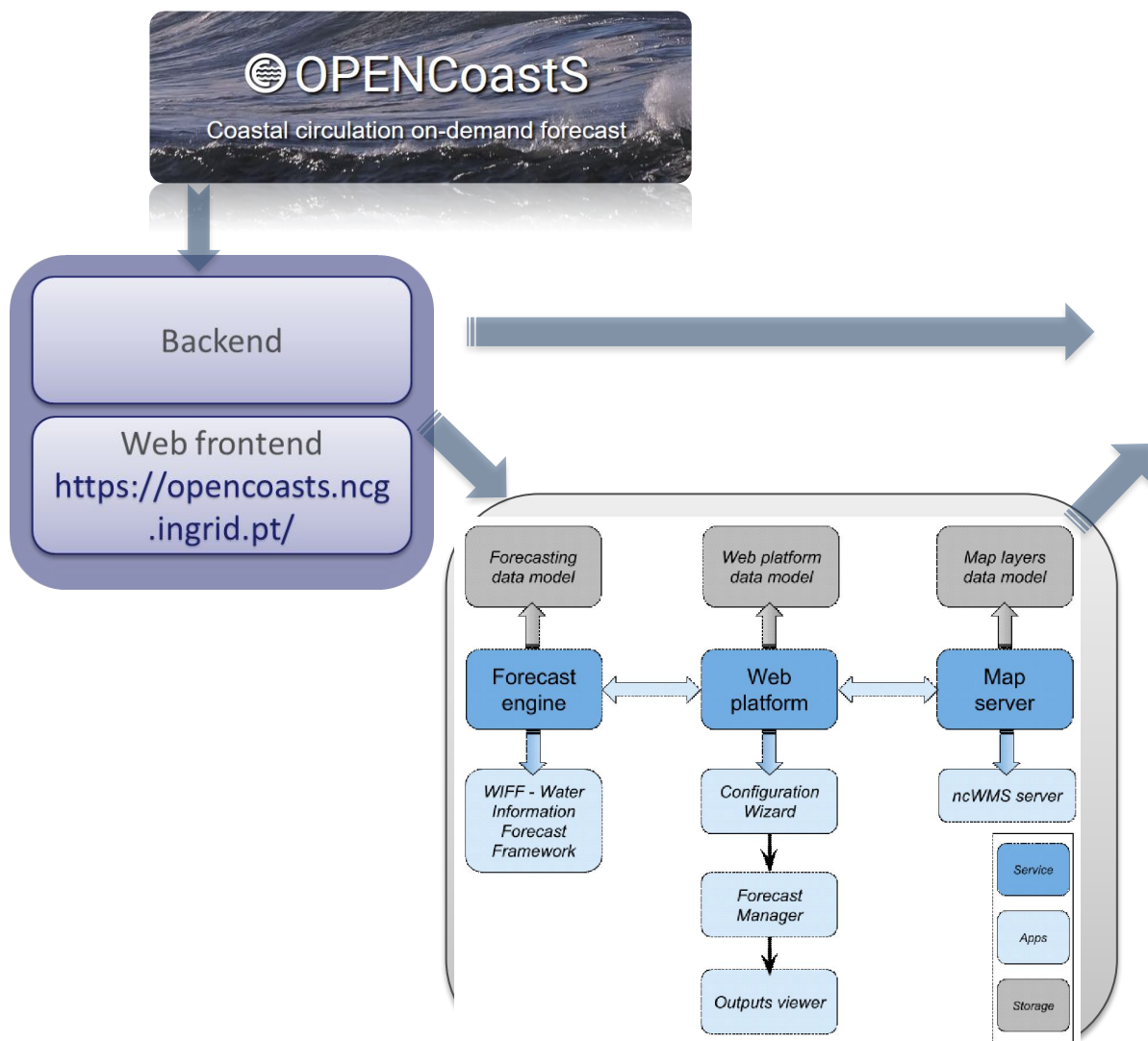


34 thematic services onboarded in the EOSC Portal



Some TSs are considering to have their results listed under the EC Horizon Result platform





- EGI Check-in: users authentication
- EGI cloud compute: provide compute resources for frontend and backend
- EGI Cloud Container Compute : run containers in a virtualized environment (udocker - INDIGO-DC)
- EGI High-Throughput Compute: to run simulations and store data
- EGI Workload Manager: for job submission to local resource providers

What benefits does it bring?

Exploitation audience	Benefit
EOSC	<ul style="list-style-type: none">• Increased uptake from communities of EOSC services
Service Providers	<ul style="list-style-type: none">• Increased visibility, usability and users base• Extended features/functionality thanks to integration with other services
Researchers and research communities	<ul style="list-style-type: none">• Increased number of services available to scientific communities



CLARIN: European Research Infrastructure for Language Resources and Technology

- Metadata (about 120k records) into the VLO
- New collaboration established with Europeana



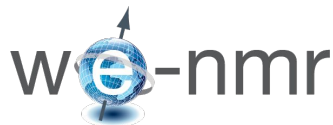
European Network for Earth System Modelling

- Preliminary uptake has shown it can facilitate better data and workflow sharing close to the user needs.
- 19 countries reached



OPENCoastS - Coastal circulation on-demand forecast

- From national to world wide platform
- Over 500 users in 61 countries



A Worldwide e-infrastructure for NMR and structural biology

- +30% users
- +126% simulations submitted
- Reached countries >120



Dynamic On Demand Analysis Service (DODAS)

- Highly integrated with EOSC-hub services
- 4 new communities within HEP, Astroparticle and Gravitational wave



Digital RI for the Arts and Humanities

- Visit per month doubled
- Become target data repository for an increasing number of projects and initiatives (Discuss Data (DE), Text+ (DE), SSHOC, and)

EO Pillar

Set of services in the field of Earth Observation

- 1.4 Million Cloud Compute hours and +108% increase of use of Terradue services.
- EO Data available > 3 PB



GEO DAB and Virtual Earth Laboratory (Vlab)

- GEO DAB connects over 190 data providers
- VLab-based demo selected as EuroGEO demo at the GEO-XVI Plenary



Other SPs have been in contact to be integrated into the EOSC Portal to gain visibility and get other extra benefits from being at this European platform.



Exploitation

- Thematic services have their own sustainability models and strategies
- Further developments is being mostly taken over by other EOSC-related projects

CLARIN	The thematic services will be further supported and developed by CLARIN ERIC. Additional improvements will be ensured through CLARIN's participation in the SSHOC project and in the EOSC Future project .
DODAS	The DODAS Thematic Service will keep operating under the EGI-ACE project in order to deliver compute and data analysis capabilities to the scientific communities. Moreover, DODAS will continue its support to the adopter in the context of the INFN-Cloud National project.
ECAS	The ECAS TS will continue to operate under the EGI-ACE project (in a broader EOSC-oriented climate data science environment) to deliver compute and analytics capabilities to climate scientists.
GEOSS	CNR-IIA team (leader of the GEOSS TS) applied as Early Adopter for the EGI-ACE project where the use of EOSC for the described services will be continued and enhanced.
OpenCoastS	The operation of the service and user support will continue under the EGI-ACE project and its expansion to water quality forecasts and hindcast simulation will also be achieved in that project.
WeNMR	The operation of the services and user support will continue under the EGI-ACE project .
EO Pillar	Some services are part of EOSC-Future project . EO-Pillar will follow on in H2020 C-SCALE project, within the INFRAEOSC-07-2020 - Increasing the service offer of the EOSC Portal.
DARIAH	SSHOC project took up results and findings from the DARIAH Thematic Service (and its predecessor, the EGI-Engage DARIAH Competence Centre) and evolved them further into a rich, integrated service portfolio for the Digital Arts & Humanities within EOSC
Lifewatch	Through Lifewatch ERIC

- Exploit off the shelf Services
 - Increased scalability
 - Building on proven services from reliable service providers increases end-user trust in the services
- Each Thematic Service will further exploit the results within its own research community, for example:
 - The results from the developments in GEOSS TS are being utilized to develop demos and use cases in other GEOSS-related H2020 projects, including ERA-PLANET (the European Research Area in the domain of Earth Observation), e-shape, etc.
 - OPENCoastS' team will provide dedicated services for the coastal community (research, consultancy, end-users,...), including targeted training, high-accuracy deployments, etc...

- Each of the services accessible through the marketplace has its own IPR approach and terms and conditions for use
- The IPR licenses are ranging from the public domain to proprietary software but with a clear majority of open source licenses

EOSC-hub website

<https://www.eosc-hub.eu/key-exploitable-results/external-services-eosc-service-portfolio>

Publications

- D. Spiga et al. "DODAS: How to effectively exploit heterogeneous clouds for scientific computations", PoS(ISGC 2018 & FCDD)024
- DORN, Amelie et al. Opening up traditional cultural knowledge by means of European infrastructures: the examples of exploreAT! & EGI Engage. Revista de Humanidades Digitales, [S.l.], v. 3, mar. 2019. ISSN 2531-1786.
- S. Bendoukha, T. Weigel, S. Fiore, D. Elia, "Enabling server-based computing and FAIR data sharing with the ENES Climate Analytics Service", eScience 2019 15th International Conference, San Diego, California, USA, September 24 – 27, 2019. Pp. 651-653 Online: <https://ieeexplore.ieee.org/abstract/document/9041821>
- I. Zinno et al., "National Scale Surface Deformation Time Series Generation through Advanced DInSAR Processing of Sentinel-1 Data within a Cloud Computing Environment," in IEEE Transactions on Big Data, vol. 6, no. 3, pp. 558-571, 1 Sept. 2020,
- Aguilar, F. (2020). DataCloud infrastructure to manage FAIR environmental data. Journal of Instrumentation, 15(04), C04009–C04009.
- M. Santoro, P. Mazzetti, and S. Nativi, "The VLab Framework: An Orchestrator Component to Support Data to Knowledge Transition," Remote Sens., vol. 12, no. 11, p. 1795, Jun. 2020, doi: 10.3390/rs12111795

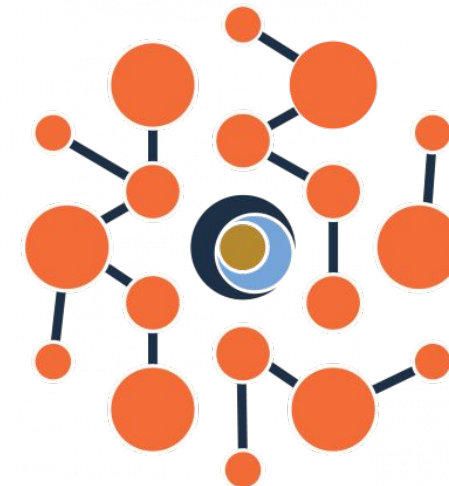
Newsletter

<https://www.eosc-hub.eu/news/eosc-hub-magazine-issue-7>

Selected presentations at events

Thematic services have been presented at a number of events
Dedicated trainings were also carried out:

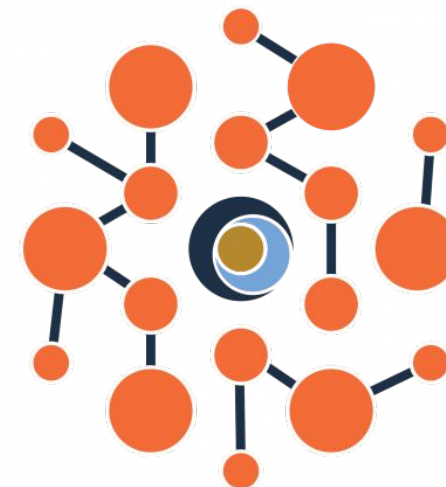
<https://www.eosc-hub.eu/file/eosc-hubdisseminationcompletexlsx>



WPs in leading roles WP7 – Thematic services

WPs providing contributions WP10 – Technical support
WP5/6 – Services developments

Other information D2.6 - First Service roadmap, service portfolio and service catalogue
D7.1 - First Thematic Service software release
D7.2 - First report on Thematic Service architecture and software integration
D7.3 - First report on Thematic Service exploitation
D7.4 - Second Thematic Service software release
D7.5 - Final report on Thematic Service exploitation
D13.1 - Periodical assessment of the services
D13.2 - Periodical assessment of the services



**Thank you
for your attention!**

Questions?



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