

EGI-ACE

Giuseppe La Rocca,
Community Support Lead. at EGI Foundation

giuseppe.larocca@egi.eu

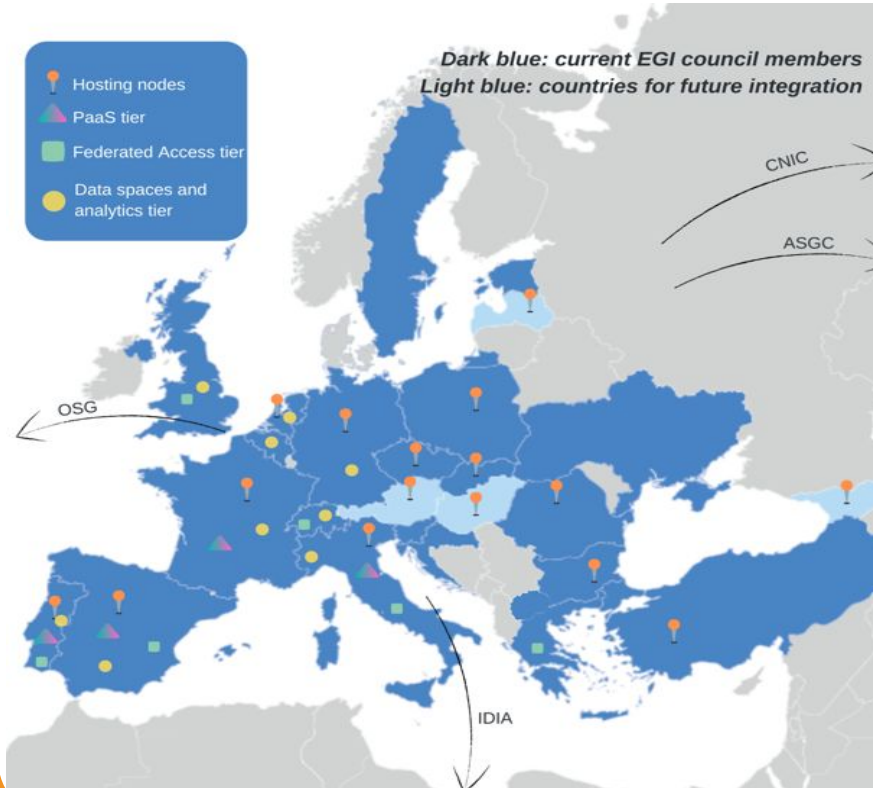
EOSC Symposium, 14-17 November, 2022, Prague



EGI-ACE receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 101017567.

EGI-ACE = EGI H2020 flagship project because...

EGI Advanced Computing for EOSC (European Open Science Cloud)



Consortium:

- Coordinator - EGI Foundation
- 33 Partners, 23 third parties

Services:

- EGI Services for Research
- EGI Services for Federation
- EGI Services for Business

Scope:

- 49% service delivery (Virtual Access)
- Co-development of services with research communities

Duration:

- Jan 2021 - June 2023 (30 months)

- **Services on-boarded in EOSC:**
 - **35** services from the consortium
 - **8** services from external providers – empowered by our services
- **Integration of Thematic Services:**
 - **15 Thematic Services (VREs, Data Spaces)**
- **Num. of users of EGI-ACE services:**
 - **76,000** on Thematic Services
 - **1,300** on the Platform and Infrastructure services

EGI-ACE tiered service architecture



Data Spaces and Analytics
Data and thematic data analytics and processing tools

Platforms
generic
added-value
platform level
services

Federated Access
Federation-wide management of data and computing

Federated Resources
Compute and storage facilities

Service Management, Tools, Processes, Policies

Thematic application services (incl. Data Spaces)

Platform services

Infrastructure services

eosc
Marketplace

Scientific
users

ICT
users

Federated Resources:

- Distributed **Cloud**, **HTC** and **HPC** delivering CPU, GPU and Storage

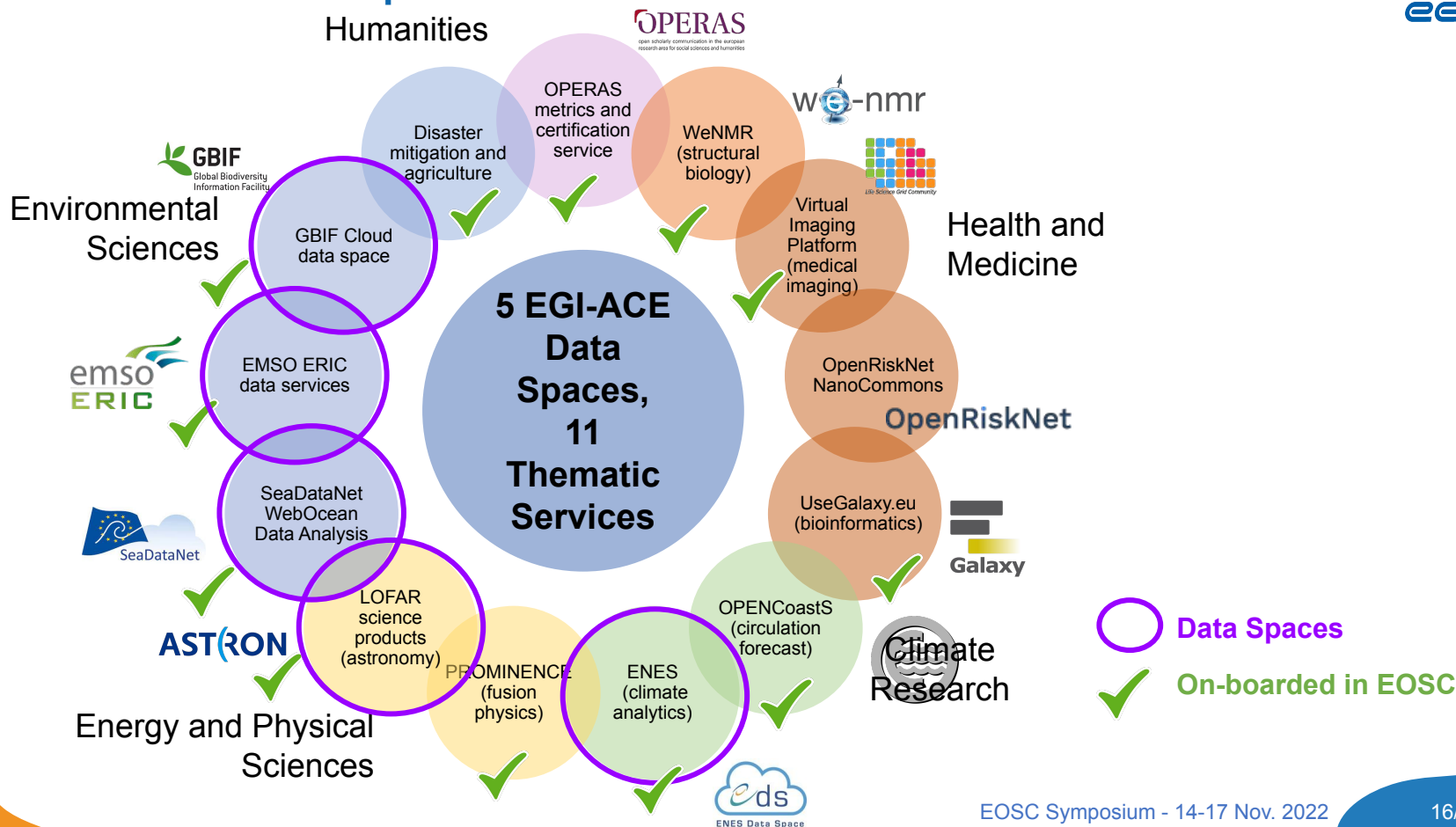
Compute and Data Federation:

- Federated Identity: **Check-in**, **PERUN**, **MasterPortal**
- Software distribution: **AppDB** & **CVMFS**
- Compute Orchestration: **IM**, **Workload Manager**, **EC3**, **DynamicDNS**, **PaaS Orchestration**
- Data Management: **DataHub**, **Data Transfer (FTS)**, **Rucio**, **openRDM**

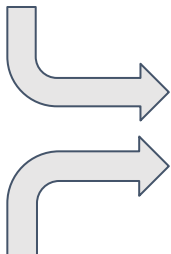
Platforms:

- Interactive computing: **Notebooks**
- AI/ML: **DEEP Training Platform**
- Distributed data analytics: **DODAS**

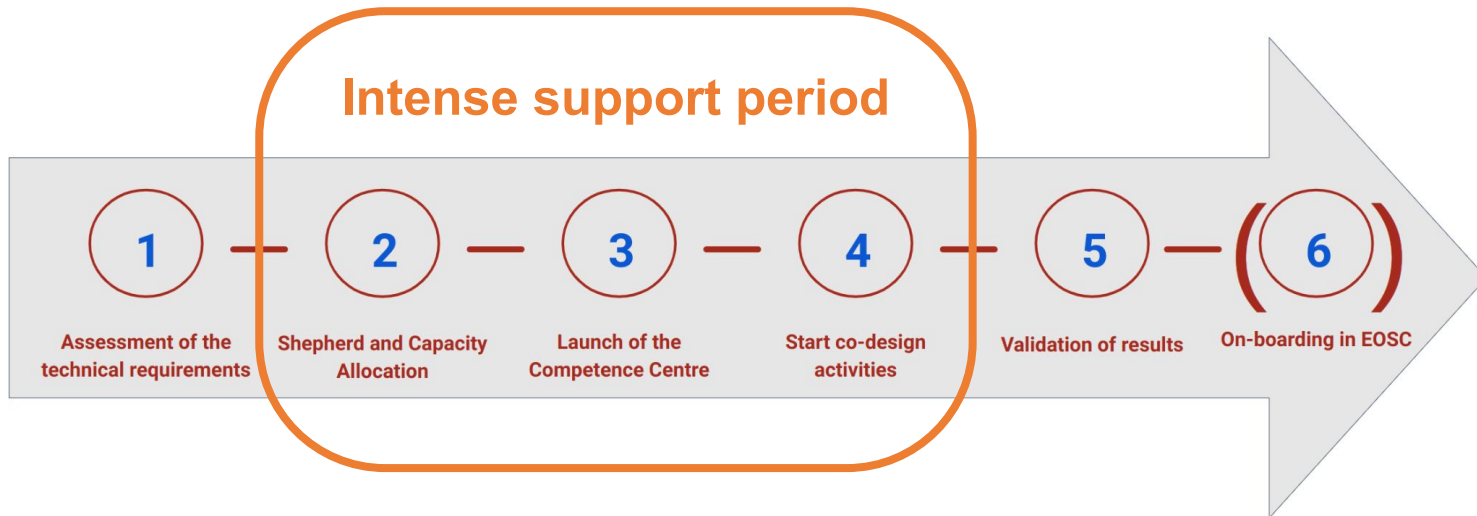
Data Spaces and Thematic Services underpinned by the EOSC Compute Platform



Scalable, distributed user support



Intense support period



Shepherds

- Technical experts who are assigned to the use cases
- Responsibility:
 - **Manage** the implementation of the use case,
 - **Monitor** the Use Case status and potential problems, and
 - **Report** about achievements, lessons learnt and other outcomes.

Competence Centres

- Scalable and distributed structure
- Brings the right expertise for each use case
 - Service and resource providers
 - Technical experts, and
 - Observer parties

Break-down of the EGI-ACE scientific use cases



Policy making and multidisciplinary

3.4%

Social Sciences, Humanities

6.9%

FETFX



MATRYCS



i-nergy

Physics

6.9%

Astronomy, Astrophysics

3.4%



Life Sciences

17.2%



Consiglio Nazionale
delle Ricerche



Plataforma Oceánica
de Canarias



Engineering and Technology

24.1%



Cos4Cloud

PANGEO

Environmental Sciences

37.9%



EMPHASIS

Deltares



grapevine



Total: 42

CPU/h used: 20 Million

Break-down of the EGI-ACE business use cases



Use cases supported:

Digifarm.io	Agricultural Sciences
Inteligg	Smart Cities
OiPub	Science Publishing
ARTIConf	Blockchain Network
Cite-OpenScienceLens	Browsing Open Science
Gtfo-Blockheating	Data-center Energy Recycling
Premacool	Predictive Maintenance
Sofia	Innovation Scoring

INACTIVE
PILOT
PILOT
PRODUCTION
PILOT
DESIGN
DESIGN
DESIGN

New business pilots (in the pipeline):

Startup Radar	Semantic Web
Mradsimide	Detectors Simulation
Safan-Isp Val	Bioinformatic Platform Validation
EnergyDeeL	Deep Learning Model for Energy
B2Predict	Smart-Bikes Maintenance

- **DICE:**
 - Transparent data access to B2DROP from EGI Notebooks
 - B2SHARE as input sources for Data Transfer, B2SAFE integration in progress
- **OpenAIRE NEXUS:**
 - Zenodo as source for EGI Binder
 - Zenodo as input sources for EGI Data Transfer
 - [AppDB](#) software harvested by [OpenAIRE Explore](#)
- **RELIANCE:**
 - EGI Notebooks as interactive computing platform
 - EGI DataHub as Data store
 - EGI Binder from any Research Objects in [RoHub](#)
- **C-SCALE:**
 - EGI Check-in and PERUN deliver AAI for C-SCALE Compute Federation
 - EGI Notebooks as interactive computing platform
 - Paas Orchestrator for deploying platforms (Kubernetes/openEO) in C-SCALE Compute Federation

Thank you!

Contact: egi-ace-po@mailman.egi.eu

Website: www.egi.eu/projects/egi-ace



[EGI Foundation](#)



[@EGI_eInfra](#)



EGI-ACE receives funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 101017567.