Giuseppe La Rocca,
Community Support Lead. at EGI Foundation

giuseppe.larocca@egi.eu

EOSC Symposium, 14-17 November, 2022, Prague
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)
EGI-ACE impact on EOSC

● 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

Scientific users

ICT users

Marketplace

EOSC Symposium - 14-17 Nov. 2022
Technical services in the ‘EOSC Compute Platform’

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

5 EGI-ACE Data Spaces, 11 Thematic Services

- Environmental Sciences: GBIF Cloud data space, EMSO ERIC data services, SeaDataNet WebOcean Data Analysis
- Energy and Physical Sciences: LOFAR science products (astronomy), PROMINENCE (fusion physics), ENES (climate analytics)
- Humanities: OPERAS metrics and certification service, WeNMR (structural biology), Virtual Imaging Platform (medical imaging)
- Health and Medicine: OpenRiskNet NanoCommons, UseGalaxy.eu (bioinformatics)
- Climate Research: OPENCoastS (circulation forecast)

16/11/2022 EOSC Symposium - 14-17 Nov. 2022
Scalable, distributed user support

Intense support period

1. Assessment of the technical requirements
2. Shepherd and Capacity Allocation
3. Launch of the Competence Centre
4. Start co-design activities
5. Validation of results
6. On-boarding in EOSC
Shepherds & Competence Centres

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

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
- ARTICnf: Blockchain Network
- Cite-OpenScienceLens: Browsing Open Science
- Gtfo-Blockheating: Data-center Energy Recycling
- Premacool: Predictive Maintenance
- Sofia: Innovation Scoring

**New business pilots (in the pipeline):**

- Startup Radar: Semantic Web
- Mraisdimide: Detectors Simulation
- Safan-Isp Val: Bioinformatic Platform Validation
- EnergyDeeL: Deep Learning Model for Energy
- B2Predict: Smart-Bikes Maintenance
Integrations with other O7 services

- **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.