EOSC Compute Platform

Status and Way Forward

Smitesh Jain, Innovation Management Specialist, EGI Foundation

Giuseppe La Rocca, Community Support Lead at the EGI Foundation

Christian Pagé, Research Engineer and Project Management, CERFACS

József Kovács, Senior Research Fellow, SZTAKI

Hakan Bayındır, Senior Researcher, TUBITAK ULAKBIM

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.
Outline of this session

● **Project overview**
  ○ Smitesh Jain, Innovation Management Specialist, EGI Foundation

● **User engagement and impact**
  ○ Giuseppe La Rocca, Community Support Lead, EGI Foundation

● **User experience stories:**
  ○ *Building a Climate indices dataset for climate change impacts assessment*
    ■ Christian Pagé Research Engineer and Project Management, CERFACS
  ○ *Bring-your-own-resources: How the NEANIAS project became compatible with EGI computing services and introduced a new resource utilization approach*
    ■ Jozsef Kovacs, Senior Research Fellow, SZTAKI

● **HPC services in the EOSC Compute Platform**
  ■ Hakan Bayındır, Senior Researcher, TUBITAK ULAKBIM
The EGI-ACE Project

Overview

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Innovation Management Specialist, EGI Foundation
EGI-ACE Mission

Implement the **Compute Platform of the EOSC** and contribute to the **EOSC Data Commons** by delivering integrated computing, platforms, data spaces and tools as an integrated solution that is **aligned with** major European cloud federation projects and HPC initiatives.
Project Overview

EGI Advanced Computing for EOSC
Grant agreement ID: 101017567

Budget
- Total budget: € 12,009,988
- EC budget: € 8,000,000

Consortium
- Coordinator - Stichting EGI
- 33 Partners, 23 third parties

Effort
- 1472 PMs, 48 FTEs
- 49% Virtual Access (35 services, 38 providers)

Duration
- Jan 2021 - June 2023 (30 months)
Project Objectives

- O1: Deliver the European Open Science Cloud Compute Platform and expand the supply-side
- O2: Contribute to the implementation of the EU Data Strategy and the EOSC Data Commons to support the Green Deal, Health and Fundamental Research
- O3: Integrate the EOSC Compute Platform with the EOSC Portal and the EOSC Core
- O4: Contribute to the realization of a global Open Science Cloud
- O5: Expand the demand-side of EOSC across sectors and disciplines

EOSC Exchange

Federated Data

EGI-ACE

EOSC Core

EOSC Architecture: Solutions for a sustainable EOSC (report from the EOSC Sustainability WG)
Empowered by EGI

European e-infrastructure for scientific computing since 2010.

HPC Integration handbook: https://zenodo.org/record/6396471

HTC: 5.2 billion CPUh/year
CLOUD: 43 million CPUh/year
OVER 75,000 users

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14/11/2022
Federated Infrastructure Services

**Distributed** compute and storage facilities deliver CPU, GPU and Storage

- 27 Cloud providers: **15** funded with Virtual Access, 23 support EGI-ACE use cases
- 200+ HTC providers: **1** funded with Virtual Access, 58 support EGI-ACE use cases
- 4 pilot level HPC centres (BG, TR, PT, ES)

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HPC Integration handbook:  
https://zenodo.org/record/6396471
EOSC Compute Platform Architecture

Core Services
- AAI
- Configuration Database
- Accounting
- Monitoring
- HelpDesk

Platforms
- Interactive Notebooks
- AI/ML
- scalable Big Data tools
- PaaS Orchestration

Compute and Data Federation
- Cloud Orchestration Workload Management
- Software Distribution
- Federated Data Management and Transfer

Federated Resource Providers
- IaaS Cloud Providers
- HTC
- HPC
Sustainable Open Science Environments

**EOSC USERS**

**Business-to-User**
- EOSC Portal
  - Ready-to-use resources/services
  - Self-service configuration
  - Short term engagement

**Business-to-Business**
- EGI-ACE Open Call
  - High capacity demand
  - Custom configurations
  - Long term engagement

**Serving with the use of...**

**Local funds**
- (institutional/national investments)

**EC Virtual Access funds**
- Customer ‘pay-for-use’

**International projects**
- Multi-national communities
- Research Infrastructures

**Single users, small groups (Long tail)**
- Experimental users

**EOSC Portal**
- High capacity demand
- Custom configurations
- Long term engagement


**EGI-ACE Open Call**
- Ready-to-use resources/services
- Self-service configuration
- Short term engagement

https://www.egi.eu/egi-ace-open-call/

- Continuously open, Cut-off dates every 2 months

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- 35 services
- 80 million CPUh
- 250,000 GPUh
- 20 PB storage
Thematic applications and application services

In the consortium

External users
EGI-ACE: Main Activities and Achievements

● **Service delivery 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)

● **Number of users of EGI-ACE services:**
  ○ 76,000 on Thematic Services
  ○ 1,300 on the Platform and Infrastructure services
Experiences and the Future of the EOSC Compute Platform

Smitesh Jain, Innovation Management Specialist, EGI Foundation

Tiziana Ferrari, Director, EGI Foundation

Christian Pagé, Research Engineer and Project Management, CERFACS

József Kovács, Senior Research Fellow, SZTAKI

Hakan Bayındır, Senior Researcher, TUBITAK ULAKBIM

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Thank you!

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