



KER 1 - The EOSC Compute Platform

Final Review meeting, 12/09/2023

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Dissemination level: Public

Disclosing Party: Project Consortium

Recipient Party: European Commission

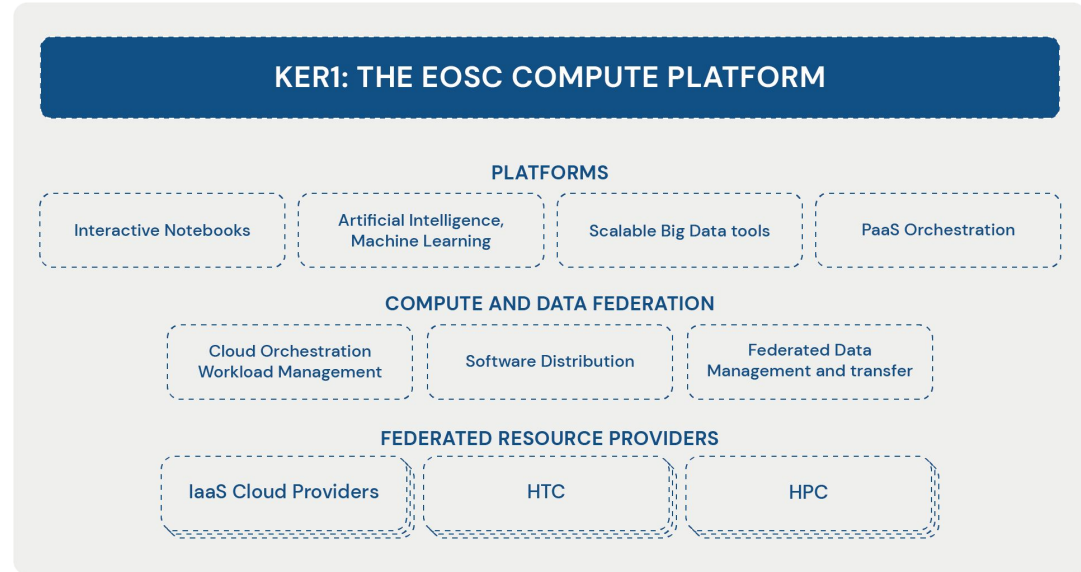
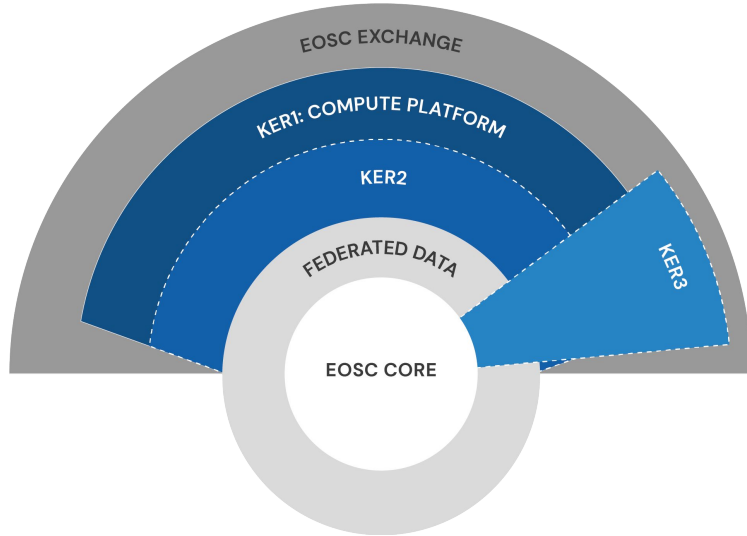


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Outline

- KER Overview
- VA usage within the EOSC Compute Platform
- Innovation highlights
- Dissemination
- Demo

KER Overview



Provided by: WP3, WP4, WP6, T7.3

EOSC Compute Platform services

18 services divided in 3 subsystems



Federated Resource Provider Services



Cloud Compute



Cloud Container Compute



Online Storage



High-Throughput Compute

Platform Services



Workload Manager



Notebooks



Replay



Infrastructure Manager

Compute and Data Federation Services



Check-in



Data Transfer



Datahub



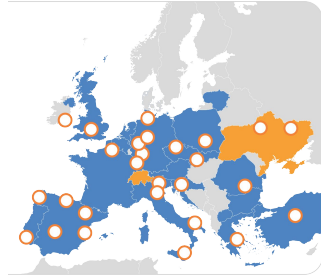
Software Distribution



Dynamic DNS

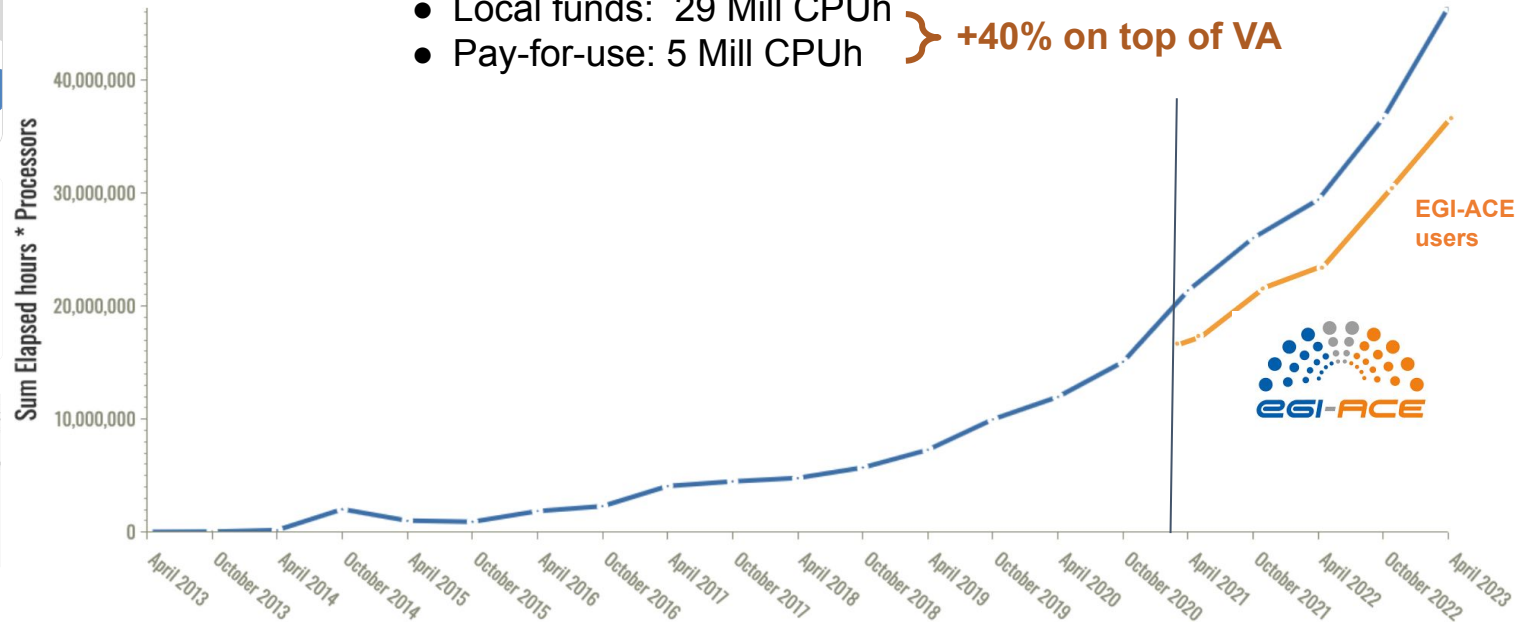


Federated Resources Usage: cloud uptake



102 Million CPU-hours delivered for EGI-ACE users

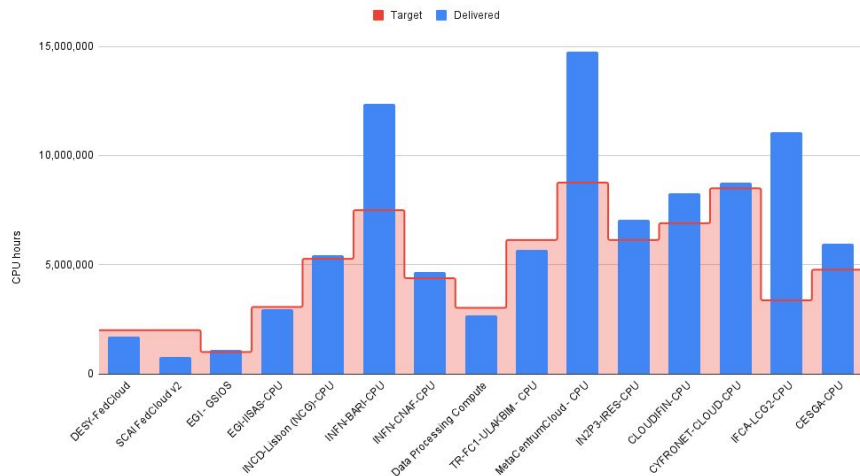
- Virtual Access: 68 Mill CPUh
 - Local funds: 29 Mill CPUh
 - Pay-for-use: 5 Mill CPUh
- } +40% on top of VA



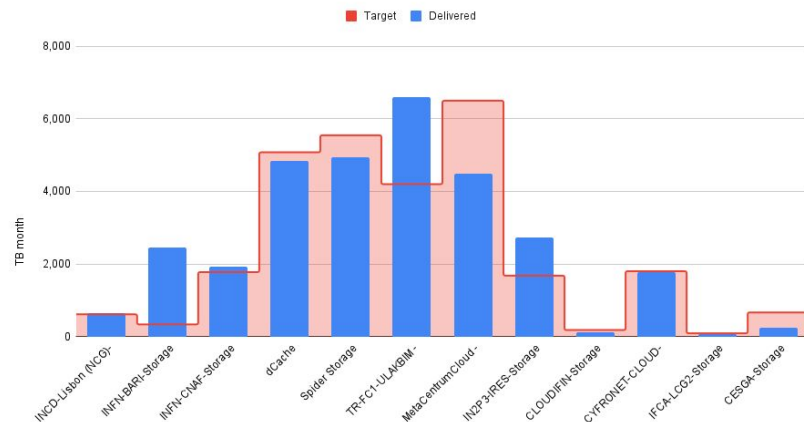
Federated Resources Usage



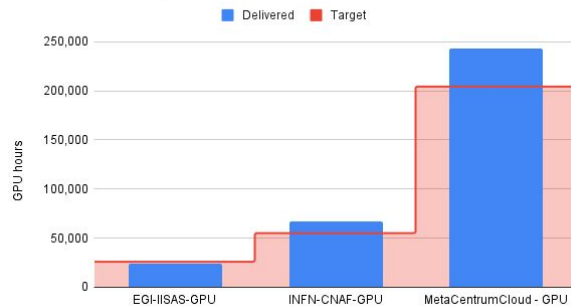
VA CPU Consumption



VA Storage Consumption



VA GPU Consumption



VA beyond infrastructure




WP	Above target	Within target	Below target
WP3	<p>Infrastructure Manager - reached +1000 quarterly deployments (40 before project)</p> <p>DynamicDNS - 380 names registered (100 before project)</p>	<p>AppDB - stable usage as software repository in the infrastructure, containers available late in the project</p>	
	<p>Notebooks - +200 sessions per month (100 before the project) supporting +140 users</p>	<p>DEEPaaS - from underperforming on M15 to meeting target thanks to dissemination activities</p> <p>DIRAC - 7% growth in communities, steady increase of jobs submitted to the infrastructure</p>	<p>DODAS - competing offer (DODAS, EC3, PaaS Orchestrator), lack of relevant use cases from communities</p>
WP6	<p>Check-in - +17,000 users, 887% growth compared to baseline before project</p> <p>Onedata - +1PB managed by the service for 17 communities (84% growth compared to baseline before project)</p>	<p>PERUN - 644 users, stable usage</p> <p>OpenRDM - 9 on-premise deployments</p> <p>CVMFS - 7 new communities during the project (74% increase in hosted files compared to baseline)</p> <p>PaaS Orchestrator - increased usage during M15-M30 thanks to collaboration with C-SCALE</p> <p>EC3 - stable usage within the project</p>	<p>MasterPortal - policy constraints prevented adoption</p> <p>RUCIO & FTS - lack of relevant use cases from communities, EOSC Data transfer available late in the project</p>

Innovation: reproducible science in EOSC

Reproducible research with EGI Replay and Notebooks, integrated with Zenodo, B2DROP & RO-Hub

EOSC Data Transfer API and [EOSC IF guidelines](#) for Data Transfer



EOSC Data Transfer: Architecture and Interoperability Guidelines

EOSC-Exchange Interoperability Guideline (Horizontal)
Provider: egi fed

[Access Guideline](#)

Description: The EOSC Data Transfer service is allowing users to easily transfer datasets discoverable via the EOSC Portal to EOSC Compute facilities. The guidelines part of this document describe the API that provides the Data Transfer capability to the EOSC Portal as a generic, abstract Data Transfer Service. The document lists the standards used, links to related Interoperability guidelines used, and offers an example of service implementing the given guidelines.

Creators

- Manzi, Andrea
Name Type: Personal
- Farkas, Levente
Name Type: Personal

Basic details

Resource Type:
Data Transfer solution for Research Collaborators

Status:
Accepted

Year of Publication:
2023

Created:
2023-07-06



New to Binder? Get started with a Zero-to-Binder tutorial in Julia, Python, or R.

Build and launch a repository

Zenodo DOI (10.5281/zenodo.3242074)

Zenodo DOI ▾ 10.5281/zenodo.7124666

Git ref (branch, tag, or commit) HEAD Path to a notebook file (optional) Path to a notebook file (optional) File ▾ [launch](#)

Copy the URL below and share your Binder with others:

`https://replay.notebooks.egi.eu/v2/zenodo/10.5281/zenodo.7124666/`

Expand to see the text below, paste it into your README to show a binder badge: [launch](#) [binder](#)

Innovation: improved discovery of assets

Easy discovery of Datasets in EGI DataHub via the new **Space Marketplace**

Enhanced metadata for software: **PID** assignment, **FAIRness** assessment and **RO-create** support in AppDB



SPACE MARKETPLACE

Advertise your space Refresh

Search by name, organization or description...

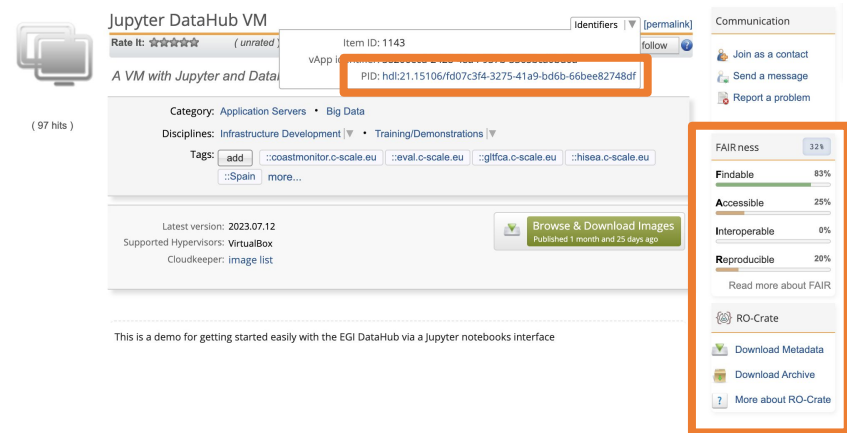
Filter by tags...

Reliance EU-funded open-science spatial-data images Membership granted

Reliance H2020 project 3 Dec 2021 1 TB cesnet-oneprovider-01 Visit space Configure

Helping to realize the vision of FAIR research in EOSC

Reliance delivers a suite of innovative and interconnected services that extend EOSC's capabilities to support the management of the research lifecycle within Earth Science Communities and Copernicus Users.



Jupyter DataHub VM

Rate It: (unrated)

Item ID: 1143

PID: hdl:21.15106/rd07c3f4-3275-41a9-bd6b-66bee82748df

Category: Application Servers • Big Data

Disciplines: Infrastructure Development • Training/Demonstrations

Tags: add ::coastmonitor.c-scale.eu ::ceval.c-scale.eu ::glfca.c-scale.eu ::hisea.c-scale.eu ::Spain more...

Latest version: 2023.07.12
Supported Hypervisors: VirtualBox
Cloudkeeper: image list

Browse & Download Images
Published 1 month and 25 days ago

FAIRness 32%

Findable 83%

Accessible 25%

Interoperable 0%

Reproducible 20%

Read more about FAIR

RO-Crate

Download Metadata

Download Archive

More about RO-Crate

This is a demo for getting started easily with the EGI DataHub via a Jupyter notebooks interface

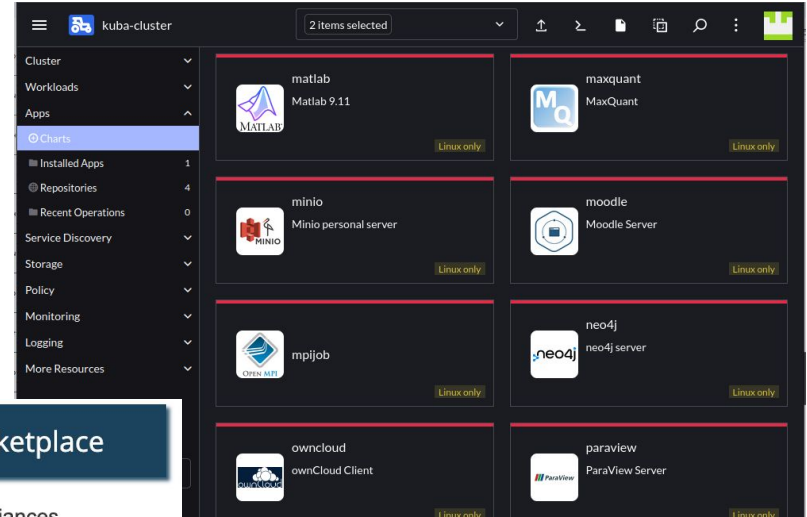
Innovation: meeting users needs

Better container support

- Access to managed Kubernetes with ready-2-use packed applications
- Container registry for storing images
- Container support in the AppDB
- Improved automated deployment of Kubernetes for advanced users

New APIs

- S3 API support in DataHub for a standard access to Data



Cloud Marketplace

- Virtual Appliances
- Software Appliances
- Container Catalog**
- Virtual Organizations
- Sites/Resource Providers

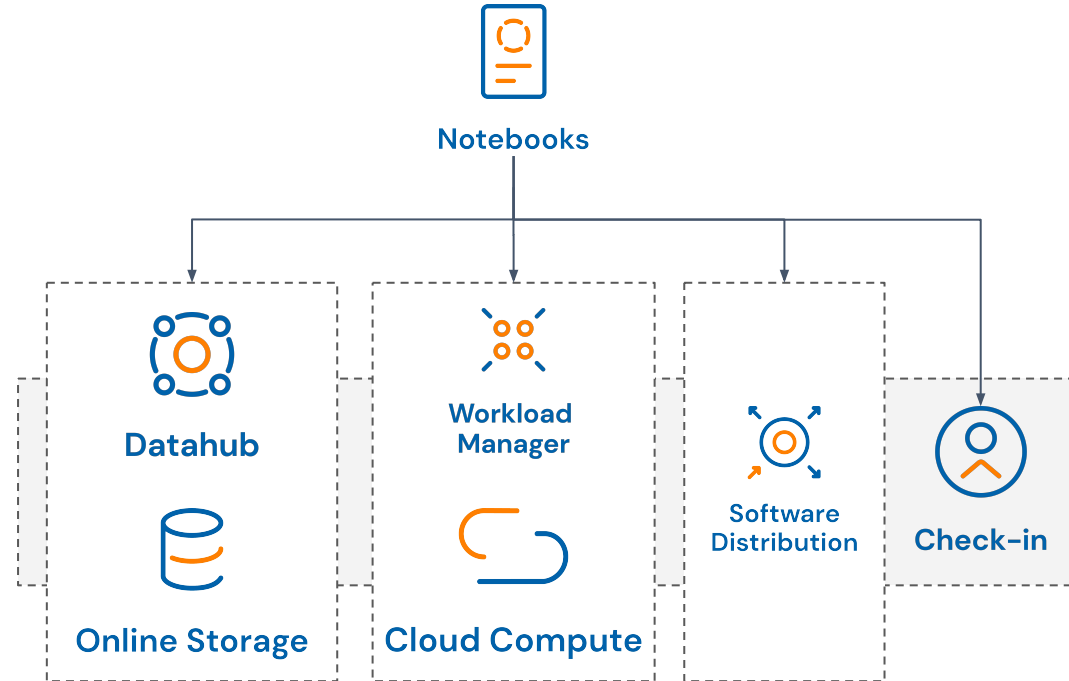
Innovation: an integrated platform

Common AAI: use same account across **all services** and providers with homogeneous authorisation

Composable: use services from different layers together to build new solutions

API driven: allow users to create complex workflows and support new scenarios

Interoperable with EOSC: EGI core services (Accounting, Monitoring, Helpdesk) ready to interoperate with EOSC counterparts



Dissemination and communication

13 Webinars, 10 training sessions and 4 demos / estimated reach +300 attendees

- Covering all of the services included in the catalogue

32 presentations at conferences and workshops / estimated reach +900 attendees

- EGI Conference 2021, 2022, 2023
- EGI-ACE Communities Workshops (2021 and 2022)
- EOSC Future Ask me anything sessions (3 events)
- International Conferences (ARCOS Symposium 2021, MiniGateways 2022, APAN55, ISGC 2023, ISC 2022, SC 2022, IEEE SYMPOSIUM ON CONVERGENCE OF CLOUD & HPC 2022,)
- Community/Technology specific workshops (OSG AHM, EISCAT_3D, Rucio, DIRAC, FTS, HealthyCloud, HTCondor Workshop)

Demo - Reproducible analysis of EOSC data

Dataset discovery and transfer to EGI infrastructure

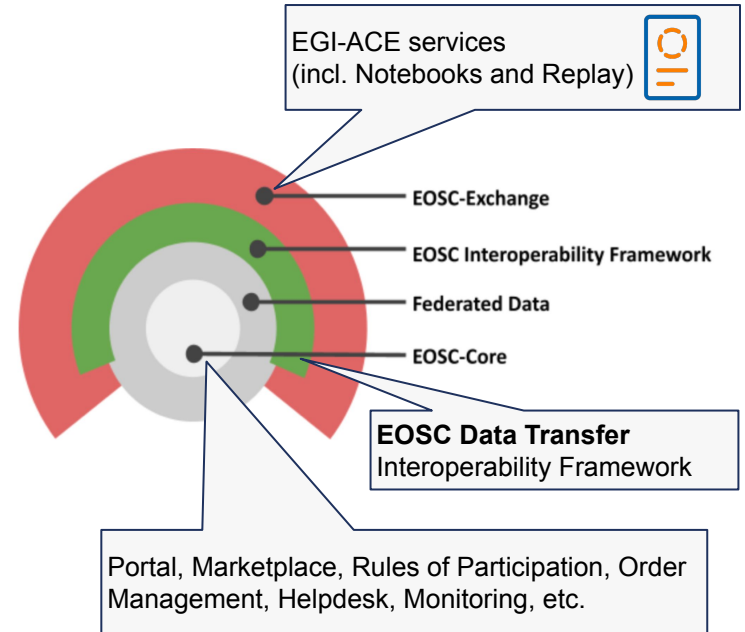
- Researcher looks for relevant dataset in the EOSC portal (“PM2.5 forecast Copernicus”)
- Obtains credentials for transferring data to EGI from Notebooks
- Transfer to a compatible storage near EGI Notebooks using EOSC Data Transfer, FTS, EGI Cloud provider

Dataset analysis and sharing

- Perform analytics from Notebooks
- Shares notebook in GitHub and publishes via Zenodo

Reproducing analysis

- Another researcher discover analysis notebook in Zenodo
- Launches reproducible environment in Replay
- Reproduces original analysis



KER1 The EOSC Compute Platform

ABOUT THE KER

The EOSC Compute Platform is an **integrated** and **distributed** computing environment built on a **hybrid** infrastructure composed of **cloud** computing resources, **HTC** sites and **HPC** centres, alongside a wide range of **compute and data management** services supporting research workloads for EOSC users.

USER GROUPS

- Researcher communities and individual researchers
- Providers

KEY VALUE PROPOSITIONS

- Single allocation process for a wide range of computing resources: cloud, HTC and HPC with streamlined support and consultancy
- Distributed processing on an integrated platform with higher level services to facilitate usage and adoption

DISSEMINATION & COMMUNICATION

- 27 webinars trainings and demos
- 32 presentations

EXPLOITATION

- +7,000 users in +80 communities
- 29 cloud providers, +180 HTC providers, 5 pilot HPC centres

IPR APPROACH

Open Source license for software
CC-BY license for documentation



Thank you!

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

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



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