EuroHPC Joint Undertaking

Federation Platform

https://my-eurohpc.eu

Pekka Lehtovuori, director, CSC - IT Center for Science Ltd.

Introduction to the EuroHPC Federation Platform (EFP)

27th October 2026

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

CSC ICT Solutions for Brilliant Minds

GHENT UNIVERSITY

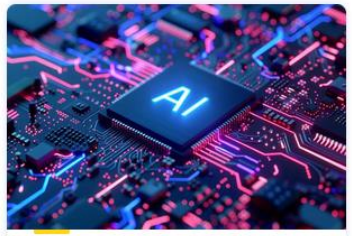
NORDUnet Nordic Gateway for Research & Education

GÉANT Networks • Services • People

TARTU ÜLIKOOL 1632 UNIVERSITAS TARTUENSIS

EuroHPC Joint Undertaking

https://www.eurohpc-ju.europa.eu



Our AI Factories



Our Supercomputers



Our Quantum Computers



Our Research & Innovation Projects

EuroHPC Key Facts & Figures

19 + 13
AI Factories + Antennas

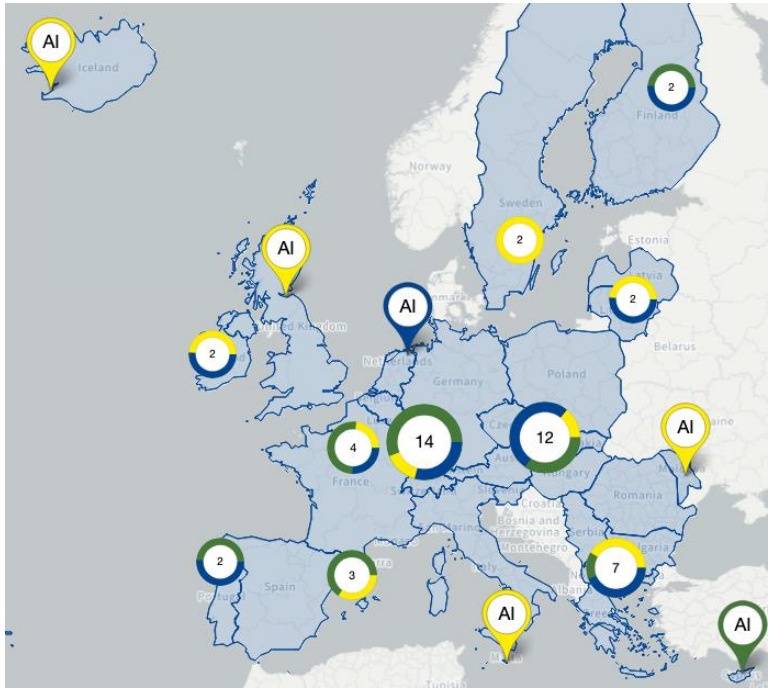
14
Supercomputers

10
Quantum Computers

62
Research & Innovation Projects

38
Participating States

8,2
Billion EUR Total Budget



Type of Systems

S (Supercomputers)

Q (Quantum Computers)

AI (AI Factories)

Status

Operational

Under construction

Pending signature of the procurement contract

The EuroHPC Federation Platform (EFP)

"A one-stop-shop for accessing and utilizing EuroHPC systems and services"

A platform and federation framework which provides **a streamlined, single point of onboarding** and via which user can **access all systems and services** available to them in the EuroHPC ecosystem.

Direct access | Interactive interfaces | Programmatic APIs | Unified software stack

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Federation Platform

EFP Main Features



Federated identity and Single-Sign-On (SSO)

Users utilize the same login and identity (e.g. granted via their home institution or national identity provider) to authenticate to all services and systems. Process for onboarding Industry.



Resource allocation, management and monitoring across systems

Users can view and manage their allocations and project members across all systems using a single interface.



Interactive web-based usage

with e.g., remote desktop, command line, AI training monitoring and Jupiter notebooks. Ability to launch batch jobs and browse files on the supercomputers.



Federated software catalogue

providing a pre-installed pseudo-uniform software stack on all systems. Advanced discoverability features for available software.



Advanced workflows and data transfer

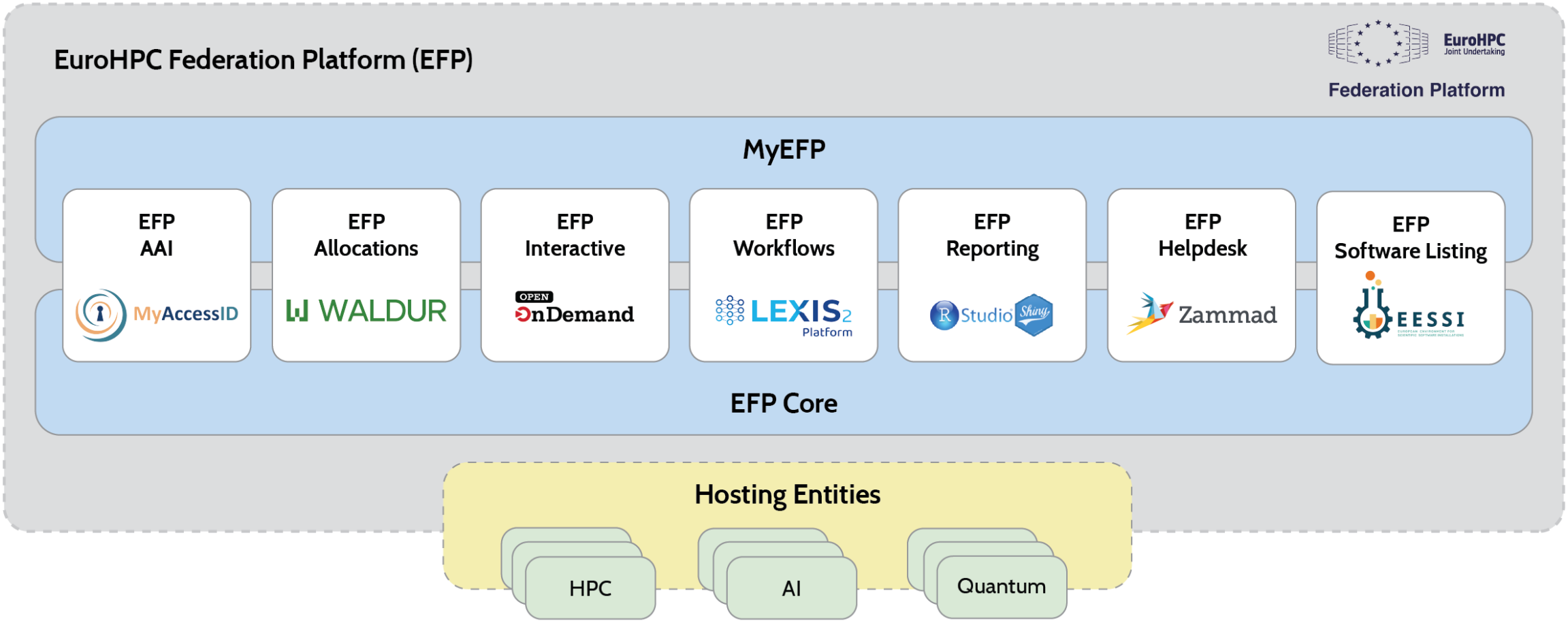
Workflow execution and data transfers across systems, along with smart scheduling capabilities and high-level graphical interfaces for creating and managing workflows.



Direct access utilizing SSH certificates

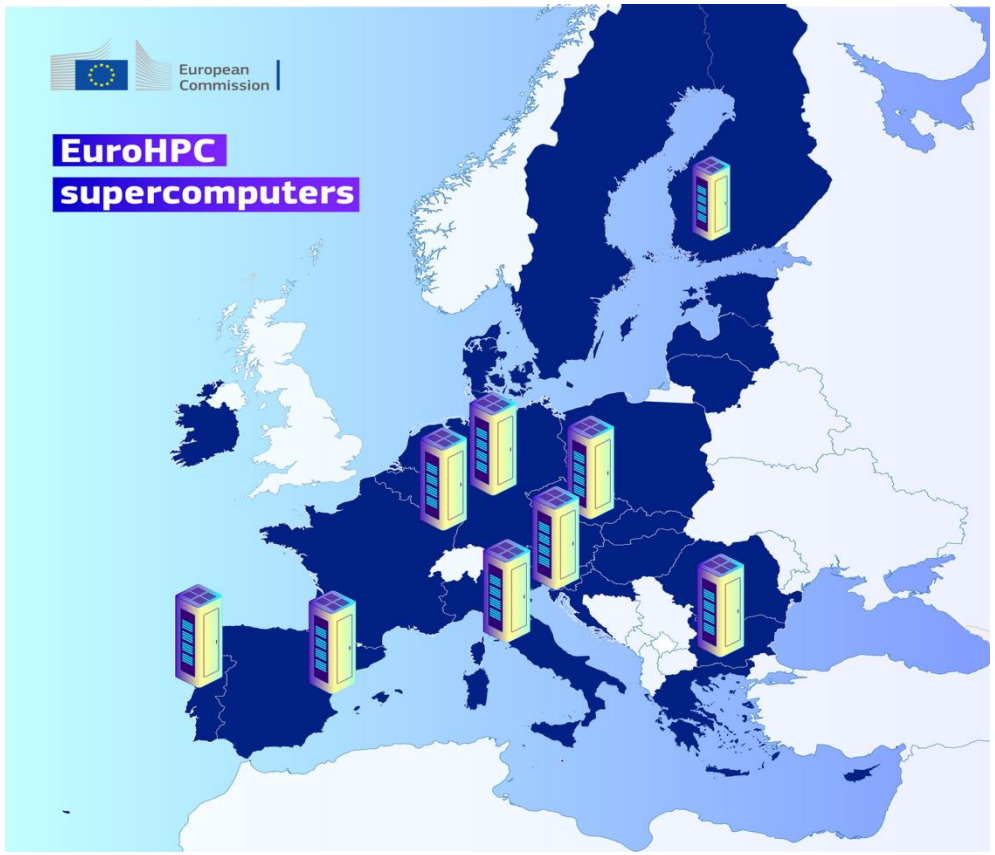
Short lived certificates which are obtained via a login flow with Multi-Factor Authentication (MFA) for increased security.

Technologies used for EFP



Contributions to existing open source projects are upstreamed when possible

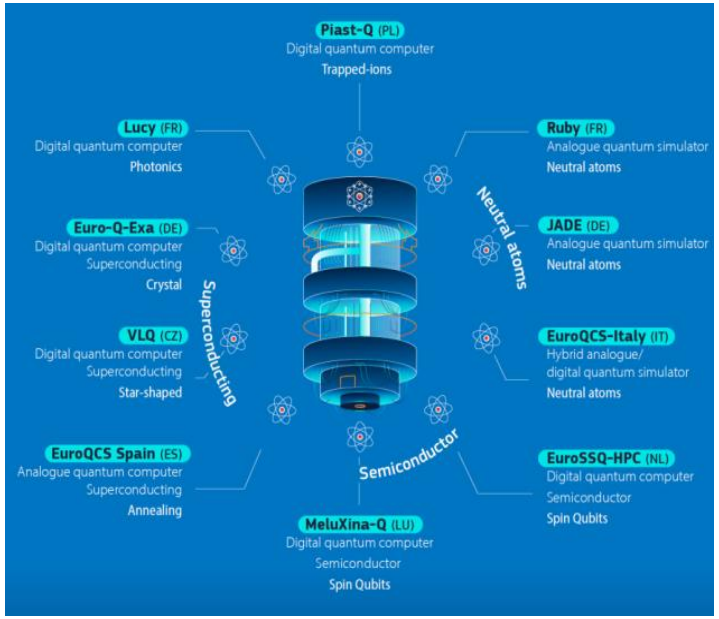
EFP Target Systems



Alice Recoque, Arrhenius, DAEDALUS, Deucalion, Discoverer, JUPITER, Karolina, Leonardo, LUMI, MareNostrum 5, MeluXina, Vega, CASPIr, Levente, …



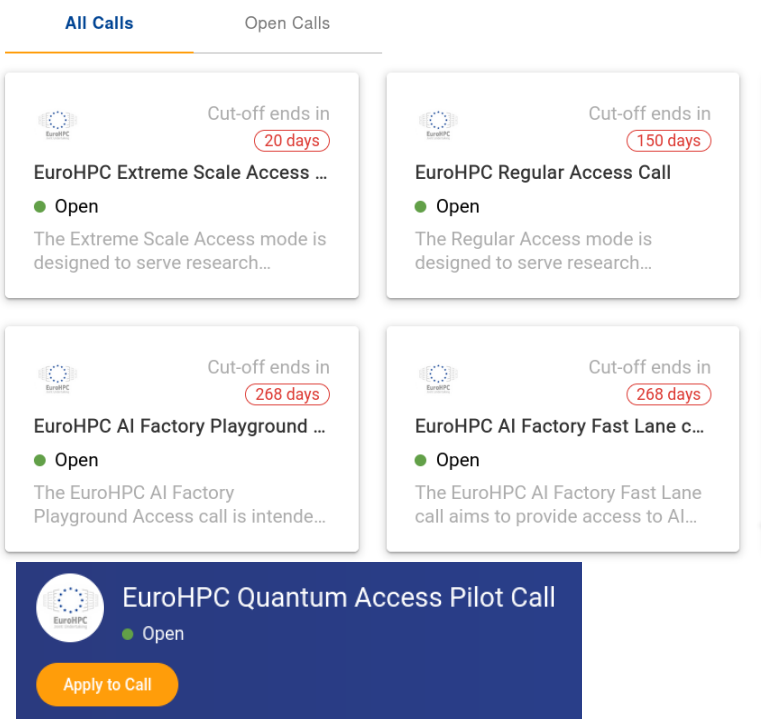
BSC AIF, HammerHAI, IT4LIA, LUMI AIF, Meluxina-AI, MIMER, Pharos, AI2F, AIF Austria, BRAIN++, JAIF, PIAST AIF, SLAIF, CZAI, LitAI Factory, NLAIF, Gaia AI Factory, RO AI Factory, 1HealthAI, …



Euro-Q-Exa, EuroQCS-France, EuroQCS-Italy, EuroQCS-Spain, EuroQCS-Poland, VLQ, …

User and project management

Applying for and being granted resources



https://access.eurohpc-ju.europa.eu/

Non-EuroHPC Allocators
(Future work)

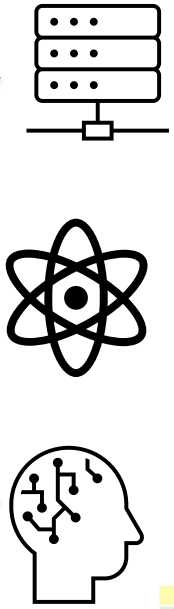
User registration

Manage team which has access to resources

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Federation Platform

EuroHPC systems consume projects and users



Impact of EFP on User Journey

Before (without EFP)

1. Apply for a project in the EuroHPC review portal
2. Accepted projects are **manually transferred** to each EuroHPC system
3. User is invited to complete a **separate registration process** at each EuroHPC system
4. User uses **separate portal and credentials** to access and manage project at each EuroHPC System

Now (with EFP)

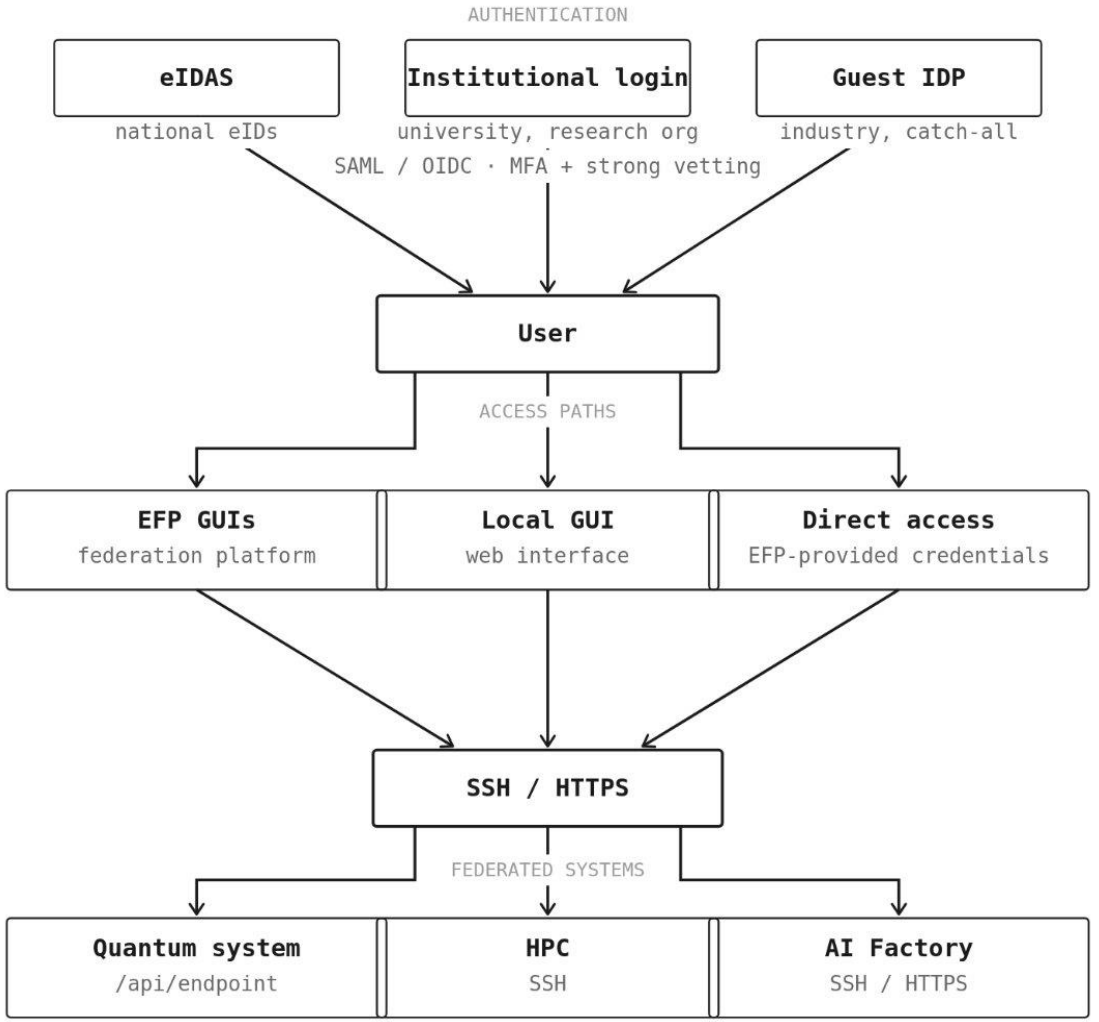
1. Apply for a project in the EuroHPC review portal
2. Accepted projects **automatically flow to the EFP** and to each EuroHPC system
3. User is invited to join a project and **registers through the EFP**
4. User **manages access and projects** using **just the EFP**

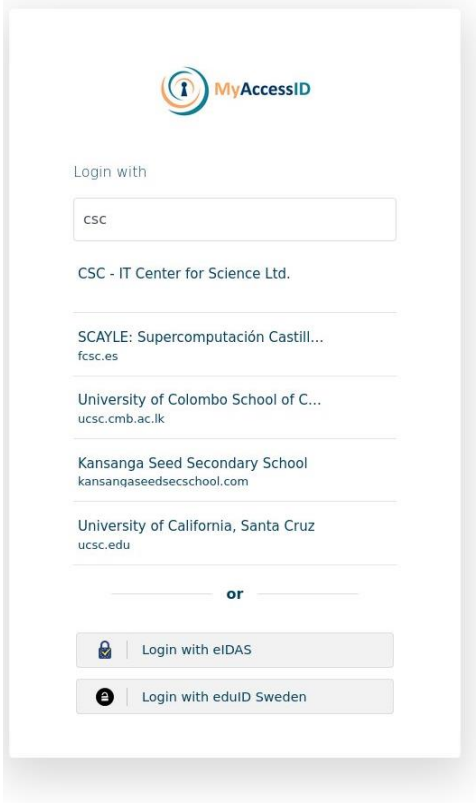
There are no changes to the services and capabilities offered by the diverse set of EuroHPC systems.

Onboarding and managing projects across all available systems just becomes much easier through EFP.

EFP AAI:

- Federated identity both for the EFP and at the federated systems. Using MyAccessID
  - Broad option of available IDPs
- MFA enforced
- Federated SSH access using SSH certificates (short-lived 10h)
- Federation for web-based APIs (HTTPS, OIDC) in progress
- Credentials can now already be acquired by authenticating to a local interface using the federated identity and getting them manually





All EFP connections towards integrated systems use per SSH Certificates / tokens -> All actions are done as the user in user space on the systems

EFP Interactive

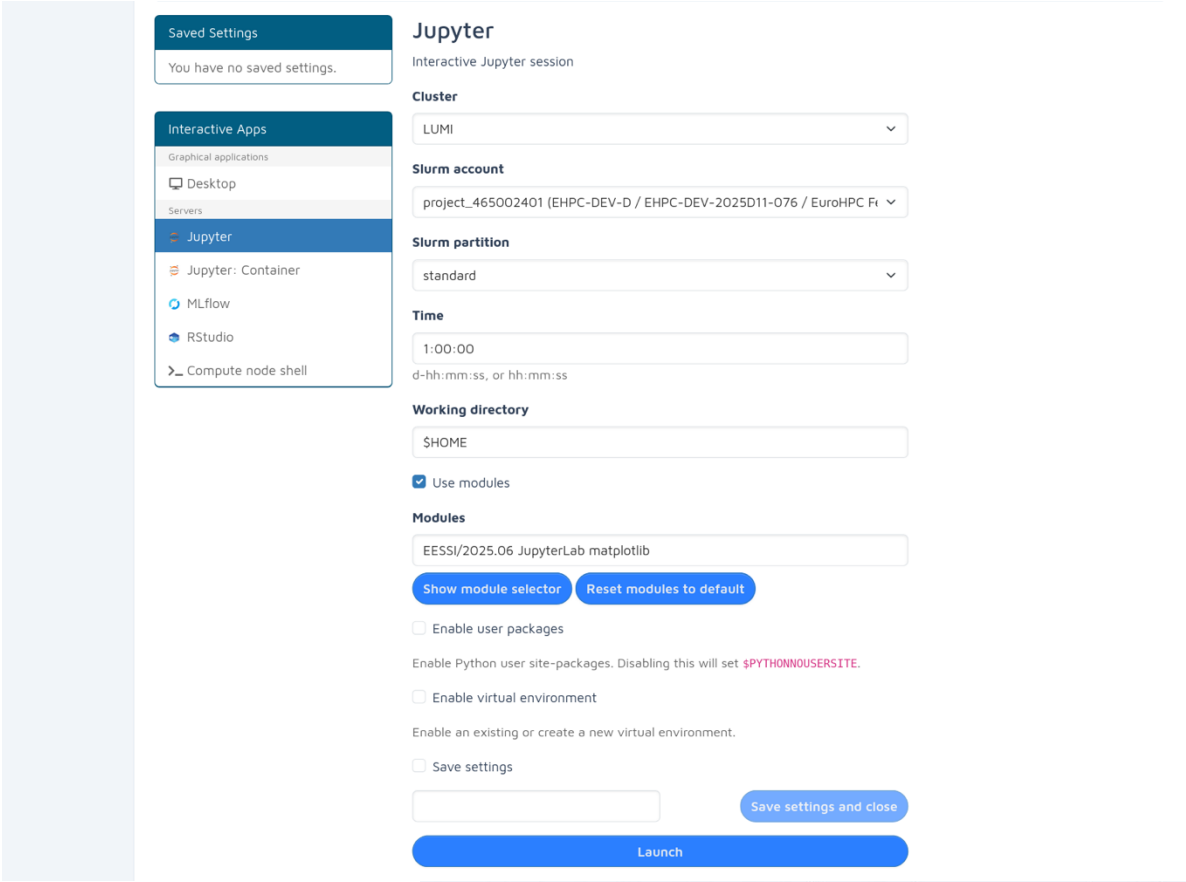
Easy to use web interface for new and industrial users to be in interactive mode with HPC

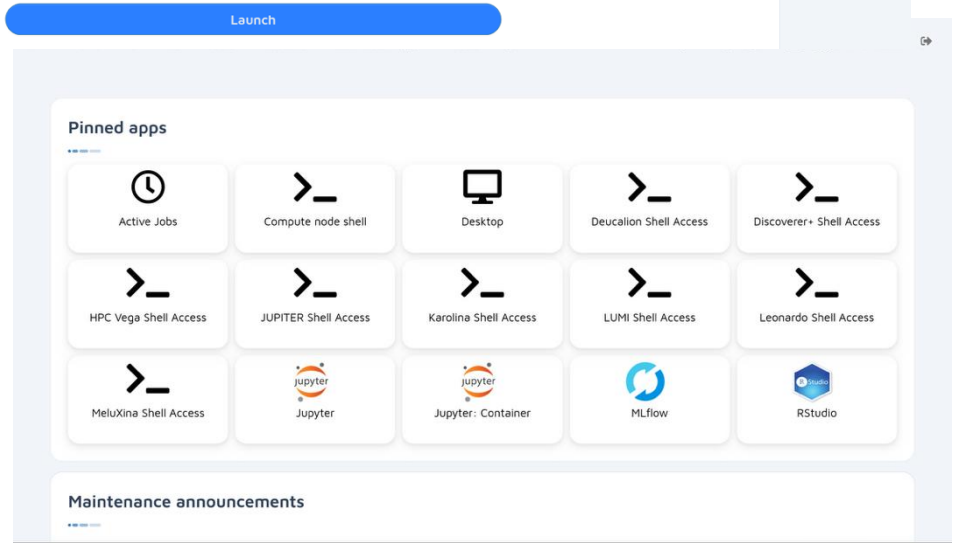
- File browsing
- Job submission
- Applications like terminal and Jupiter

Open OnDemand, but for multiple distributed system

- Kubernetes native deployment

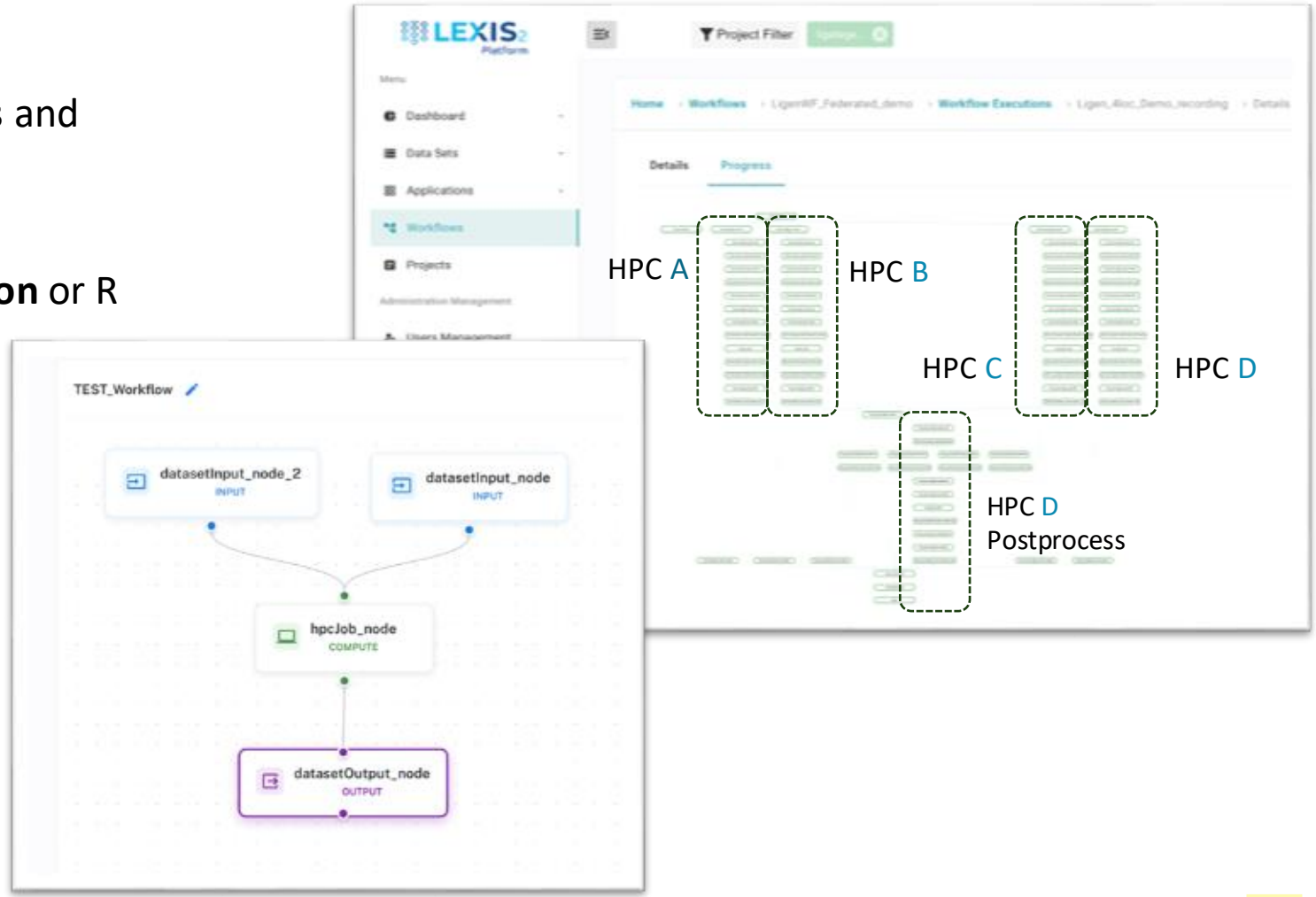
Aware of connected systems, projects, and partitions





EFP Workflows:

- Easy access **to visually managed workflows** and **distributed data management**
- **API** usage from various languages like **Python** or R
- Support for **multi-system workflows** (incl. Quantum, AI or Kubernetes)
- **Data staging** from external sources

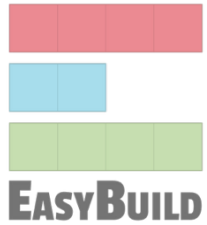


EFP Software Catalogue:

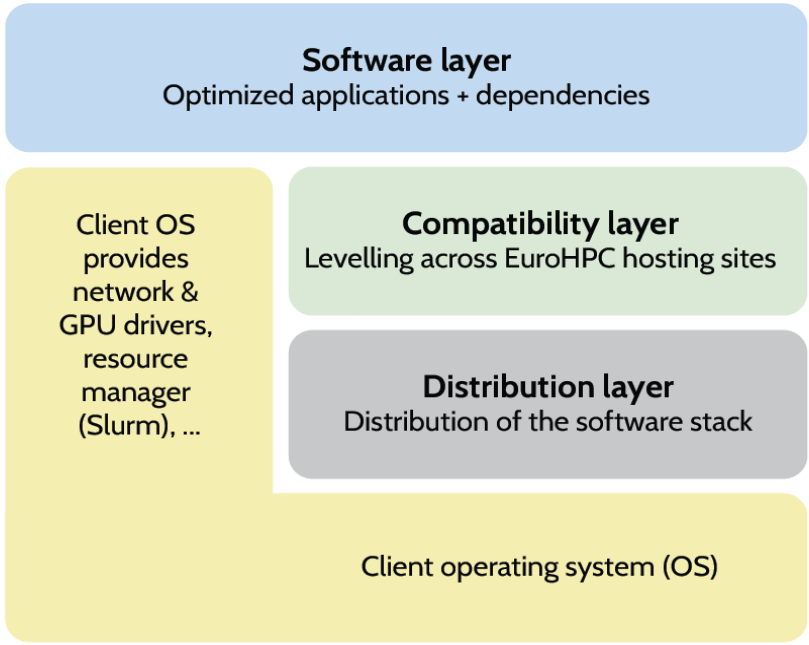




CernVM
File system



- Precompiled architecture optimized binary distributions of common scientific software. GPUs are supported but no AMD yet
  - Installed on all federated systems
  - Available also for other systems, enabling the journey from laptop to tier 0 system.
  - The Federated Software Catalogue is based on the European Environment for Scientific Software Installations (EESSI)
- Distributed via CVMFS on most system, a couple sites will do slightly different setup due to limitations
- Programmatic API for querying available software
  - Used by other components
  - Future work -> Exposing (some) local installations also, e.g. commercial software



MyEFP: the One-Stop Shop for Accessing EuroHPC Resources

https://my-eurohpc.eu

MyEFP

System | Documentation

Overview

- Overview
- Projects
- Direct Access
  - Requested SSH Credentials
- Software Catalog
- Workflows
- Interactive

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Federation Platform

Support

Log out

Overview

Welcome

Full name:

Email:

Organization:

Project Events

No events

View Projects →

Locations



Maintenance announcements

No current / upcoming announcements

Show completed

Timeline & current status

- **1st phase (2025 – 2026):**
  - ✅ Initial release of EuroHPC Federation Platform, available since mid April 2026
  - ✅ Core functionality
  - ✅ Integration with the currently online EuroHPC systems: partially done, work-in-progress
    - ✅ 9 systems integrated: LUMI, JUPITER, Leonardo, MareNostrum 5, Karolina, Vega, Deucalion, Discoverer, MeluXina
    - ☑️ Arrhenius partially integrated (AAI, Allocations, Interactive)
  - Further improvements planned **throughout 2026**
    - Updates deployed continuously when ready
    - Integration with upcoming EuroHPC systems
    - Authorization extended to web APIs
    - Smart scheduler
    - Initial connection to other federations (EOSC)
    - Quality and usability improvements

Reporting

All time | 6 months | 12 months

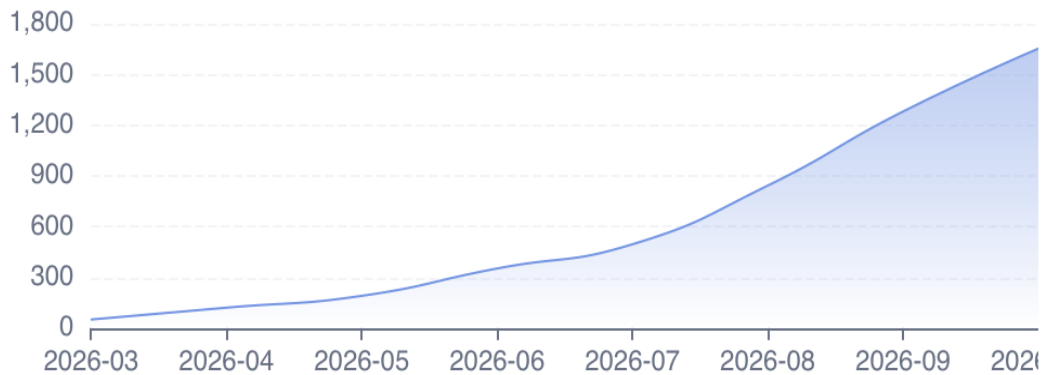
Overview | Resources | Provider | Users | Operations

Service providers	Offerings	Active users	Active projects	Active resources
12	26	1652	1135	1102

Users over time

Total: 1652

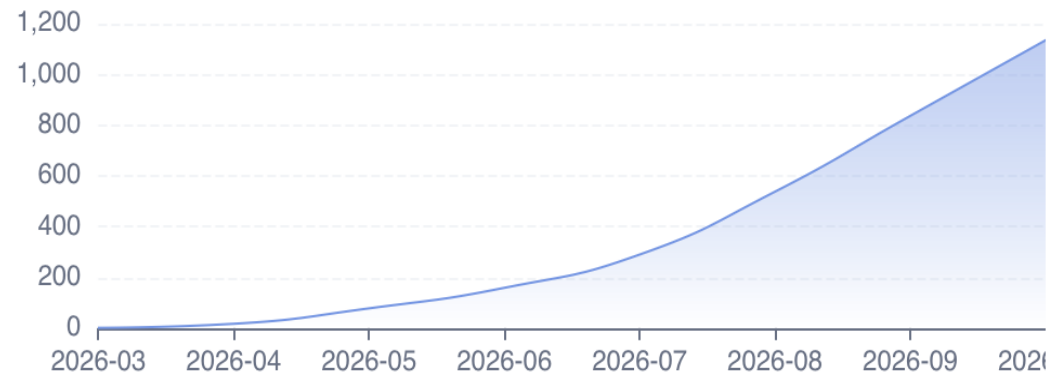
Export



Projects over time

Total: 1135

Export



Timeline & current status

- **2nd phase (2027 – 2029):**
  - Integration with all EuroHPC (HPC, AI, Quantum) systems
  - Improved integration with other federations/AI Factories services
  - Advanced features
    - In discussion with the EuroHPC JU and the Hosting Entities to scope the future development – e.g. AI Factories services

EFP webinars

Initial series of 5 webinars introduction the EuroHPC Federation Platform (Feb-June 2026) - **Recordings are available: https://docs.my-eurohpc.eu/training**

New series of webinars scheduled for October 2026:

Mon 5 Oct 2026, 14:00 CEST — **Introduction to the EuroHPC Federation Platform (EFP)**
speaker: Alberto Lanzanova (CSC - IT Center for Science)

Mon 12 Oct 2026, 14:00 CEST — **Getting Started with EFP: Registration and On-Boarding**
speakers: Josh Howlett (GÉANT), Ahti Saar (University of Tartu)

Mon 19 Oct 2026, 14:00 CEST — **EFP Features Showcase: Managing projects, direct SSH, federated software catalog, interactive web interface**
speaker: Alan O'Cais (Ghent University)

Mon 25 October 2026, 14:00 CEST — **EFP Workflows: use cases**
speaker: Martin Golasowski (IT4Innovations)

Scan for more information on the EFP webinars!

EFP Documentation + Helpdesk

- **Documentation on the EuroHPC Federation Platform is available at https://docs.my-eurohpc.eu**
  - Regularly updated, use the search feature to help you find the relevant information

- **Questions? Problems?**

  Contact contact EFP consortium via: helpdesk@my-eurohpc.eu

  - For any questions related to EuroHPC Federation Platform
  - In scope: problems with onboarding, using specific EFP features, questions related directly to EFP, …
  - For questions specific to using a particular EuroHPC system, contact helpdesk of corresponding Hosting Entity
  - EFP helpdesk team will coordinate with EuroHPC Hosting Entity where needed

Oplægstitel	Oplægsholder	Stillingsbetegnelse	Organisation	Dag	Tidspunkt	Sal
Åbningssession: Velkommen til DeiC Konferencen 2026	Kristine Stenhuus	Formand	DeiCs bestyrelse	27. okt	10.00-10.30	A
Åbningssession: Velkommen til DeiC Konferencen 2026	Martin Bech	Konstitueret direktør og divisionsdirektør	DeiC	27. okt	10.00-10.30	A
Opening Keynote	Lise Fuhr	CEO	GÉANT	27. okt	10.30-11.00	A
Op mod 200.000 CPR-numre eksponeret - hvad kan vi lære af det?	Anders Fosgerau	CISO	DTU	27. okt	11.45-12.30	A
AI tools are not the goal - a prosperous future is	Marie Helene Andersson	Managing Director	Danish Data Science Academy	27. okt	13.30-14.00	B
The Lion Cage Project	Arild Tjomsland	Senior Advisor	University of South-Eastern Norway	27. okt	13.30-15.00	A
Building a Semantic Layer for Knowledge-centric Research Infrastructures	Txell Amigó	Staff Scientist	BRIGHT, DTU	27. okt	13.30-14.00	C
Dansk kvanteteknologi. Trusler og imødegåelse ved PET	Oplægsholder anonym		PET	27. okt	14.00-14.30	B
The Role of ERIC Research Infrastructures in Advancing FAIR and Open Science	Irena Vipavc	-	CESSDA	27. okt	14.00-15.00	C
The Role of ERIC Research Infrastructures in Advancing FAIR and Open Science	Costanza Navarretta	CLARIN DK	Københavns Universitet	27. okt	14.00-15.00	C
Digital Sovereignty - Mission (Im)Possible?	Kaj Grønbæk	Professor og institutleder	Aarhus Universitet	27. okt	14.30-15.00	A
National cybersikkerhed: Etablering af en national CSIRT	Morten Bro	Projektejer	Styrelsen for Samfundssikkerhed	27. okt	15.30-16.30	A
Er forskningsnettet klar til en krise?	Martin Bech	Divisionsdirektør	DeiC Forskningsnettet	27. okt	15.30-16.00	B
Launching EuroHPC's Federation Platform	Pekka Lehtovuori	Director, Advanced Computing Facility	CSC Finland	27. okt	15.30-16.00	C
MediaCMS i praksis	Lars Nellemann	Pædagogisk IT-vejleder	Danmarks Medie- og Journalisthøjskole	27. okt	16.00-16.30	B
MediaCMS i praksis	Thorkild Jensen	Projektleder	DeiC	27. okt	16.00-16.30	B
EuroHPC at a Glance	Mads Engelund	Programme Officer	EuroHPC JU	27. okt	16.00-16.30	C
SikRef Get-Together	Eskil Sørensen	Forretningskonsulent	DKCERT	27. okt	16.30-17.00	A
Netforum Get-Together	Martin Bech	Konstitueret direktør og divisionsdirektør	DeiC	27. okt	16.30-17.00	B
Front Office/Back Office Get-Together	Tine H. Fuglsang	Front Office Coordinator	DeiC	27. okt	16.30-17.00	C
Hands-On Threat Hunting & Detection Workshop	Sergio Albea	CSOC Security Expert	SWITCH	28. okt	08.30-12.30	D
Sunet's Experiences with DAS Fiber Sensing	Magnus Bergroth	Senior Network Architect	SUNET	28. okt	09.00-09.30	A
Fremtidens AI-forskningsmiljø på ét fælles datalag	Tommy Nielsen	Sales Director, AI Foundation	Advania Danmark	28. okt	09.00-09.30	B
Fremtidens AI-forskningsmiljø på ét fælles datalag	Jens Melhede	Principal Architect, AI Foundation	Advania Danmark	28. okt	09.00-09.30	B
Digital Sovereignty by Design	Eske Christiansen	Chief Consultant	Aarhus Universitet (TRIT)	28. okt	09.00-09.30	C
Cable Route Diversity Explained	Thomas Frøyland	Chief Strategy Officer	NORDUnet	28. okt	09.30-10.00	A
HPC Use Case: Potential of Retrofitting Hydropower Plants	Naime Ahmadi	Postdoctoral Researcher	Aarhus Universitet	28. okt	09.30-10.00	C
Apps, a Platform for Sovereign Collaborative Services at National Scale	Benoît Piédallu	Digital Project Manager	French Ministry of Education	28. okt	10.00-10.30	A
DeiC Interactive HPC	Claudio Pica	Professor og Director	SDU eScience Center	28. okt	10.00-10.30	C
Towards a Pan-European Research Storage Infrastructure	Bo Nygaard Bai	IT Architect	DeiC	28. okt	10.00-10.45	B
Læringer fra etableringen af en fælles 24x7 SOC	Søren Maigaard	Direktør	SektorCERT	28. okt	11.00-11.30	A
CIO-kredsens fælles indsats i forhold til digital suverænitet	Tina Skriver	Vicedirektør for Digital	Roskilde Universitet	28. okt	11.00-11.30	B
LUMI AI Factory, EOSC, Data Labs and Data Spaces for Science	Sara Garavelli	Strategic European Engagement and Coordination Development Manager	CSC Finland	28. okt	11.00-11.30	C
Praktisk risikostyring	Lisbeth Loft	Senior Compliance Advisor	Vaem A/S	28. okt	11.30-12.00	B
Praktisk risikostyring	Poul Halkjær Nielsen	Senior Compliance Advisor	Vaem A/S	28. okt	11.30-12.00	B
Quantum sikker med Cisco og Wingman Solutions	Søren Dulong Andreasen	Solutions Engineer	Cisco	28. okt	12.00-12.30	B
Quantum sikker med Cisco og Wingman Solutions	Bo Urskov	Network Architect / OT-IOT Tech Lead	Wingman Solutions	28. okt	12.00-12.30	B
Mistral på AAU	Jacob-Steen Madsen	Vicedirektør	AAU IT Services	28. okt	13.30-14.00	A
Building EOSC Nodes	Sara Garavelli	Strategic European Engagement and Coordination Development Manager	CSC Finland	28. okt	13.30-14.30	B
Building EOSC Nodes	Anne Sofie Fink Kjeldgaard	Head of Data Management	DeiC	28. okt	13.30-14.30	B
The Use of Quantum Computers in 2026 and Beyond	Muyang Liu	Quantum Computing Infrastructure Developer	DeiC Quantum / SDU	28. okt	13.30-14.00	C
The Use of Quantum Computers in 2026 and Beyond	Nina Høgh-Bach	Special Consultant, Quantum Infrastructure	DeiC Quantum	28. okt	13.30-14.00	C
Krisøvelser i praksis og typiske faldgruber	Nicolai Ernst	IT Security Consultant	DeiC Forskningsnettet	28. okt	13.30-14.30	D
Quantum Algorithms Through DQAA	Nahid Binandeh Dehaghani	Postdoctoral Researcher	Aalborg Universitet	28. okt	14.00-14.30	C
Quantum Algorithms Through DQAA	Louise Juel Broch	Programme Coordinator	DeiC Quantum	28. okt	14.00-14.30	C
Digital suverænitet. Afsluttende keynote	Jan Damsgaard	Professor	Copenhagen Business School	28. okt	14.45-15.45	A