



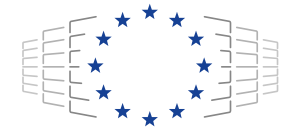
The European High Performance Computing Joint Undertaking



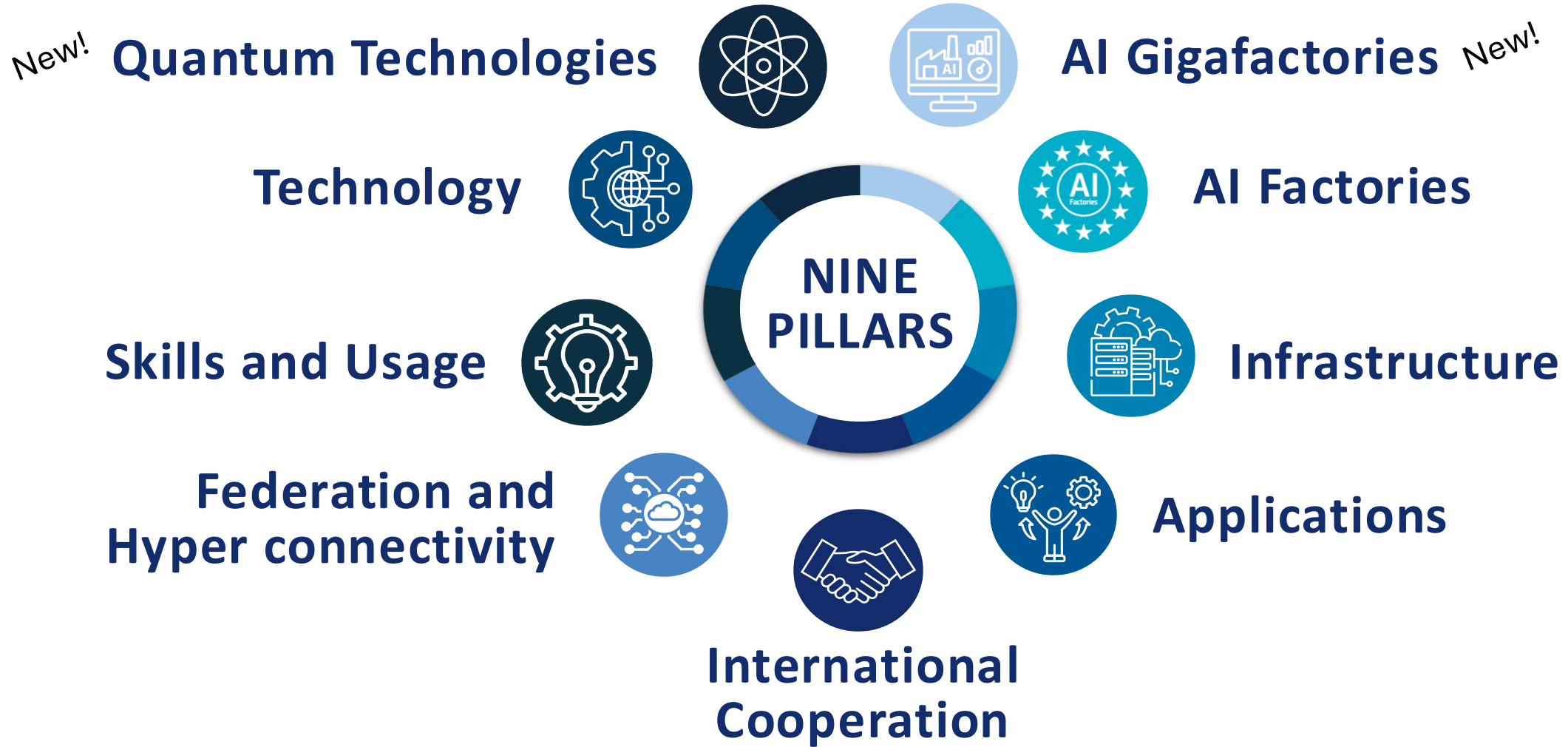
EuroHPC
Joint Undertaking

Dr. Lilit Axner
Programme Manager Infrastructure- EuroHPC JU

NINE PILLARS OF EUROHPC JU



EuroHPC
Joint Undertaking



OPERATIONAL EUROHPC SUPERCOMPUTERS

JUPITER



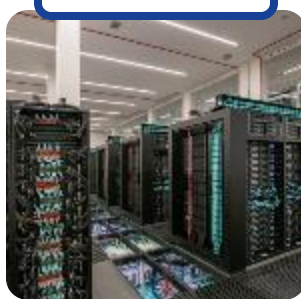
LUMI



Leonardo/LISA



MareNostrum5



MeluXina



Vega



Discoverer/Discoverer+



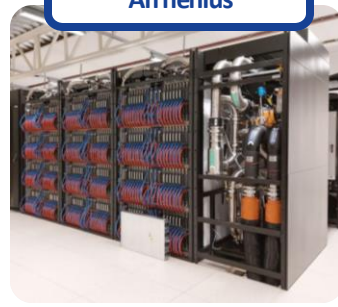
Karolina



Deucalion



Arrhenius



Ongoing Development

Federated platform for EuroHPC infrastructure

Hyperconnectivity

DAEDALUS



Alice Recoque



CASPIr

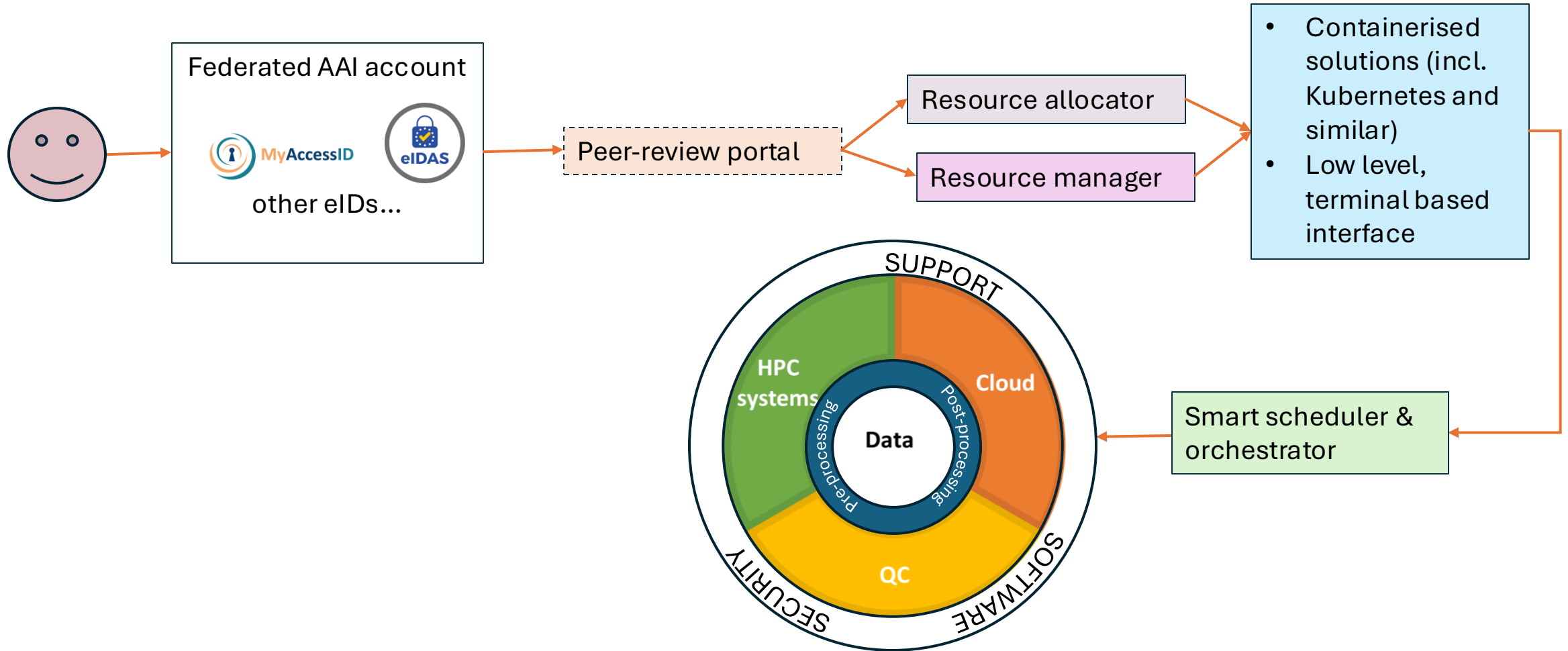


LEVENTE



An Industrial System

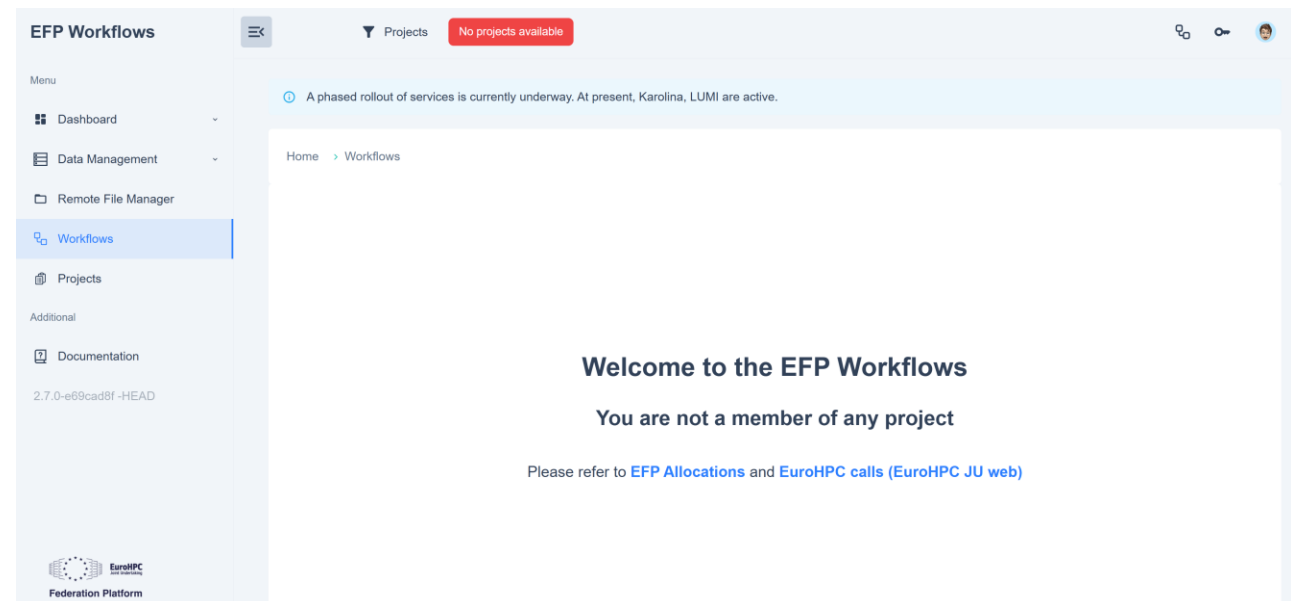
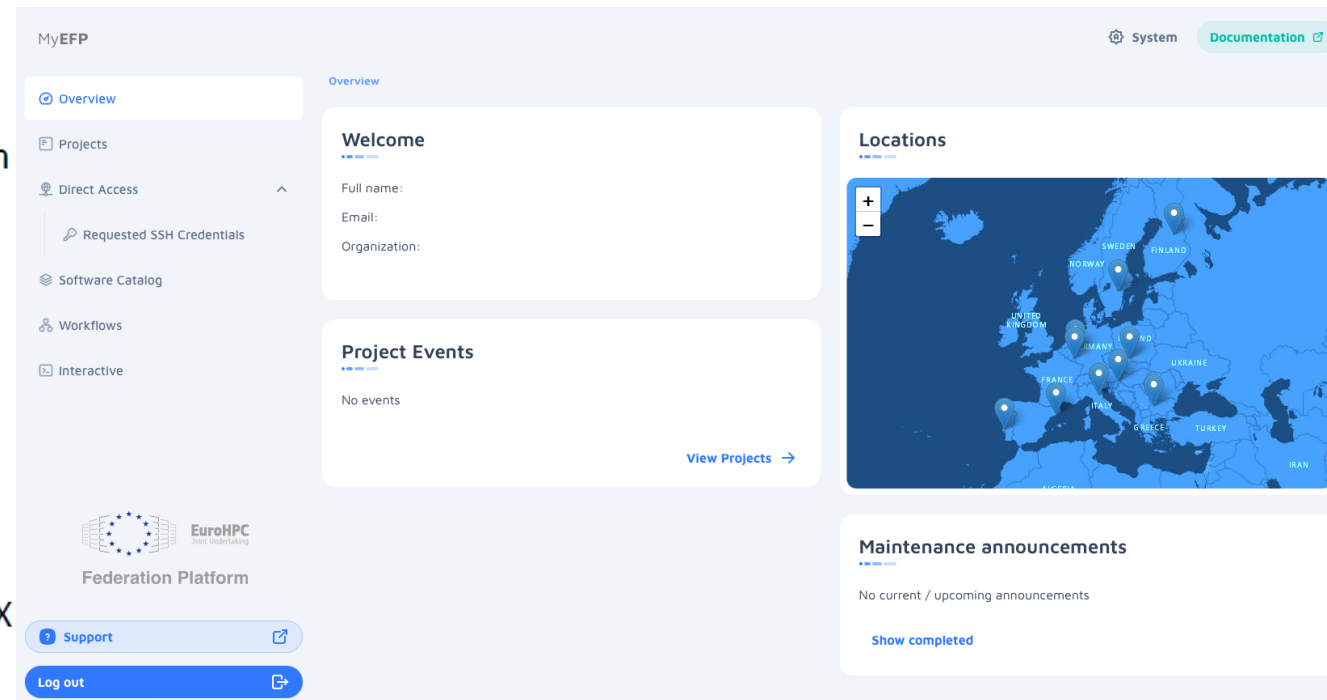
EFP: the complete solution



Timeline

- **1st phase (2025 – 2026):** Initial release of EuroHPC Federation Platform
 - EFP was released 15.4.2026
 - Core functionality
 - Integration with the currently online EuroHPC systems
 - Further improvements planned throughout 2026
 - Updates deployed continuously when ready
 - Integration with new EuroHPC systems
 - Authorization extended to web APIs
 - Smart scheduler
 - Initial connection to other federations: EOSC, SIMPL, FENIX
 - Quality and usability improvements
 - Broader range of options for user registration
- **2nd phase (2027 – 2029):**
 - Integration with all EuroHPC (HPC, AI, Quantum) systems
 - Improved integration with other federations
 - Advanced features

Second release Q4 2026



For more information: Visit our website and follow us on social media



[/eurohpc-ju.europa.eu](https://eurohpc-ju.europa.eu)



[/EuroHPC_JU](https://twitter.com/EuroHPC_JU)



[/eurohpc-ju](https://www.linkedin.com/company/eurohpc-ju)



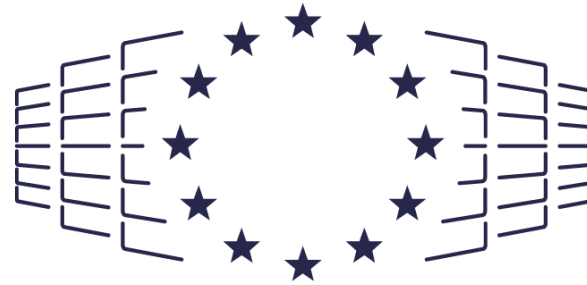
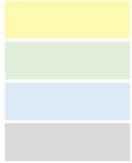
[/eurohpc-ju](https://www.youtube.com/channel/UC...)



[/eurohpc-ju.bsky.social](https://bsky.app/profile/eurohpc-ju.bsky.social)



EuroHPC
Joint Undertaking



EuroHPC
Joint Undertaking

Federation Platform

<https://my-eurohpc.eu>

User Days 2026

24 September 2026, Dublin (Ireland)

VSB TECHNICAL
UNIVERSITY
OF OSTRAVA

IT4INNOVATIONS
NATIONAL SUPERCOMPUTING
CENTER



ICT Solutions for Brilliant Minds

NORDUnet
Nordic Gateway for Research & Education

GÉANT
Networks • Services • People





EuroHPC
Joint Undertaking

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



Our AI Factories



Our Supercomputers

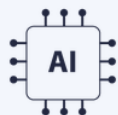


Our Quantum Computers



Our Research & Innovation Projects

EuroHPC Key Facts & Figures



19 + 13

AI Factories + Antennas



14

Supercomputers



10

Quantum Computers



62

Research & Innovation Projects



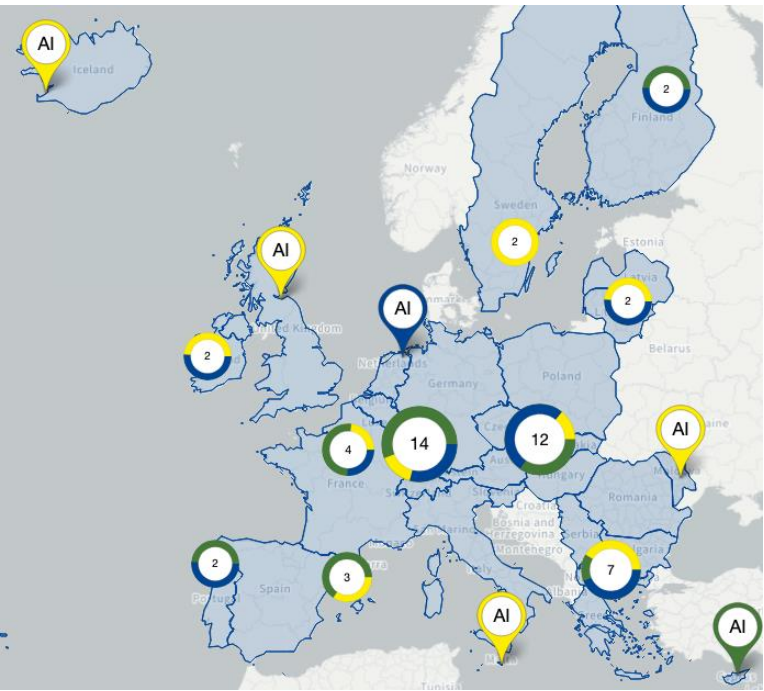
38

Participating States



8,2

Billion EUR Total Budget



Type of Systems

Status

S (Supercomputers)

Q (Quantum Computers)

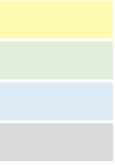
AI (AI Factories)

Operational

Under construction

Pending signature of the procurement contract

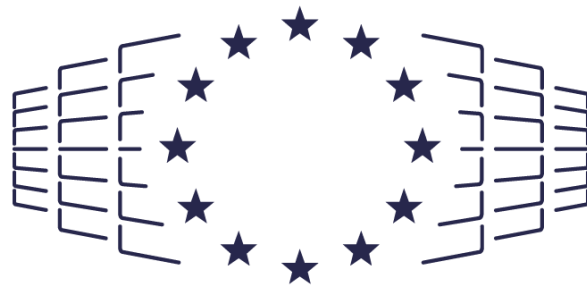
The EuroHPC Federation Platform (EFP)



"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

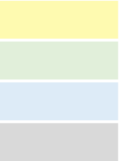


EuroHPC
Joint Undertaking

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.



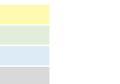
Advanced workflows and data transfer

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

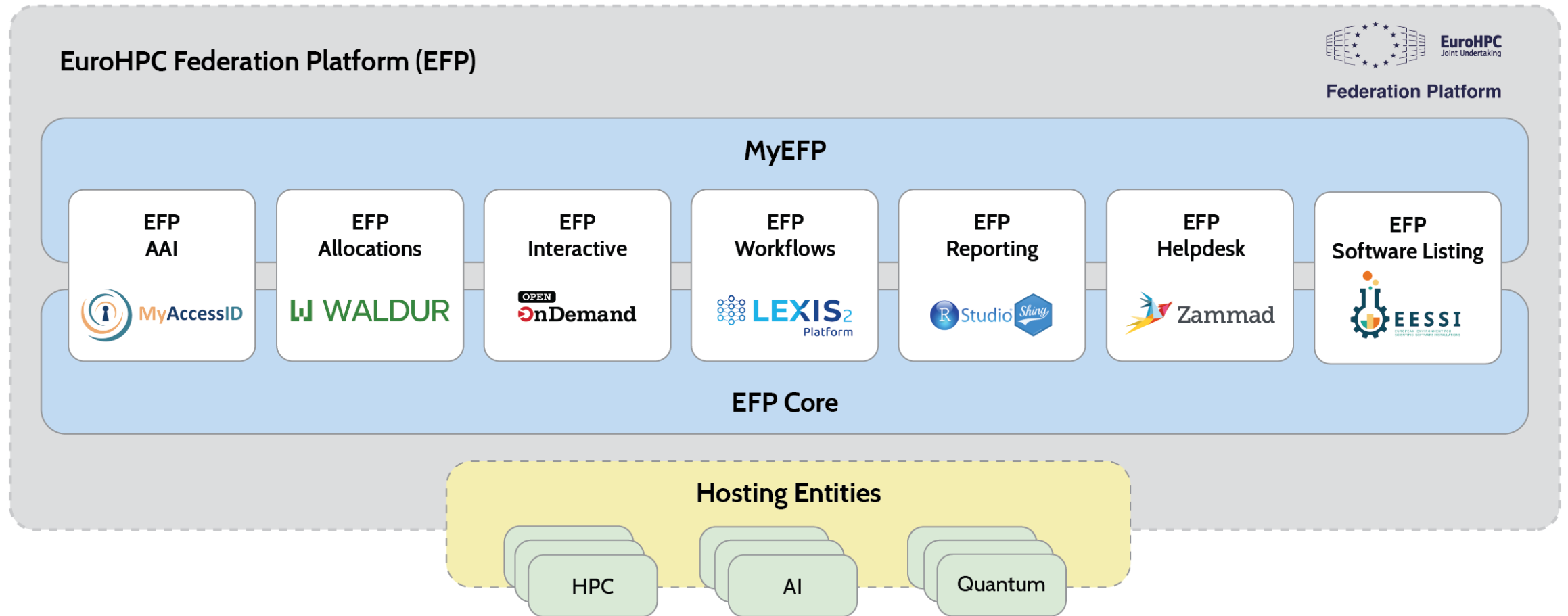


Direct access utilizing SSH certificates

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

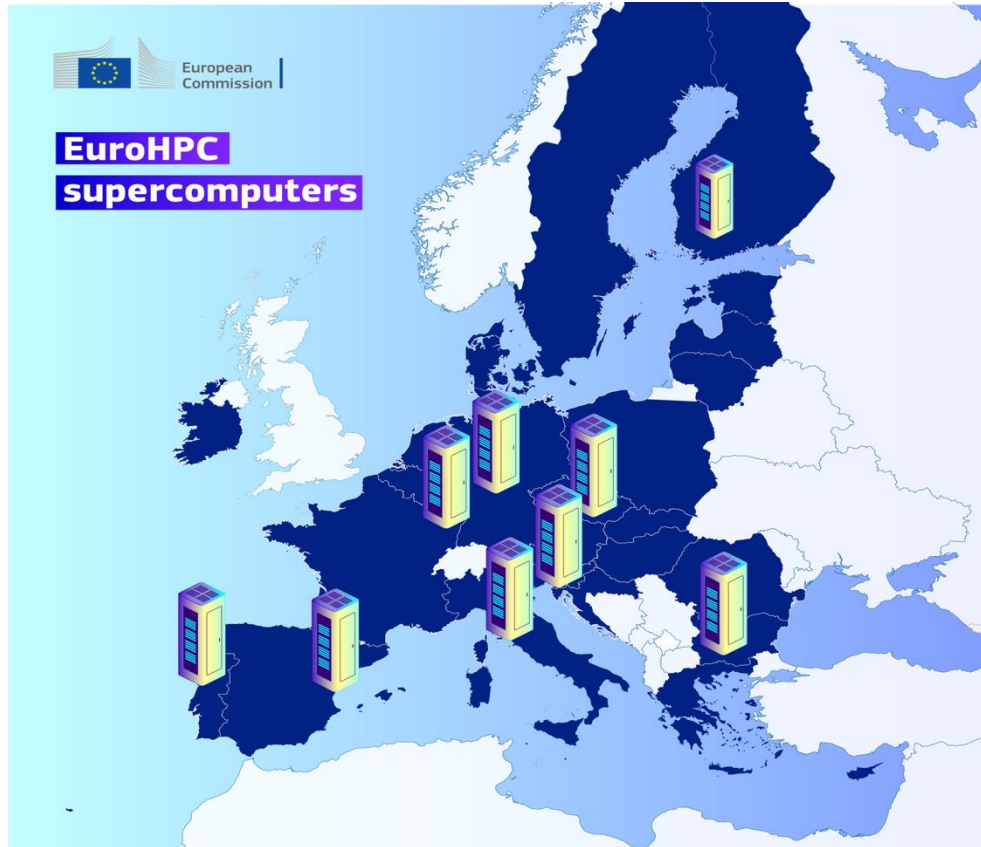


Technologies used for EFP

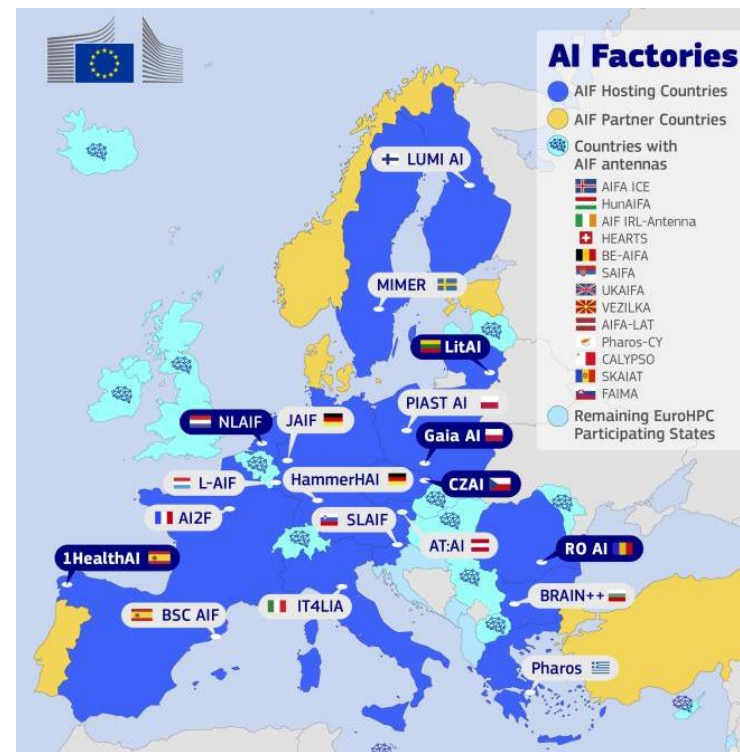


Contributions to existing open source projects are upstreamed when possible

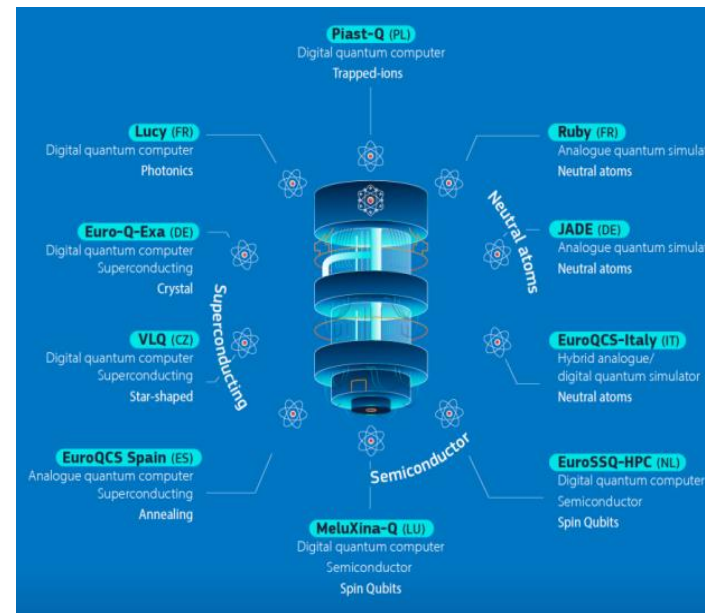
EFP Target Systems



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

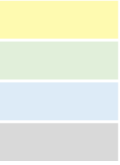


BSC AIF, HammerHAI, IT4LIA, LUMI AIF, Meluxina-AI, MIMER, Pharos, AI2F, AIF Austria, BRAIN++, JAIF, PIAT AIF, SLAIF, CZAI, LitAI Factory, NLAIF, Gaia AI Factory, RO AI Factory, 1HealthAI, ...

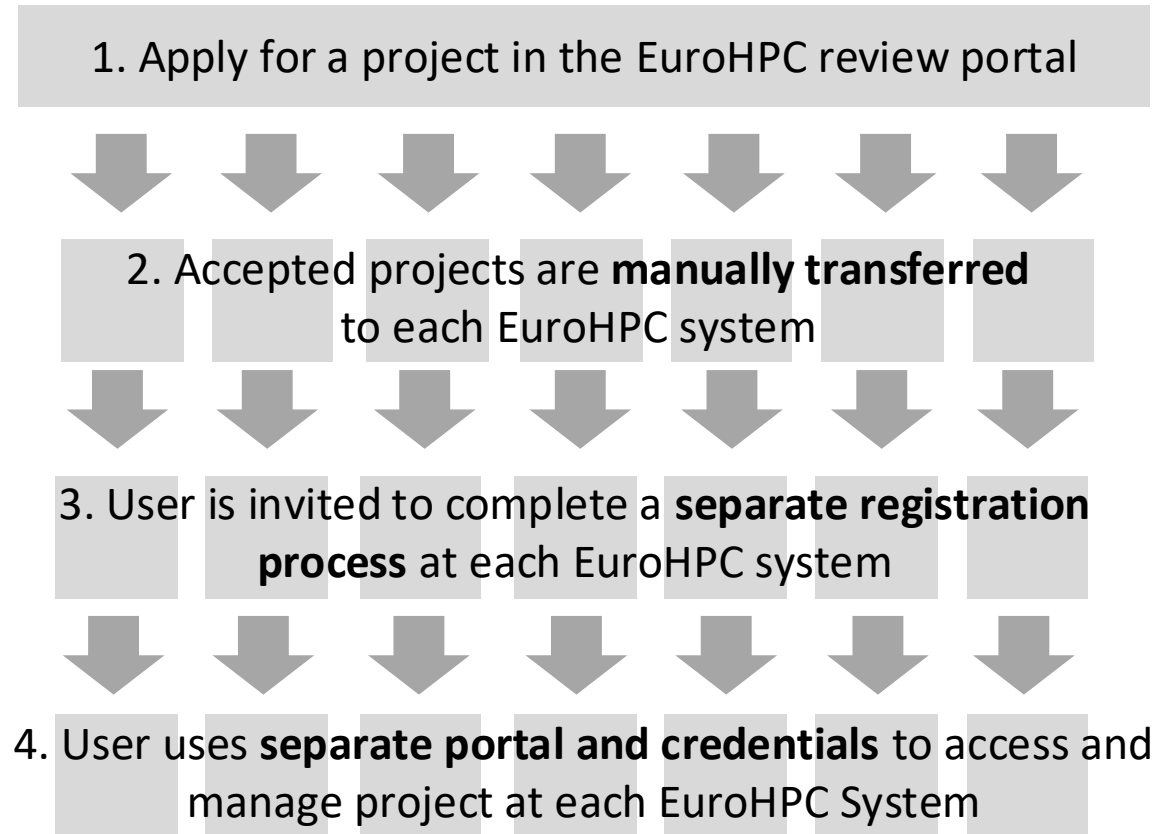


Euro-Q-Exa, EuroQCS-France, EuroQCS-Italy, EuroQCS-Spain, EuroQCS-Poland, VLQ, ...

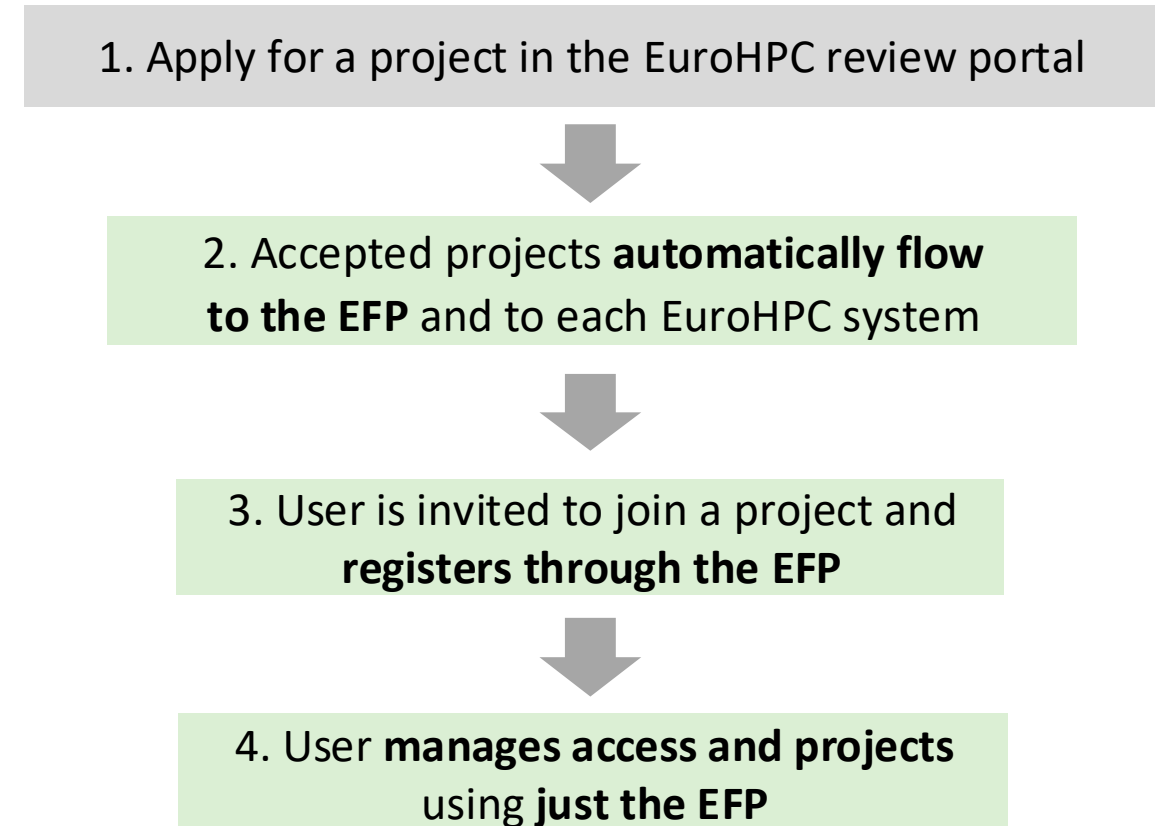
Impact of EFP on User Journey



Before (without EFP)



Now (with 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.



[Overview](#)[Projects](#)[Direct Access](#)[Requested SSH Credentials](#)[Software Catalog](#)[Workflows](#)[Interactive](#)

Overview

Welcome

Full name:

Email:

Organization:

Project Events

No events

[View Projects](#) →

Locations



Maintenance announcements

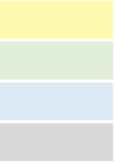
No current / upcoming announcements

[Show completed](#)

Federation Platform

[Support](#)[Log out](#)

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 and Allocations)
 - 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 time6 months12 months

OverviewResourcesUsersOperations

Service providers

12

Offerings

25

Active users

1079

Active projects

780

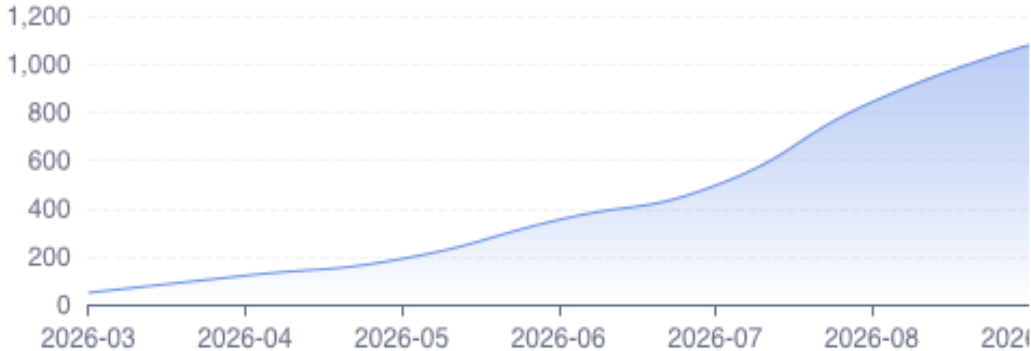
Active resources

804

Users over time

Total: 1079

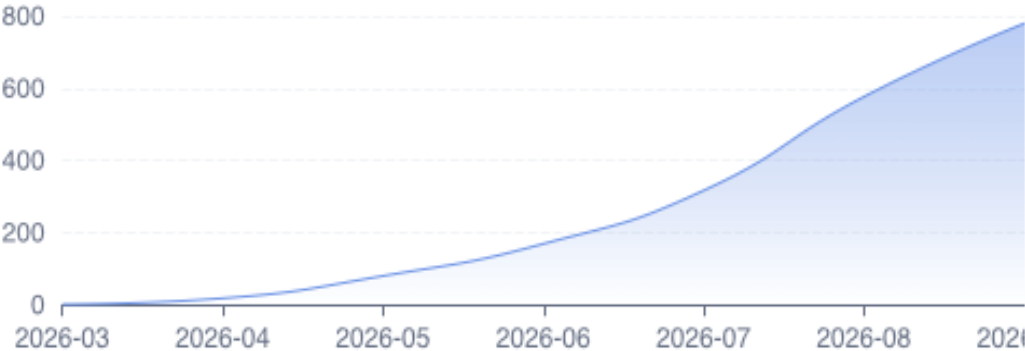
Export



Projects over time

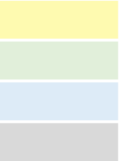
Total: 780

Export

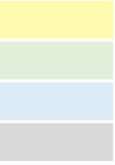


Timeline & current status

- **2nd phase (2027 – 2029):**
 - Integration with all EuroHPC (HPC, AI, Quantum) systems
 - Improved integration with other federations
 - Advanced features



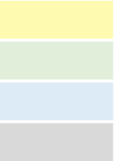
Unique aspects of EFP



- **One-stop shop** for users of EuroHPC systems
- **Single-Sign On w/ MFA + strong identity vetting** when onboarding PIs and project members (MyAccessID)
- **Uniform onboarding procedure** across EuroHPC systems
- **Centralized project management** for your EuroHPC project allocations, based on Waldur
- **Uniform direct SSH access** to EuroHPC systems, using short-lived SSH certificates issued by SSH CA in EFP
- **Federated Open OnDemand instance** that can be used to access EuroHPC systems
- **Uniform software environment** based on EESSI, which also powers interactive apps
- **Cross-system workflows** supported via EFP Workflows component, based on LEXIS



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)

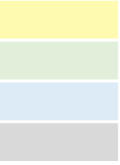
(time & date being scheduled) — **EFP Workflows: use cases**
speaker: Martin Golasowski (IT4Innovations)



*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





EuroHPC
User Days

Dublin Ireland
22→24
September 2026



EuroHPC
Joint Undertaking



Hyperconnectivity Project

A resilient, secure and future-proof network for the
EuroHPC ecosystem



Delivered by GÉANT with the European NREN community

Who is involved

Contracting authority, implementing partner, beneficiaries

01

EuroHPC JU

Contracting authority

Awards and manages the contract and steers delivery of the hyperconnected ecosystem.

02

GÉANT

Implementing partner

Contracted in September 2025, working with the European NREN community to deliver the Hyperconnectivity service.

03

Beneficiaries

Who the network serves

Research communities, SMEs and startups, the public sector, industry and innovation stakeholders.

What we are building

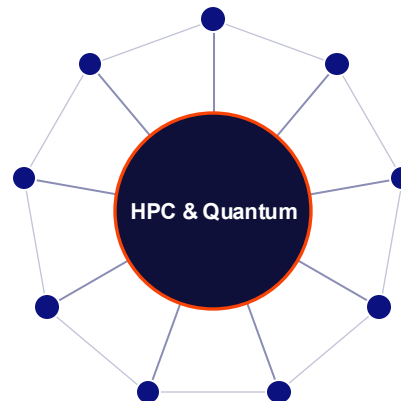
One connectivity fabric for HPC and quantum

1 Federated by design

A secure, federated and future-proof connectivity infrastructure for HPC and quantum systems across Europe.

2 High-capacity connectivity

Delivered with robust security and flexible, future-proof services, and scaled to each Point of Interest.



222 Points of Interest, one federated fabric

What this means for users

Reach, capacity and timing

222

Points of Interest

Sites across Europe targeted
for connection by 2029

Tb/s

Backbone capacity

A terabit-capable network,
with connectivity scaled to
each Point of Interest

2026

Service goes live

HCSA targeted for October;
pilot sites already onboarding

Timeline

From tender launch to a fully hyperconnected ecosystem



Where we stand today

Implementation baseline established, pilot phase under way

1 Implementation baseline established

The Framework Contract and four Specific Contracts are signed, and the High-Level Design has been approved.

2 Pilot phase launched with four NRENs

CSC/Funet, Restena, ACONET and FCCN are leading the initial implementation and hyperconnection of selected Pols.

3 HCSA delivery on track for October 2026

The target milestone is maintained, with onboarding, monitoring and authorisation processes being refined.

Current priorities and next steps

From HCSA acceptance to full rollout

OCTOBER 2026

HCSA delivery and acceptance

Finalisation and acceptance of the HyperConnectivity Service Area, with the target milestone maintained.

IMMEDIATE FOCUS

Priority 2 / Hosting Entities

Hosting Entities are the immediate onboarding focus, given their role in the EuroHPC hosting infrastructure.

2026 - 2029

Progressive onboarding of Pols

Progressive inclusion of the remaining Points of Interest, with 222 targeted by 2029.

THROUGHOUT

Joint communication and visibility

Joint actions by the JU and GÉANT to promote the project and attract as many Pols as possible.



The EuroHPC Hyperconnectivity Service

CONNECTIVITY - CAPABILITY – COLLABORATION

Bram Peeters

Chief Network Services Officer



Disclaimer:

The EuroHPC HyperConnectivity project and the related services presented herein are delivered by GÉANT under Framework Contract (FWC) No. FW-00180125, concluded with the European High Performance Computing Joint Undertaking (EuroHPC JU). The views expressed and content provided reflect the service delivery of GÉANT as contractor under the FWC and do not represent the official position of the EuroHPC JU as contracting authority.

The Basics

The objective is to create:

a hyperconnected, federated, and secure HPC and quantum computing service and data infrastructure ecosystem.

The aim of this highly competitive and innovative federated HPC infrastructure and associated ecosystem is:

to put Europe at the forefront of the world, **capable of helping both science and industry address major scientific and economic challenges**, including global challenges such as climate change, earthquakes, and pandemics

Simpler

Build a **hyperconnectivity** service
to support and enhance
the capabilities of the European HPC infrastructure

What is the EuroHPC Hyperconnectivity Service?

Ultra-high bandwidth, secure, pan-European, interconnect service for the EuroHPC supercomputing infrastructure.

Expands upon the GÉANT network, leveraging the reach and expertise of European NRENs.



Terabits-per-second
networking

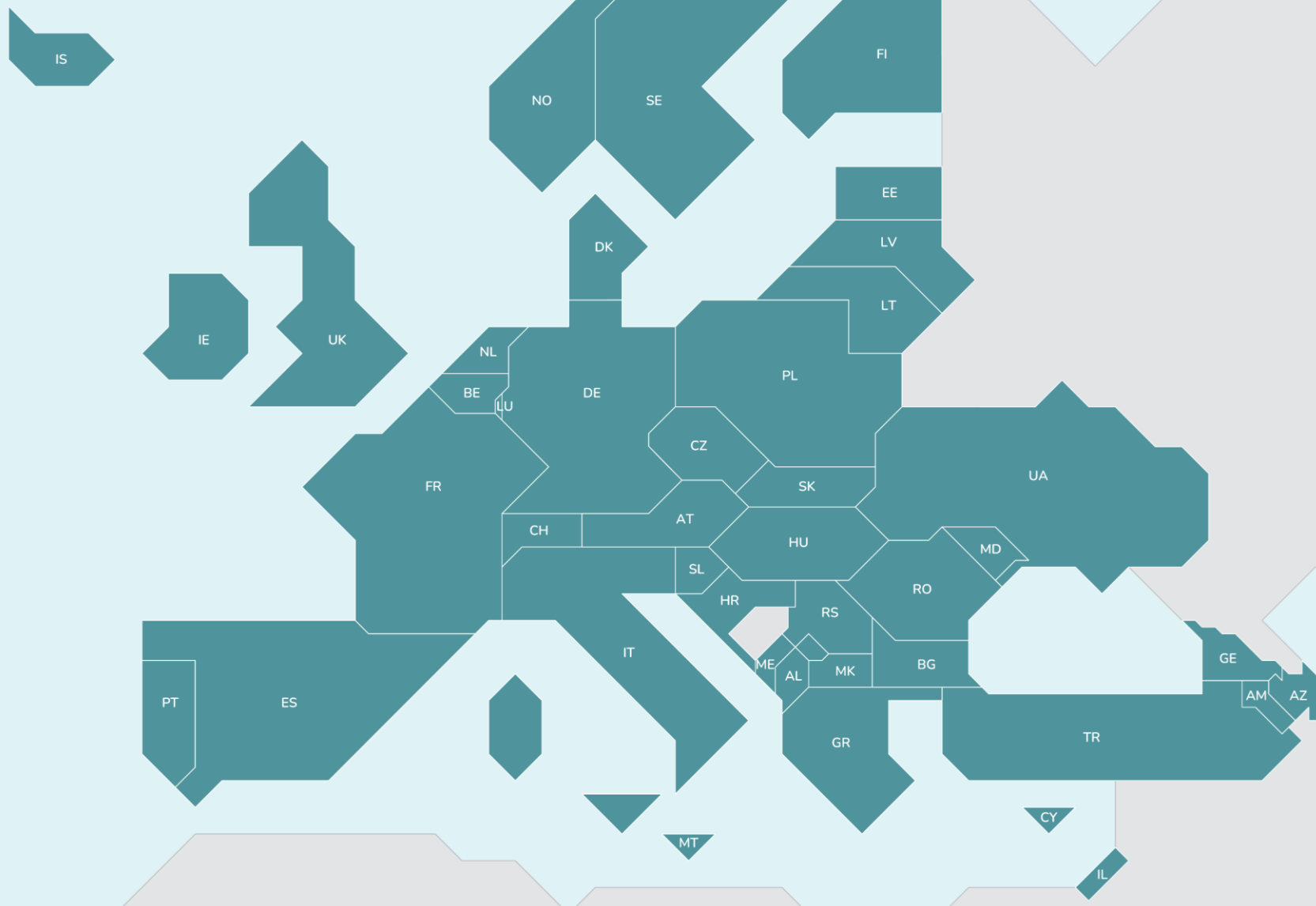
Trusted & Secure
architecture

Federated
connectivity

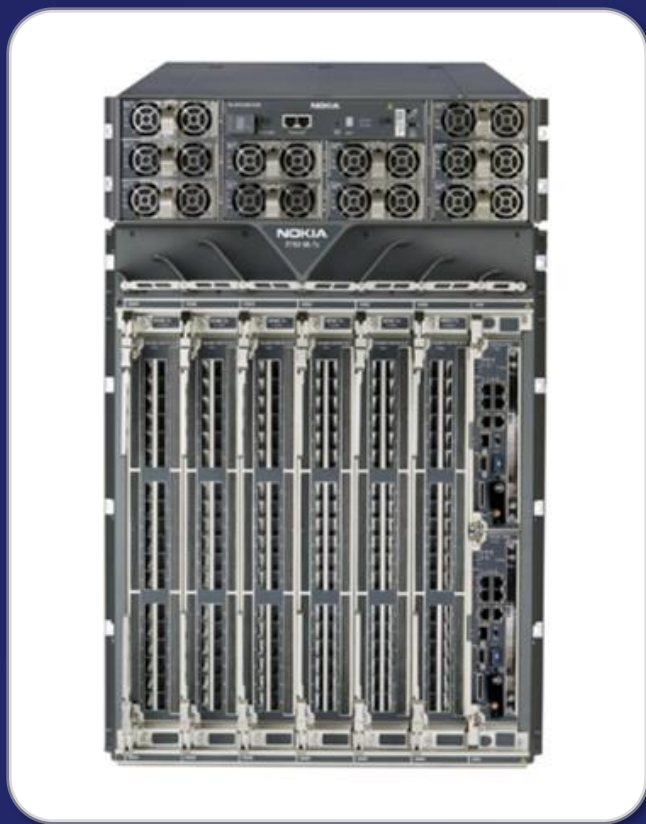
Flexible ecosystem
future-proof
technology

Who is delivering the service?

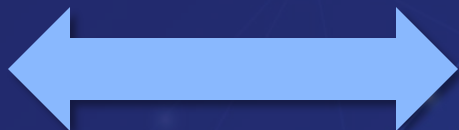
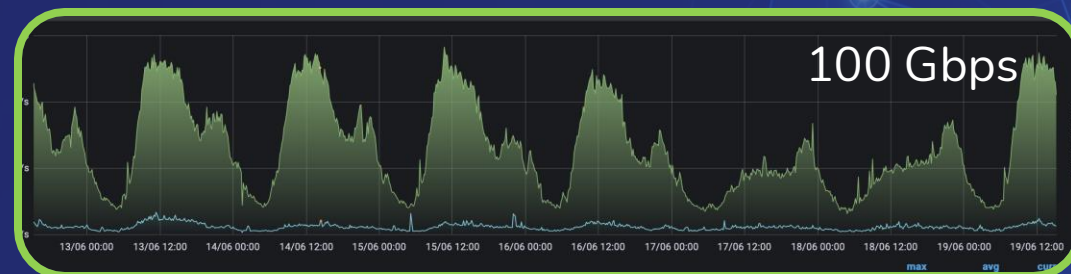
GÉANT: a European Membership Organisation



HyperConnectivity: Why is the network important?



A GÉANT Internet access service port – 7 days



A GÉANT backbone link – 7 days



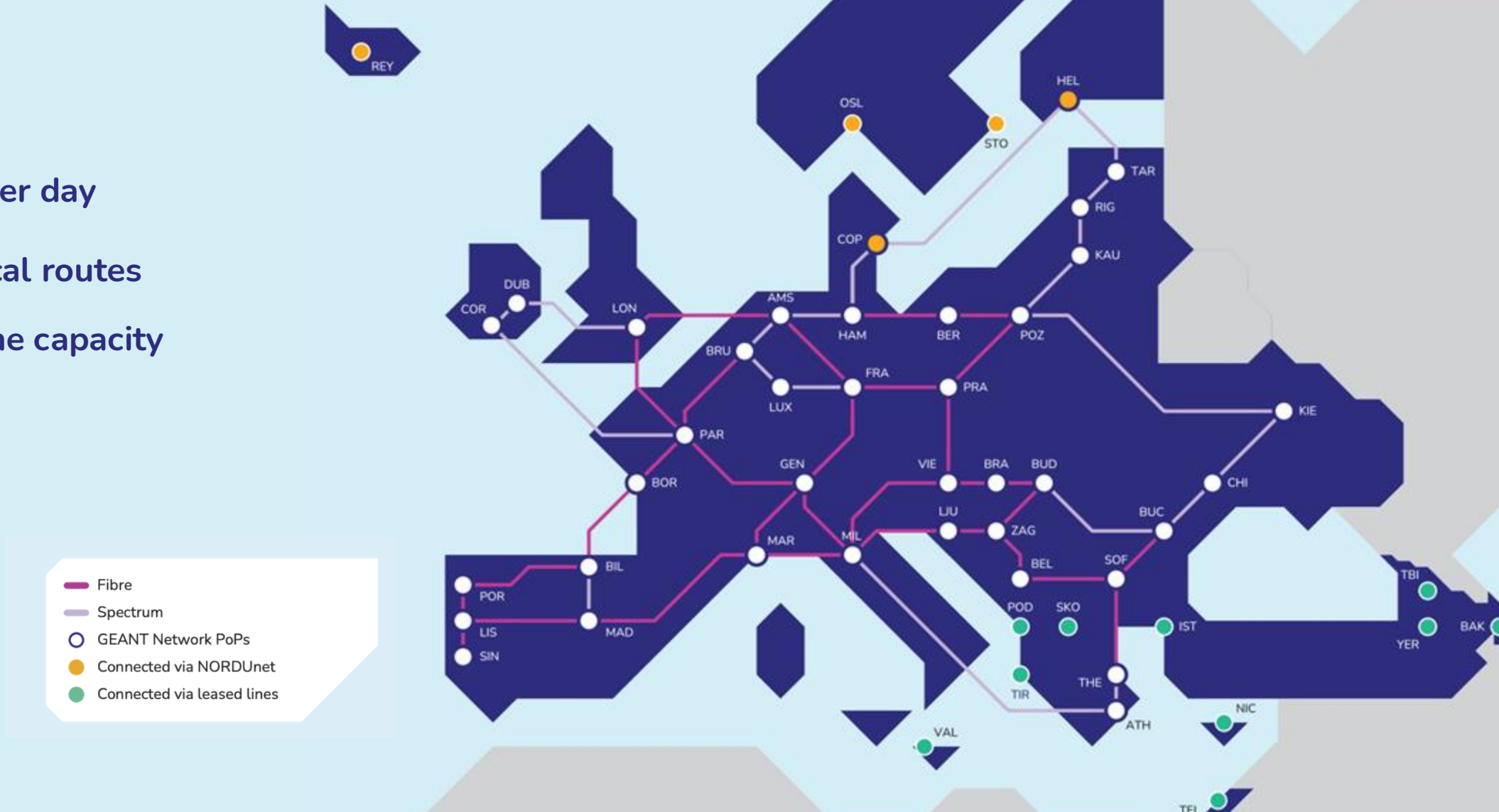
HyperConnectivity: Over the GÉANT Network

A shared investment

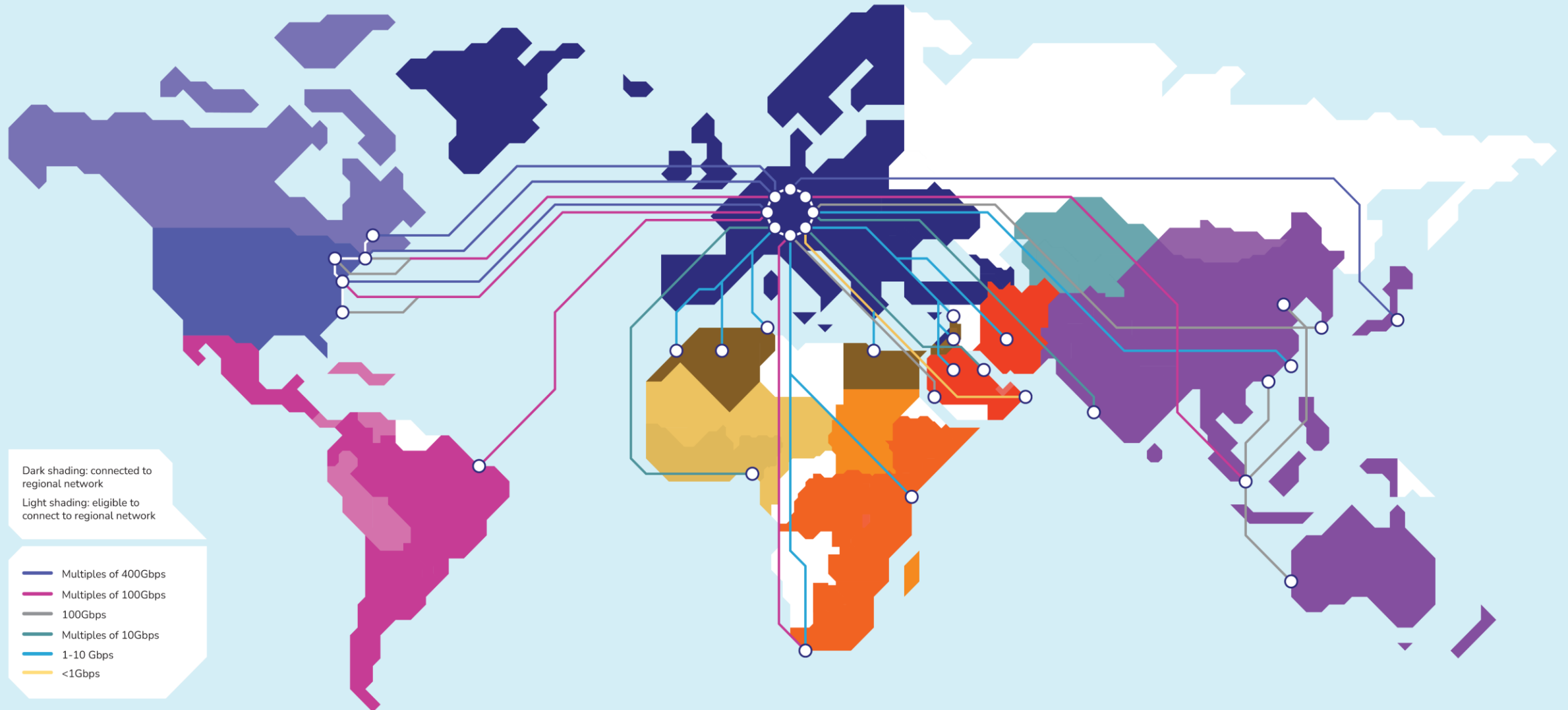
>10 Pb of data per day

30,000km physical routes

31 Tbps backbone capacity



How is the service reachable from outside of Europe?



HyperConnectivity: So, what does the service deliver?

- Every centre & country interconnected at equal excellence
 - High capacity connectivity - end to end
 - High quality connectivity – IXPs, data sources, storage providers
 - Access to global research networks
- Service Assurance: Monitoring, Reporting, Management



HyperConnectivity Service: How is it constructed?

Two main **connectivity** components:

The HyperConnectivity Service Area (HCSA)

“Network As A Service” - high-capacity connectivity to P1 Pol sites



Connectivity between P2 to P6 sites and the HCSA

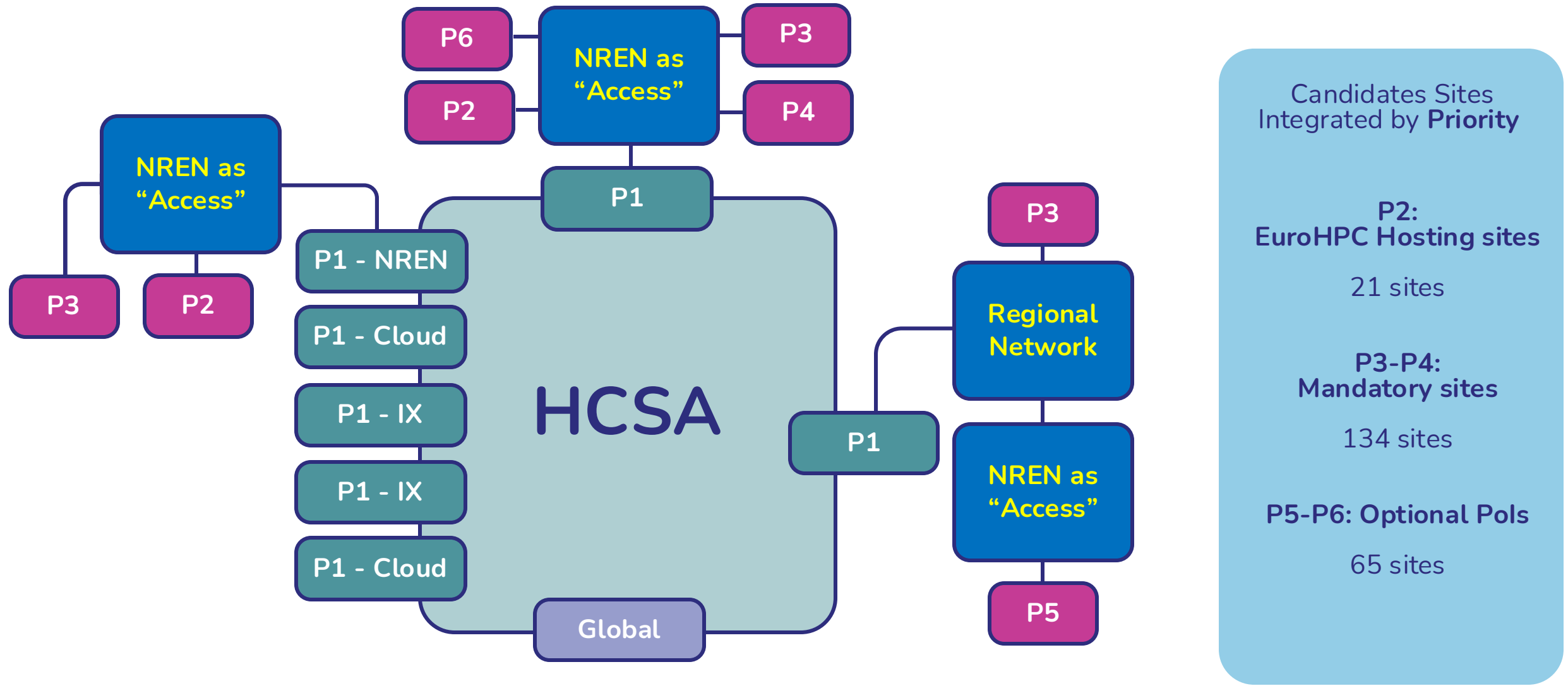
Sites are integrated into the HyperConnectivity Service

And then the **operations**

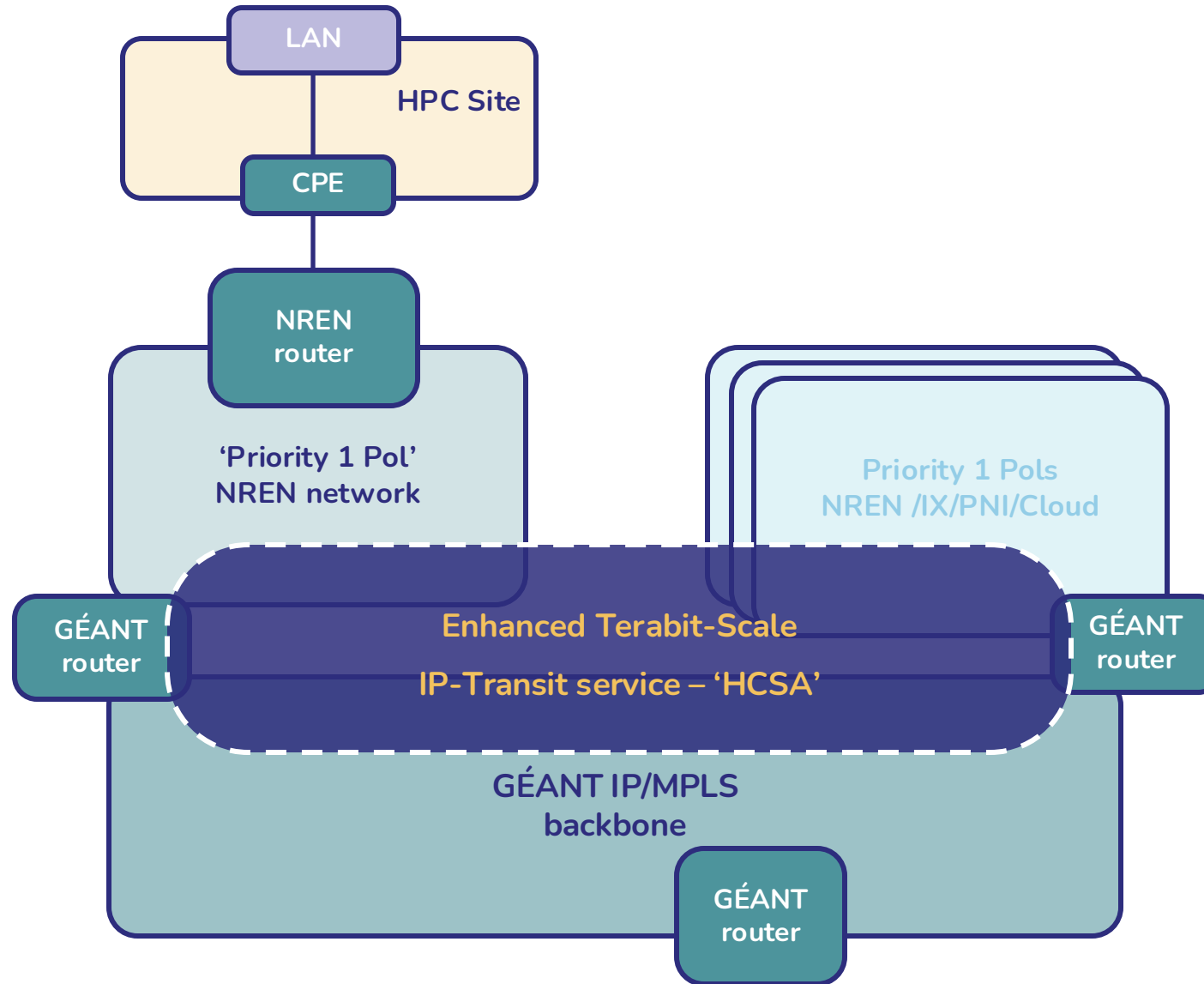
- Monitoring
- Incident resolution
- Capacity upgrades
- Performance Monitoring Probes



HyperConnectivity: How do the components come together?



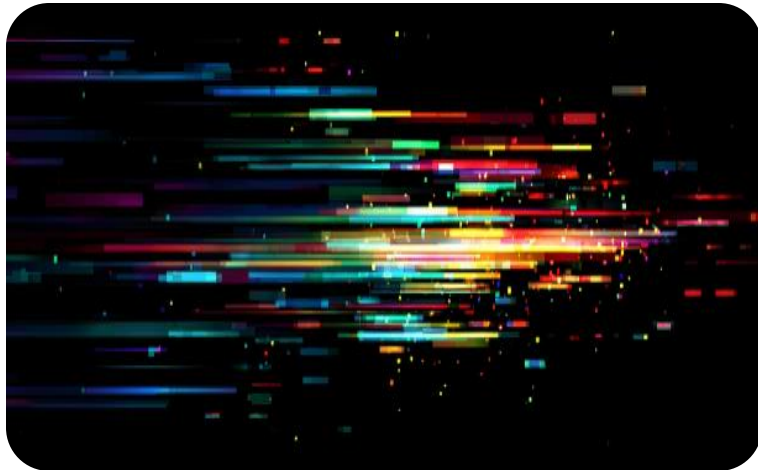
HyperConnectivity: How is the connectivity layer built?



HyperConnectivity: How will the service be assured?

One service – GÉANT provides through a federated model - standard NREN & GÉANT processes

- Incident and problem follow-up
- Performance Monitoring Platform
- Data sharing & reporting
- Optimised Networking across borders
- Strategic investment decisions
- Capacity upgrades



HyperConnectivity: How will monitoring data be used?

Centralised monitoring and
visibility of domain performance

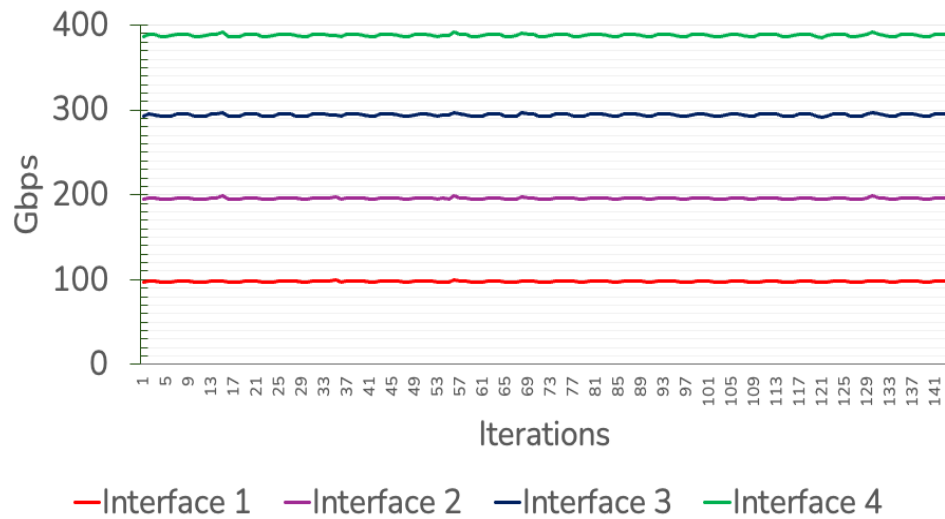
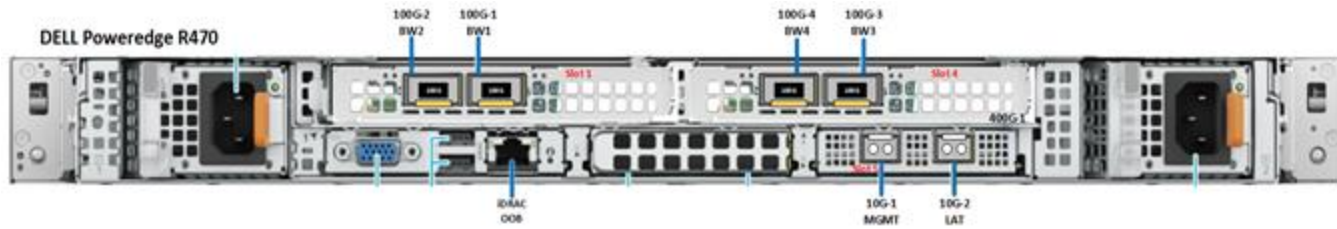


Enhanced visibility for
performance support

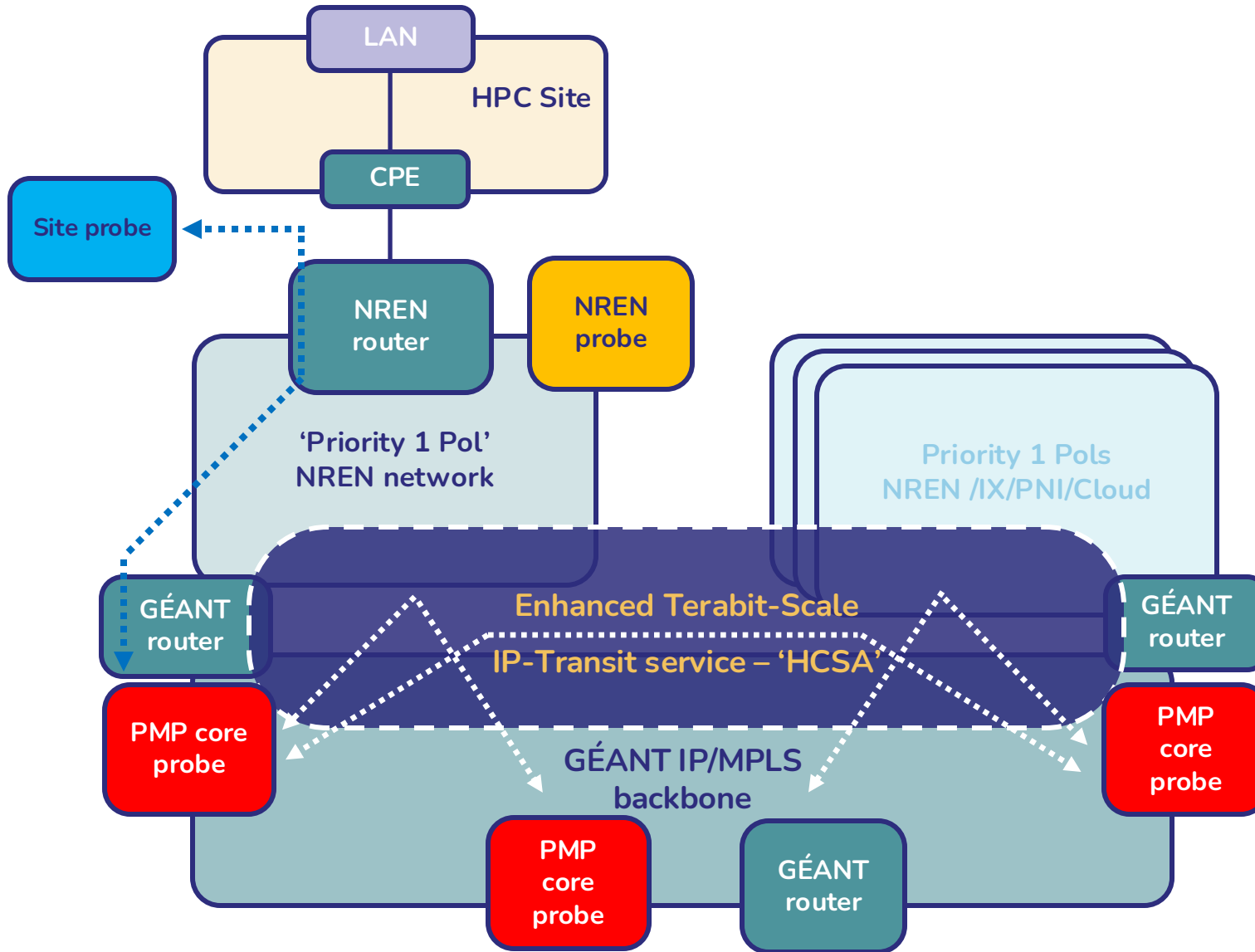


Incident support and
proactive capacity planning

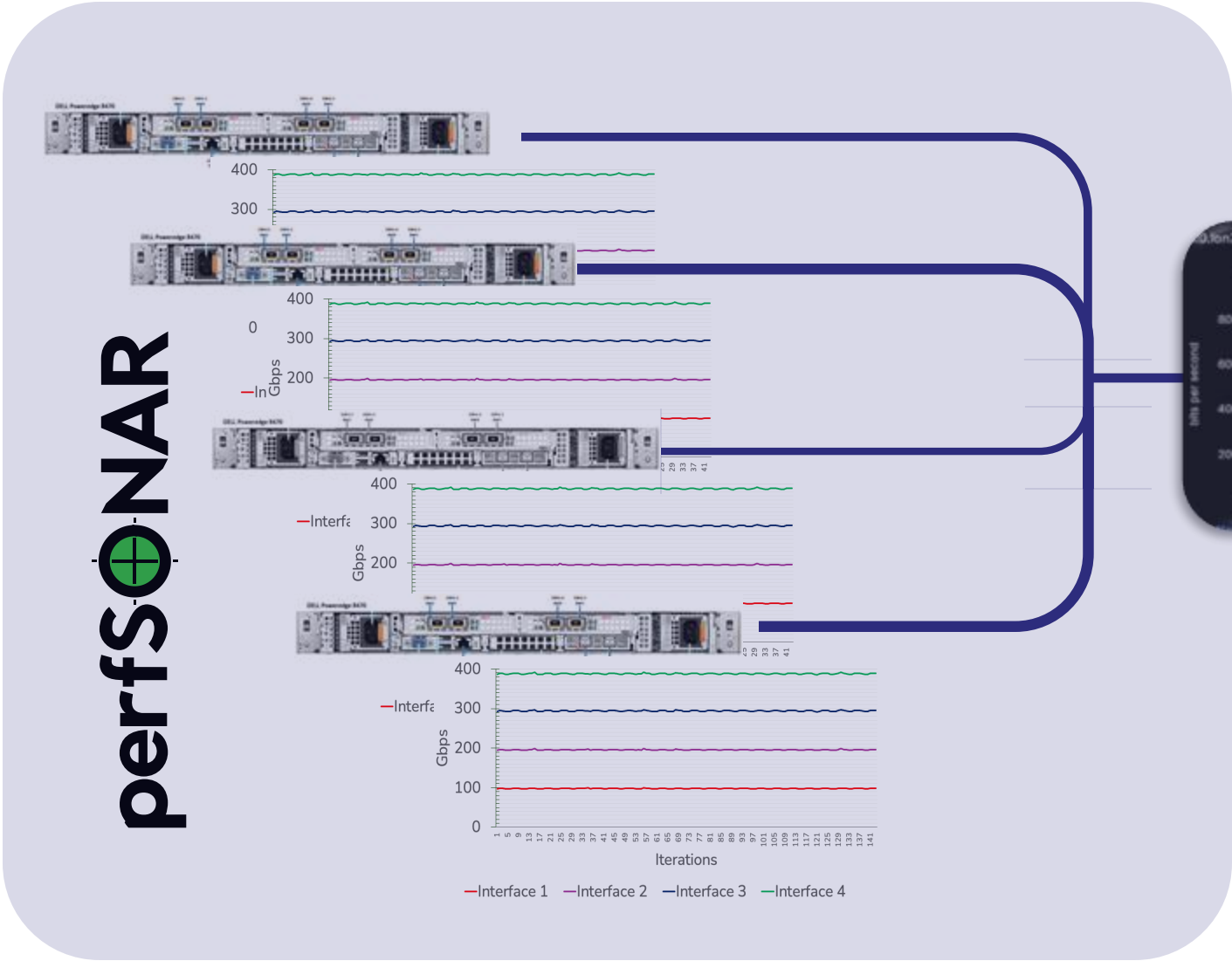
HyperConnectivity: How will throughput be checked?



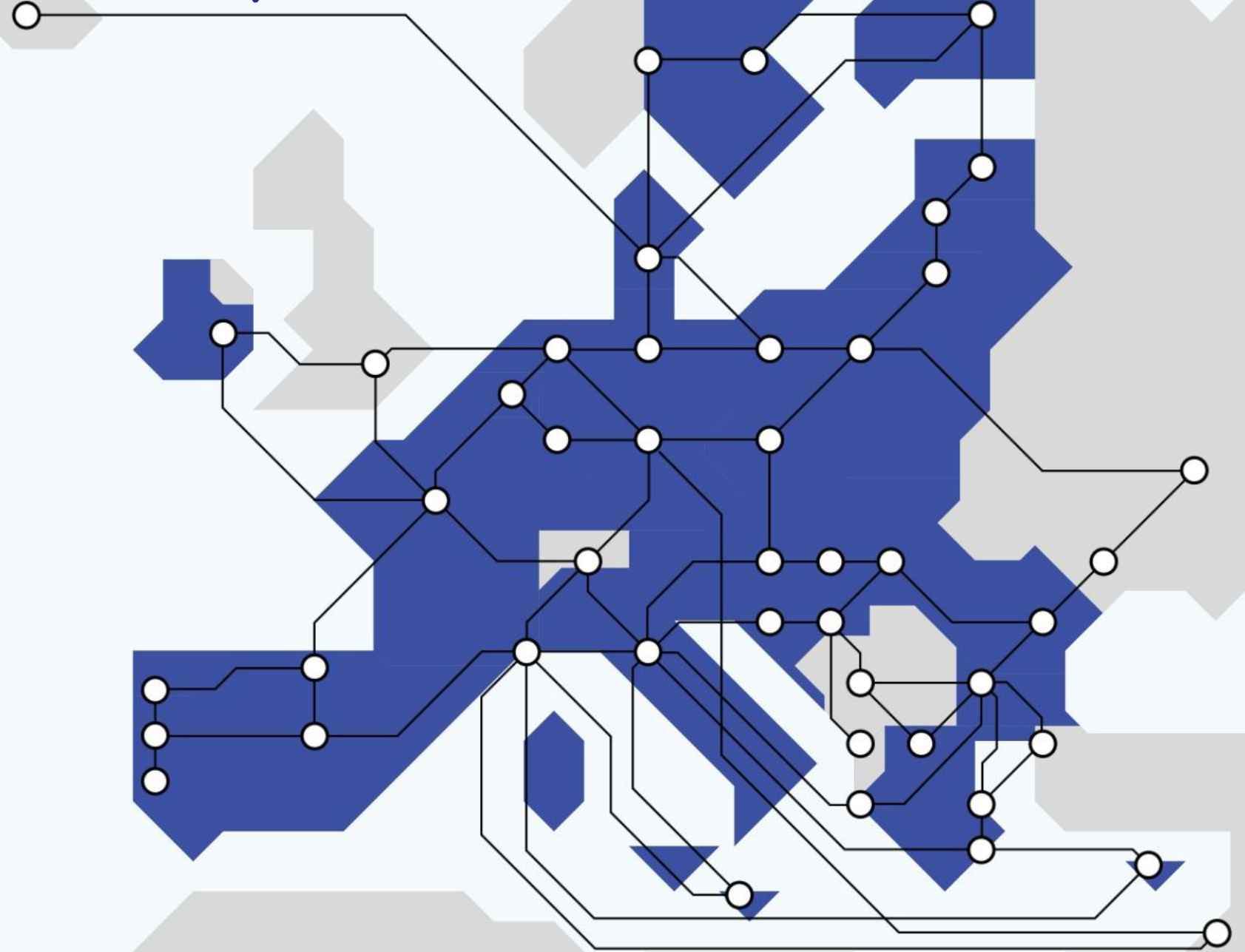
HyperConnectivity: Performance Monitoring



Throughput testing: Does it scale?



The EuroHPC Hyperconnectivity Service



EuroHPC Hyperconnectivity Service: CONNECTIVITY - CAPABILITY - COLLABORATION

GÉANT + NRENs + HPC sites
Delivering the Multi domain service

- + High capacity connectivity
- + Broad connectivity to commodity providers
- + Enhanced systems to enable pro-active planning
- + Increased visibility of the sites to potential users of HPC sites

a future-proof **hyperconnectivity** service
to support and enhance the capabilities of
the European HPC infrastructure.