Faculty EuroHPC JU introduction

March 2026

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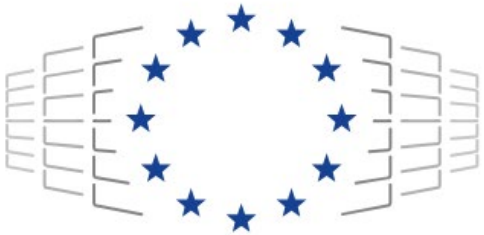
TECHNION
Israel Institute of Technology

Agenda

- EuroHPC JU introduction , mission and members.
- Systems available , technical specs.
- Calls for Proposals , types and process.
- Systems Access.



EuroHPC
Joint Undertaking

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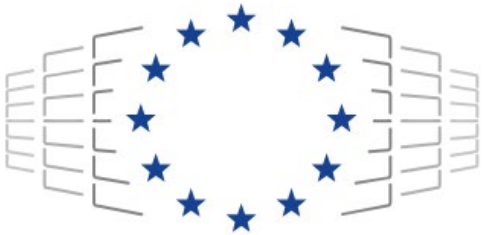

EuroHPC
Joint Undertaking

EuroHPC Joint Undertaking introduction - Mission

- Develop , deploy, extend and maintain in the EU a world-leading federated, secure and hyper-connected supercomputing, quantum computing, service and data infrastructure ecosystem;
- Support the development and uptake of demand-oriented and user-driven innovative and competitive supercomputing system based on a supply chain that will ensure components, technologies and knowledge limiting the risk of disruptions and the development of a wide range of applications optimized for these systems;
- Widen use of that supercomputing infrastructure to a large number of public and private users and support the development of key HPC skills for European science and industry.
- Develop and operate AI Factories located around EuroHPC supercomputing facilities to support the growth of a highly competitive and innovative AI ecosystem in Europe.

EuroHPC Joint Undertaking introduction - Members

- Public members:
  - The European Union (represented by the Commission),
  - Member States and Associated Countries that have chosen to become members of the Joint Undertaking: Albania, Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, **Israel**, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

EuroHPC Joint Undertaking introduction - Budget

- The EuroHPC Joint Undertaking is jointly funded by its members with a budget of around EUR 7 billion for the period 2021-2027.
- Most of this funding comes from the current EU long-term budget, the Multiannual Financial Framework (MFF 2021-2027) with a contribution of EUR 3 billion.
- The EU contribution is matched by a similar amount from the participating countries. Additionally, private members are contributing an amount of EUR 900 million.

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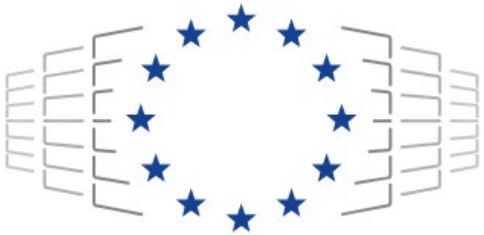

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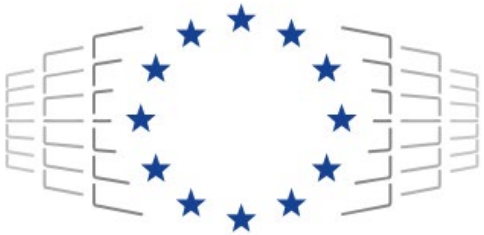

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Systems Available - #4 world wide rank

JUPITER

JUPITER is located at the Forschungszentrum Jülich campus in Germany and operated by the Jülich Supercomputing Centre. It is based on Eviden's BullSequana XH3000 direct liquid cooled architecture. JUPITER is Europe's first Exascale supercomputer, capable of delivering 1 ExaFLOP of computing power.

1 exaflop	1226.28 petaflops
Sustained performance	**Peak performance**

Systems Available - #8 world wide rank

LUMI

Lumi is a pre-exascale EuroHPC supercomputer located in Kajaani, Finland. It is a Cray EX supercomputer supplied by Hewlett Packard Enterprise (HPE) and hosted by CSC – IT Center for Science.

More technical information regarding LUMI, can be found here.

LUMI supercomputer
CSC (Image credits: Fade Creative)

386.00 petaflops
Sustained performance

539.13 petaflops
Peak performance

Systems Available - #9 world wide rank

LEONARDO

Leonardo is a pre-exascale EuroHPC supercomputer located in the Bologna Technopole, Italy. It is supplied by ATOS, based on a BullSequana XH2000 supercomputer and hosted by CINECA.

More technical information regarding Leonardo, can be found here.

LEONARDO supercomputer
Cineca

249.04 petaflops
Sustained performance

315.74 petaflops
Peak performance

EuroHPC Supercomputers

Supercomputer	Location	Peak Performance	Main Processor/GPU	Year Operational
JUPITER	Jülich, Germany	1 ExaFLOP (1000 PFLOPS)	NVIDIA GH200	2025
LUMI	Kajaani, Finland	539 PFLOPS	AMD MI250X	2022
Leonardo	Bologna, Italy	316 PFLOPS	NVIDIA A100	2022
MareNostrum 5	Barcelona, Spain	314 PFLOPS	NVIDIA H100	2023
MeluXina	Bissen, Luxembourg	18 PFLOPS	NVIDIA A100	2022
Karolina	Ostrava, Czech Republic	12.9 PFLOPS	NVIDIA A100	2021
Discoverer	Sofia, Bulgaria	5.9 PFLOPS	NVIDIA GPUs	2021
Vega	Maribor, Slovenia	10.05 PFLOPS	NVIDIA A100	2021
Deucalion	Guimarães, Portugal	9.76 PFLOPS	NVIDIA A100	2023

EuroHPC Supercomputers

- 3 of top 10 supercomputers in the world (source TOP500.org)
- **JUPITER** is Europe's first **exascale** supercomputer and leads the EuroHPC fleet in peak performance.
- **LUMI** and **Leonardo** are among Europe's most powerful petascale/pre-exascale systems, widely used in scientific and AI workloads.
- **MareNostrum 5** is a pre-exascale system optimized for diverse workloads including AI and simulation
- Projected:

Alice Recoque	France	Exascale (Planned)	TBD	2026 (Planned)
Arrhenius	Sweden (Planned)	TBD	TBD	Planned

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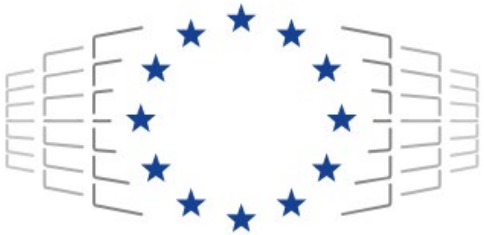

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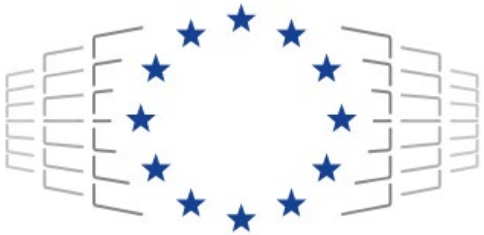

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Access call types

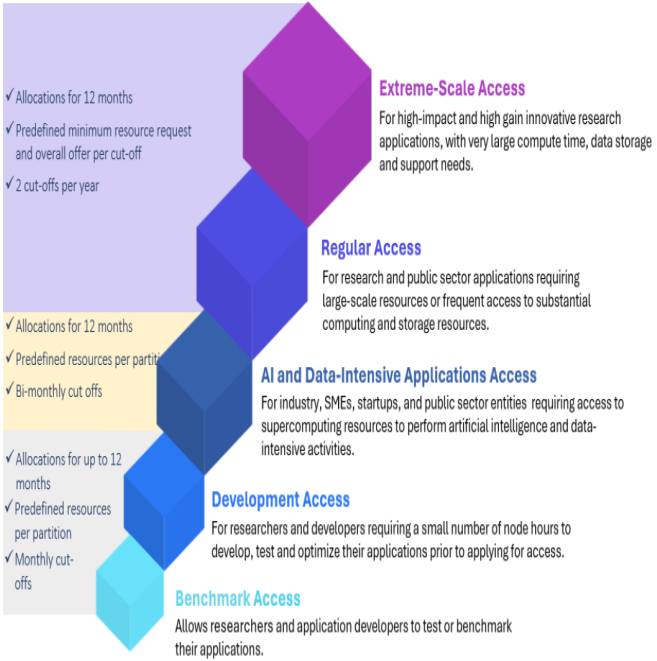
1.Benchmark Access – testing or benchmarking software.

2.Development Access – access to a small number of node hours for application development, testing and optimization. Used as preparation before requesting more extensive access.

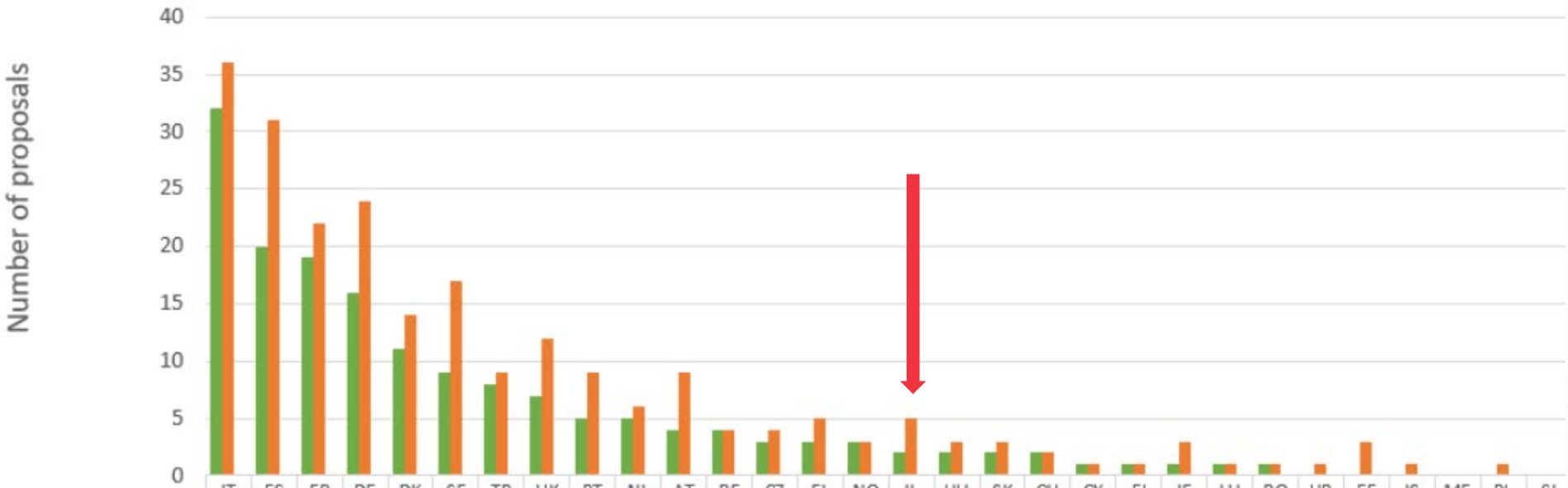
3.AI and Data-Intensive Applications Access – for industry organizations, small to medium enterprises (SMEs), startups, as well as public sector entities, requiring access to supercomputing resources to perform artificial intelligence and data-intensive activities.

4.Regular Access – access to large-scale computational resources for research domains, industry open R&D and the public sector.

5.Extreme Scale Access – access for innovative, high-impact projects that require large computational resources. Successful applicants will receive access to pre-exascale supercomputers.



Country distribution of proposals, considering the Principal Investigator affiliation



	IT	ES	FR	DE	DK	SE	TR	UK	PT	NL	AT	BE	CZ	EL	NO	IL	HU	SK	CH	CY	FI	IE	LU	RO	HR	EE	IS	ME	PL	SI
Awarded proposals	32	20	19	16	11	9	8	7	5	5	4	4	3	3	3	2	2	2	2	1	1	1	1	1	0	0	0	0	0	0
Submitted proposals	36	31	22	24	14	17	9	12	9	6	9	4	4	5	3	5	3	3	2	1	1	3	1	1	1	3	1	0	1	0
Approval rate	89%	65%	86%	67%	79%	53%	89%	58%	56%	83%	44%	100%	75%	60%	100%	40%	67%	67%	100%	100%	100%	33%	100%	100%	0%	0%	0%	0%	0%	0%

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Israeli awardees

- Prof Ronnie Kamai, BGU
  - Won 325,000 hours on Discoverer
- Prof Meytal Caspary Toroker, Technion
  - Won 80,000 hours on Karolina CPU
- Prof Asaf Pe’er, BIU
  - Won 50,000 hours on MeluXina GPU
- Prof Guy Makov, BGU
  - Won 120,000 hours on Karolina CPU

Israeli awardees

- Prof Yonatan Belnikov, Technion
  - AI Technology: Natural Language Processing
  - Won 32,000 hours on MareNostrum5 ACC
- Prof Ishay Pomerantz, TAU
  - Direct Laser Acceleration
  - Won 70,000 hours and 100,000 hours and 80,000 hours on Lumi-C
- Prof Sagie Benaim
  - Feed-forward monocular 4D Gaussian reconstruction
  - Won 24,000 hours on Leonardo BOOSTER

EuroHPC Joint Undertaking

Calls | Applications

Zeev

Applications

Applicant

It looks like you haven't applied to any calls yet.

Apply To Calls

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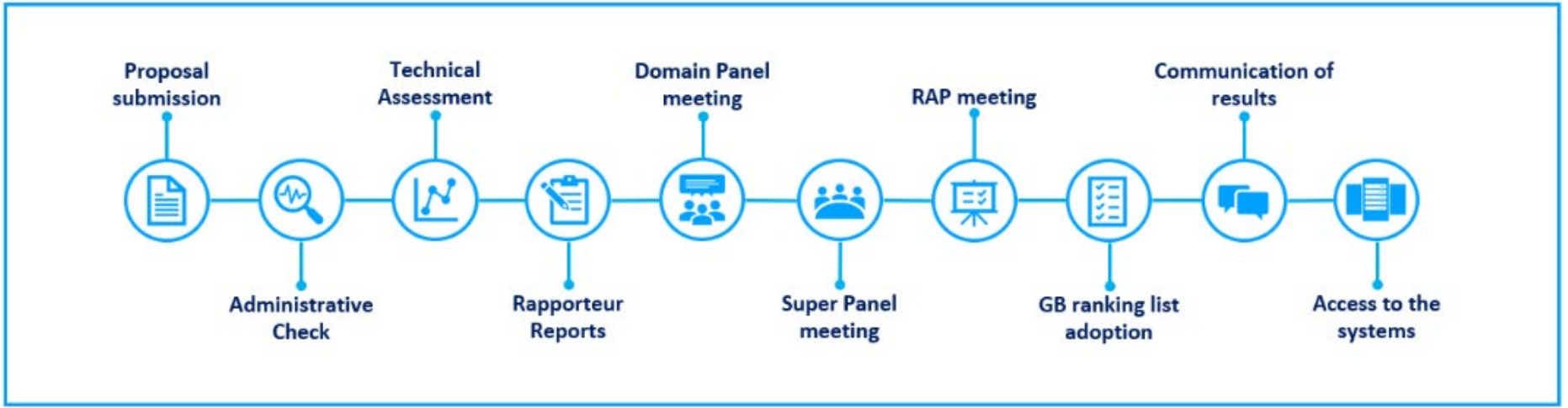
Regular Access

Continuously open call with 2 cut-off dates per year: **March, September**

Available resources on petascale and pre-exascale systems

Intended for projects that require large-scale HPC resources

Peer-Review process duration: **4 months**



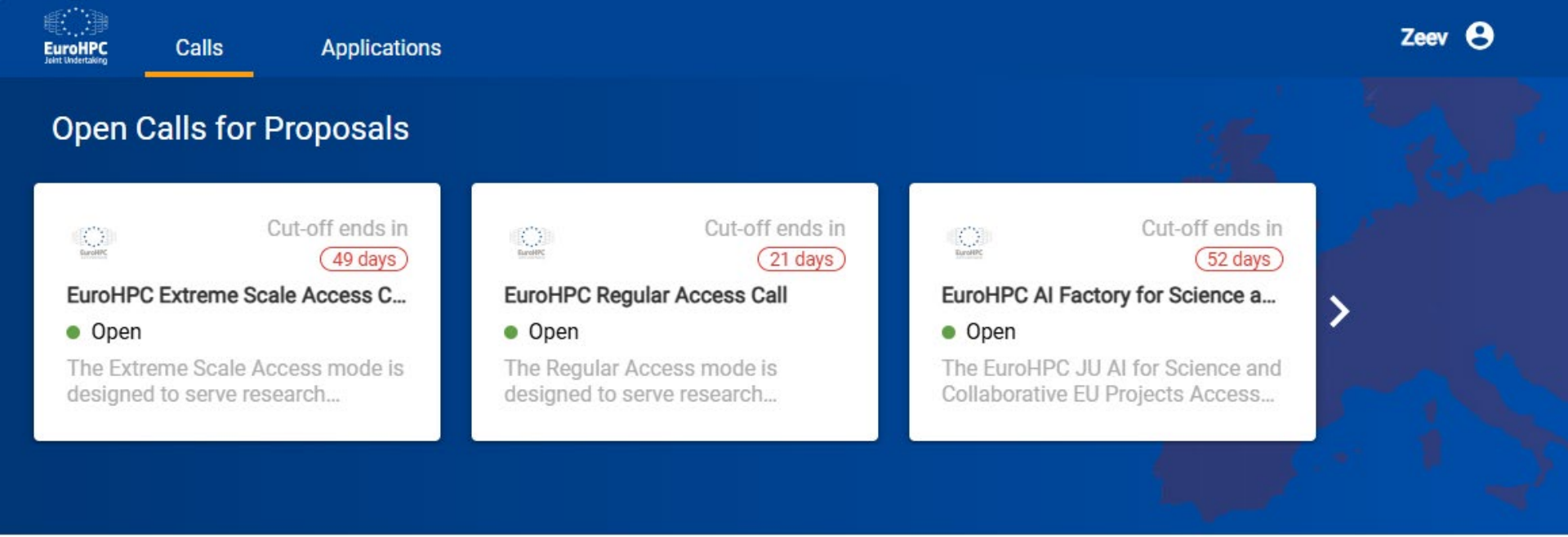
Extreme-scale Access

Continuously open call with 2 cut-off dates per year: **April, October**

Available resources on pre-exascale systems

Intended for high-impact, high-gain projects that require extremely large-scale HPC resources

Peer-Review process duration: **6 months**



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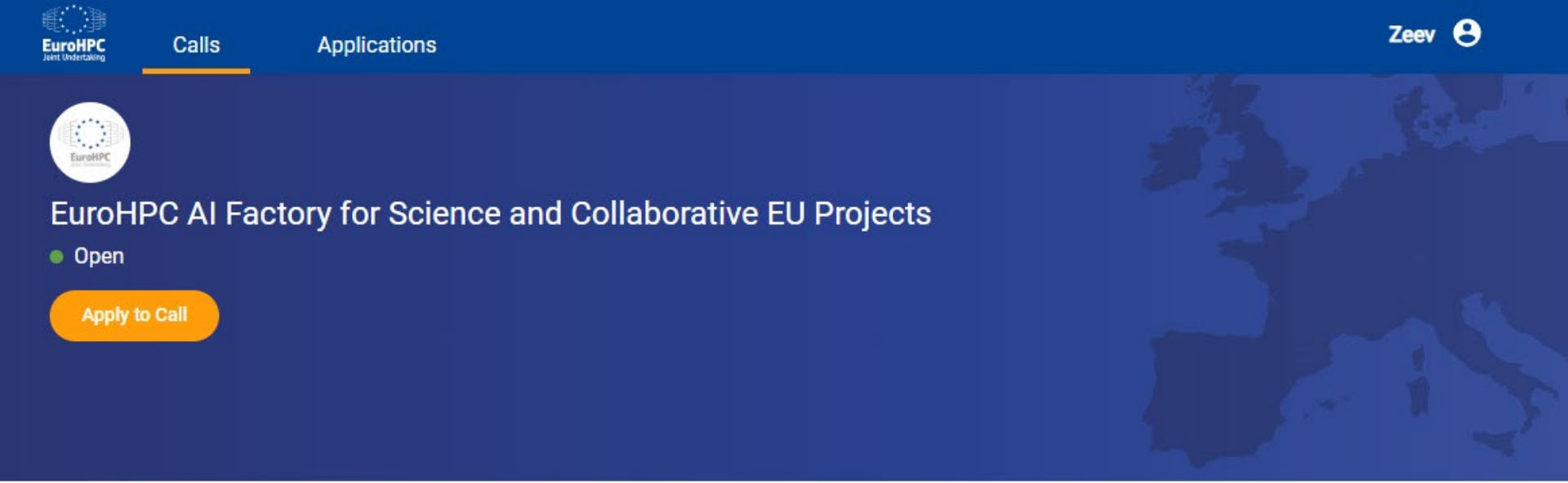
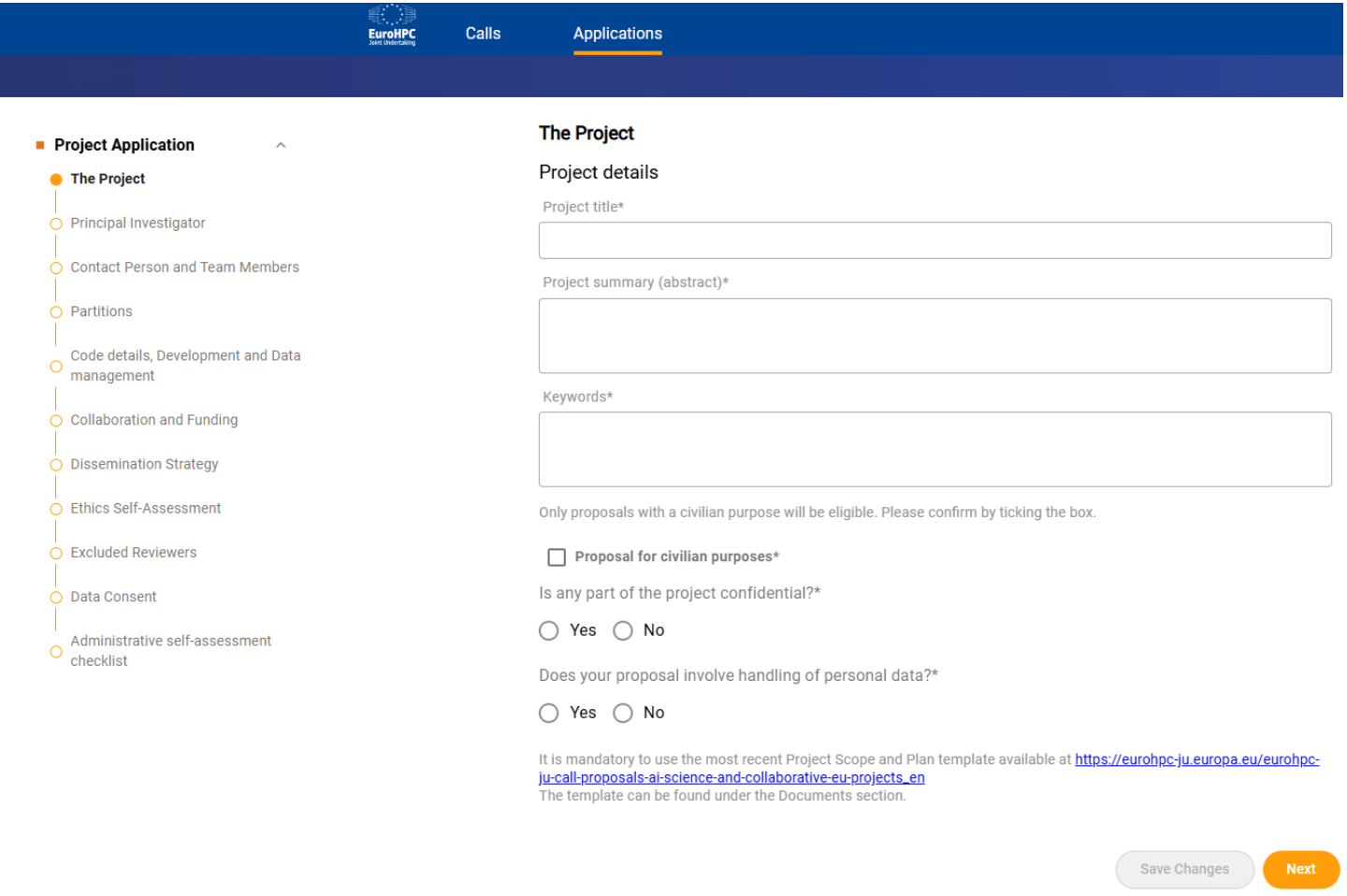


Call Details

The EuroHPC JU AI for Science and Collaborative EU Projects Access will support AI applications for science, with a focus on ethical Artificial Intelligence, Machine Learning, and cutting-edge foundation Models and Generative AI, including Large Language Models. This mode is intended for scientific research activities that rely on AI models as part of their research workflow.

This access mode covers all types of scientific users (whether funded or not



11 steps application process

EHPC-AIF-2026SC02-020

Documents

Consolidated Online Forms

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Applications

Applicant

Application ID	Call	Status	PI Name	Affiliation	Research F. Group	Research F. Title	Partition	Submit Date
DRAFT-14504	EuroHPC AI Factory fo	Draft						

I’m an Awardee !

What next ?

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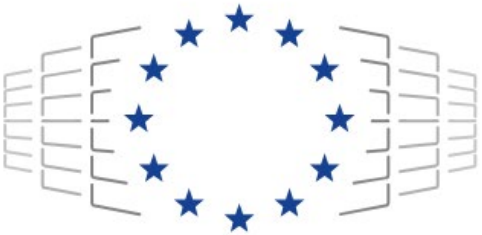

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Systems access

Previously, before March 2026, each EuroHPC supercomputer had its own access procedures, creating significant administrative burden and slowing down research progress.

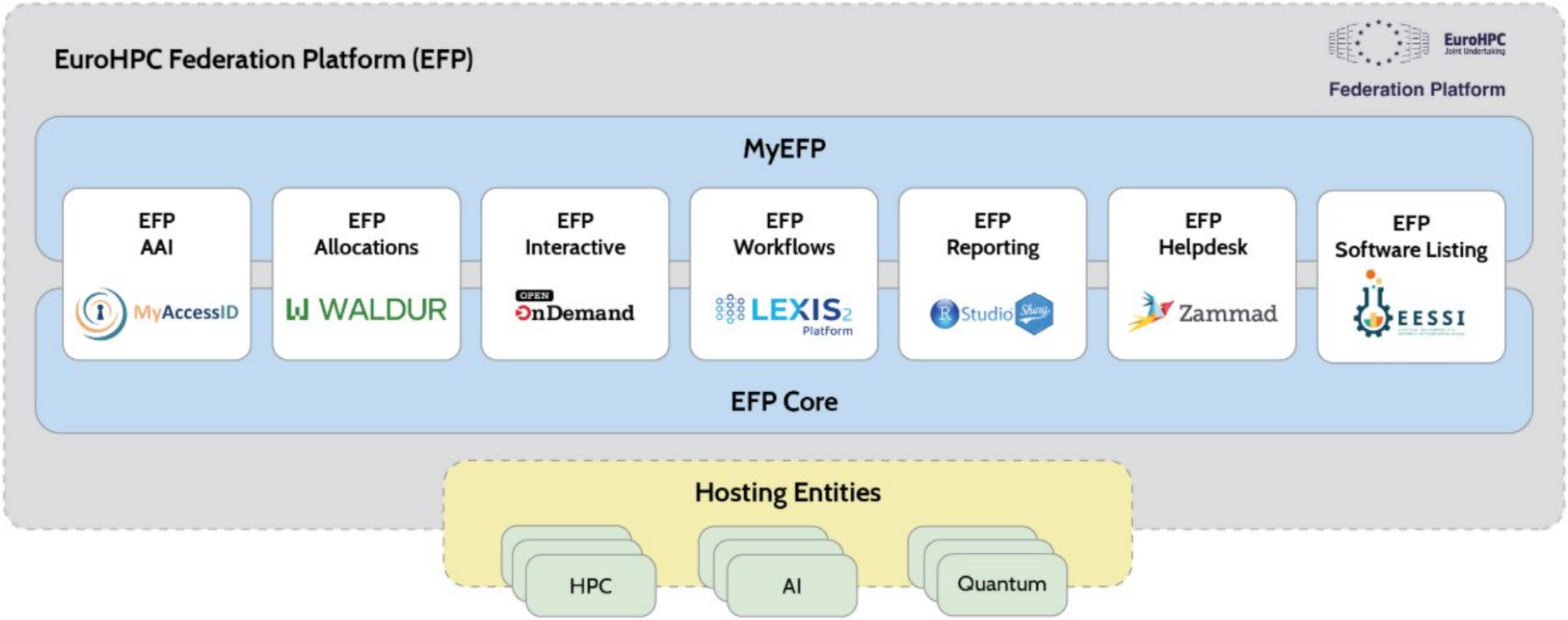
Recently, EuroHPC supercomputer will be much simpler and more intuitive thanks to **EuroHPC Federation Platform** (EFP).
Users with an EuroHPC JU allocation will be able to log in with their own federated identity via secure single sign-on. Once inside, the new MyEFP interface brings all related allocations and resources into a single, unified dashboard, allowing users to view and manage their projects at a glance..

Release of the EuroHPC Federation Platform (EFP)

To realize the EuroHPC Joint Undertaking ambition of building a world-class, federated, and secure HPC and quantum computing ecosystem across the European Union, a broad portfolio of systems has been deployed and made accessible throughout the Member States.

Although these supercomputers and associated infrastructures contribute to the shared strategic vision, they differ considerably in their operational models, including policies, procedures, services, and tools used for critical functions such as user authentication and authorization (AAI), resource allocation, job scheduling, and software provisioning. This diversity, while reflecting national strengths, can create additional burden for users and complicate cross-site collaboration.

EuroHPC Federation Platform (EFP)



EuroHPC Federation Platform (EFP) 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.

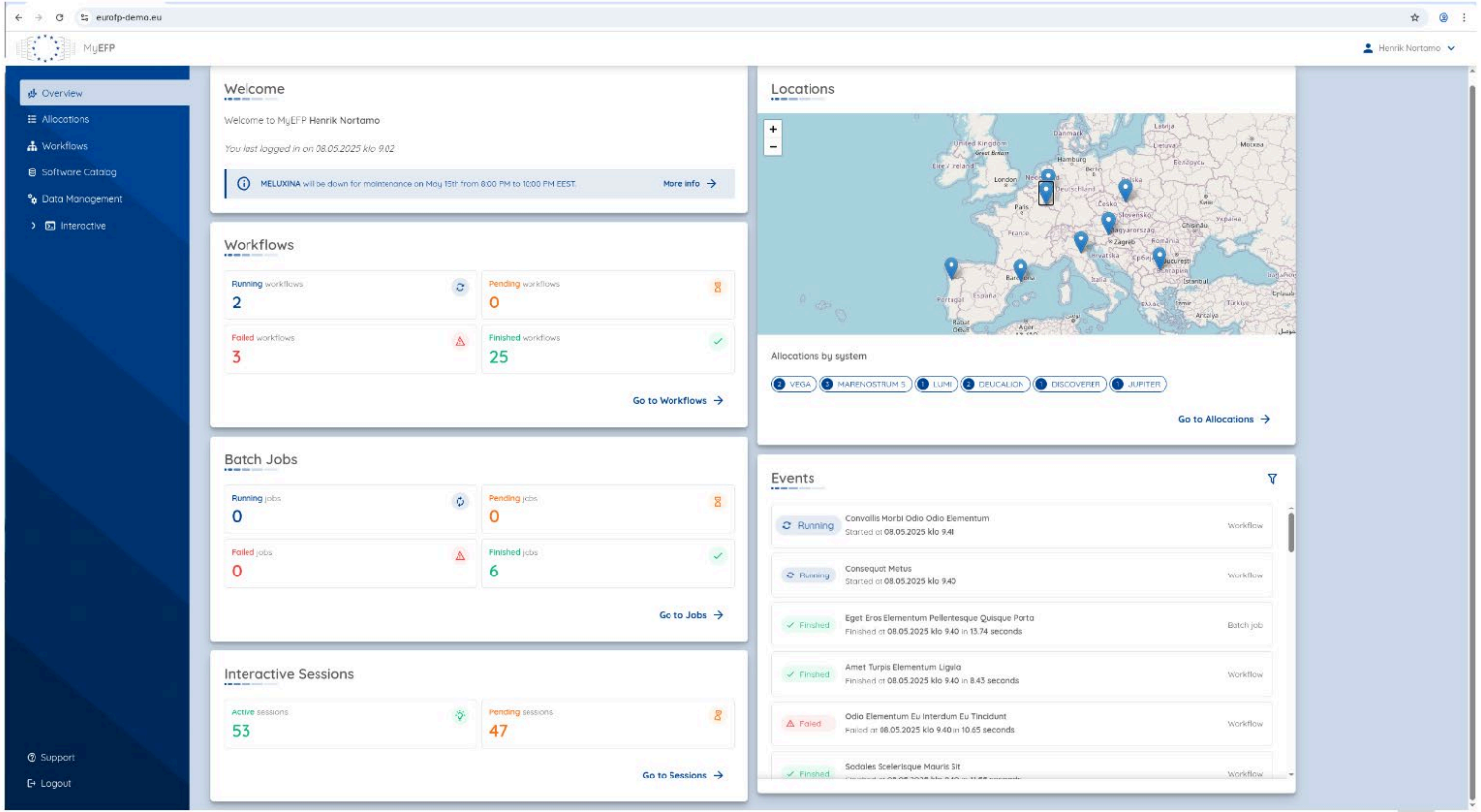
Direct access utilizing SSH certificates

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

EuroHPC Federation Platform (EFP) access modes

- ✓ **MyEuroHPC** (https://my-eurohpc.eu) web interface as central entry point to EuroHPC systems.
- ✓ Direct SSH access integrated with **MyAccessID** based SSO through SSH certificates.
- ✓ Interactive web-based access through dedicated **OpenOnDemand** based interface.
- ✓ Workflow and distributed data management **orchestration** accessible through web-based GUI and APIs based on the **LEXIS** Platform.

EuroHPC Federation Platform (EFP) access modes



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Summary

EuroHPC JU builds and operates Europe's leading HPC and AI infrastructure, jointly funded by the EU and participating countries.

- World-class systems: Exascale and pre-exascale supercomputers (e.g., JUPITER, LUMI, Leonardo) supporting science, AI and industry.
- Access via calls: Benchmark, Development, AI/Data-Intensive, Regular and Extreme-Scale access modes.
- Unified access: The EuroHPC Federation Platform (EFP) provides single sign-on, centralized project management and cross-system workflows.
- Impact: Enables large-scale research, AI innovation and international collaboration, including Israeli participation.