VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

Access to the EuroHPC JU Supercomputers

Branislav Jansík



Discover EuroHPC JU

The European High Performance Computing Joint Undertaking (EuroHPC JU) is a legal and funding entity, created in 2018 and located in Luxembourg to lead the way in European supercomputing.

Mission of the EuroHPC JU

- Build and operate world-class European supercomputing and quantum computing infrastructure.
- Support the development of innovative HPC technologies, applications, and supply chains in Europe.
- Expand access to HPC resources and develop digital skills for research and industry.
- Develop and operate AI Factories to accelerate AI innovation across Europe.
- Establish AI Gigafactories connected to the EuroHPC AI ecosystem.
- Advance quantum technologies, including quantum computing, communication, sensing, and simulation, while ensuring a secure and resilient European quantum ecosystem.

Members

The 27 Member States of the European Union, together with the Associated Countries (Albania, Iceland, Israel, Moldova, Montenegro, North Macedonia, Serbia, Switzerland, Türkiye, and the United Kingdom).



EuroHPC Supercomputing systems

System	Country	TOP500 Ranking (June 2026)
JUPITER	Germany, Jülich	5
LUMI	Finland, Kajaani	11
LEONARDO	Italy, Bologna	12
MareNostrum 5	Spain, Barcelona	16
Daedalus	Greece, Attica (Lavrio)	31
Arrhenius	Sweden, Linköping	42
MeluXina	Luxembourg, Bissen	177
Karolina	Czech Republic, Ostrava	250
Discoverer	Bulgaria, Sofia	317
Deucalion	Portugal, Guimarães	353
Vega	Slovenia, Maribor	365
Alice Recoque	France	N/A



EuroHPC Supercomputing systems

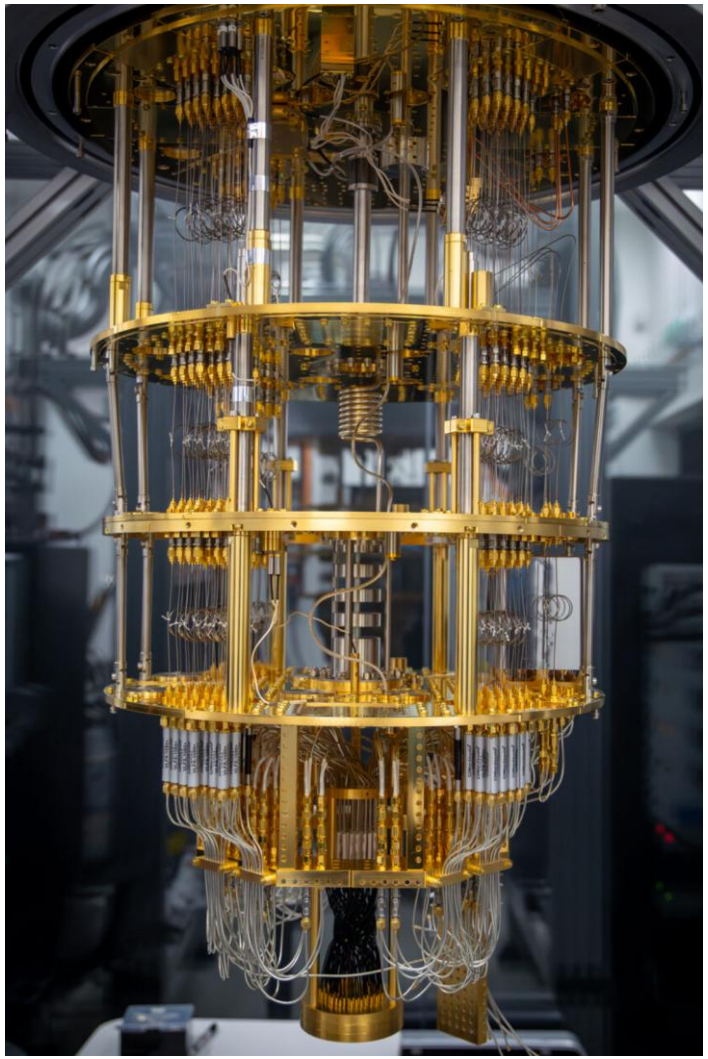
EuroHPC Joint Undertaking

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

System	TOP500 Ranking (June 2026)	Peak Performance	CPU	GPU / Accelerator
JUPITER	5	1.23 EFLOPS	SiPearl Rhea1 (ARM)	NVIDIA GH200
LUMI	11	539 PFLOPS	AMD EPYC	AMD Instinct MI250X
LEONARDO	12	316 PFLOPS	Intel Xeon Ice Lake / Sapphire R	NVIDIA Ampere GPUs
MareNostrum 5	16	314 PFLOPS	Intel Sapphire Rapids	NVIDIA Hopper / Grace Blackwell
Daedalus	31	115 PFLOPS	GH200 Superchip	NVIDIA H100 Superchip
Arrhenius	42	84 PFLOPS	AMD Turin	NVIDIA Grace Hopper Superchip
MeluXina	177	18 PFLOPS	AMD EPYC	NVIDIA Ampere A100
Karolina	250	12.9 PFLOPS	AMD Zen 2 EPYC™	NVIDIA A100
Discoverer	317	5.9 PFLOPS	AMD EPYC 7H12	NVIDIA H200
Deucalion	353	9.76 PFLOPS	AMD EPYC	NVIDIA Ampere A100
Vega	365	10.1 PFLOPS	AMD EPYC 7H12	NVIDIA A100
Alice Recoque	N/A	1 exaflops (expected performance)	AMD EPYC	AMD Instinct™ MI430X



Quantum Computing



VLQ

EuroHPC
Joint Undertaking

Piast-Q (PL)
Digital quantum computer
Trapped-ions

Lucy (FR)
Digital quantum computer
Photonics

Ruby (FR)
Analogue quantum simulator
Neutral atoms

Euro-Q-Exa (DE)
Digital quantum computer
Superconducting
Crystal

JADE (DE)
Analogue quantum simulator
Neutral atoms

Neutral atoms

Superconducting

VLQ (CZ)
Digital quantum computer
Superconducting
Star-shaped

SOL (IT)
Hybrid analogue/
digital quantum simulator
Neutral atoms

EuroQCS Spain (ES)
Analogue quantum computer
Superconducting
Annealing

EuroSSQ-HPC (NL)
Digital quantum computer
Semiconductor
Spin Qubits

Semiconductor

MeluXina-Q (LU)
Digital quantum computer
Semiconductor
Spin Qubits

EuroHPC Quantum Computers

EuroHPC Joint Undertaking

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

Quantum Computer	Hosting Country	Performance	Modality	Topology
JADE	Germany, Jülich	100 qubits	Neutral Atoms	2D Array
Ruby	France, Bruyères-le-Châtel	100 qubits	Neutral Atoms	2D Array
Lucy	France, Bruyères-le-Châtel	12 qubits	Photonic	All-to-all Connectivity
Piast-Q	Poland, Poznan	20 qubits	Trapped Ions	All-to-all Connectivity
VLQ	Czechia, Ostrava	24 qubits	Superconducting	Star with Central Resonator
Euro-Q-Exa	Germany, Munich	54 qubits, 150 qubits after upgrade	Superconducting	Crystal
SOL *	Italy, Bologna	140 qubits	Neutral Atoms	2D Array (triangles)
EuroQCS Spain *	Spain, Barcelona	25 qubits	Superconducting Annealing	N/A

*** upcoming systems**



JADE



Ruby



Lucy



Piast-Q



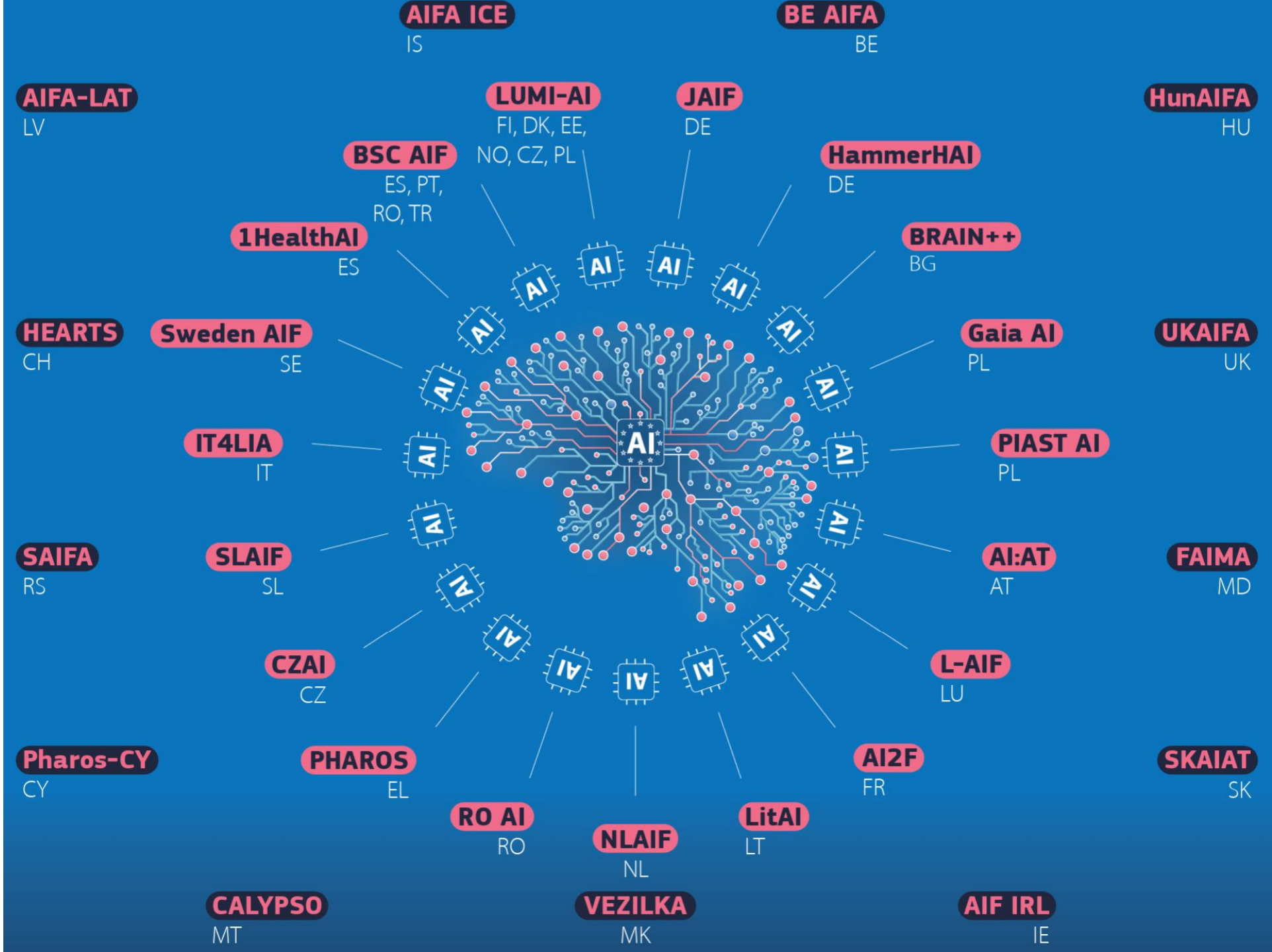
Euro-Q-Exa

AI Factories

For European startups, SMEs, and researchers.

19 AI Factories
13 AI Factory Antennas
3 AI access modes for users

Users based in Czechia have access to **both** the CZAI and LUMI AI Factory initiatives.

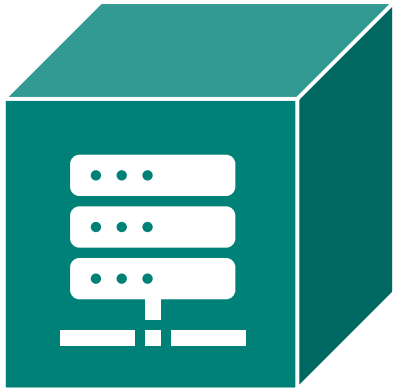


EuroHPC JU Access Calls

EuroHPC Joint Undertaking

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

HPC APPLICATIONS



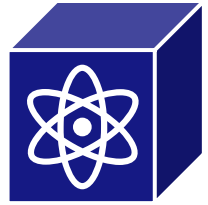
Preparatory and production access calls types

AI APPLICATIONS



Scientific and industry call types

QUANTUM APPLICATIONS



Pilot stage

EuroHPC JU Applications

EuroHPC Joint Undertaking

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

Benchmark Access

For code and scalability tests
Access duration 2-3 months
Allocation process duration – **2 weeks after the cut-off date**

Development Access

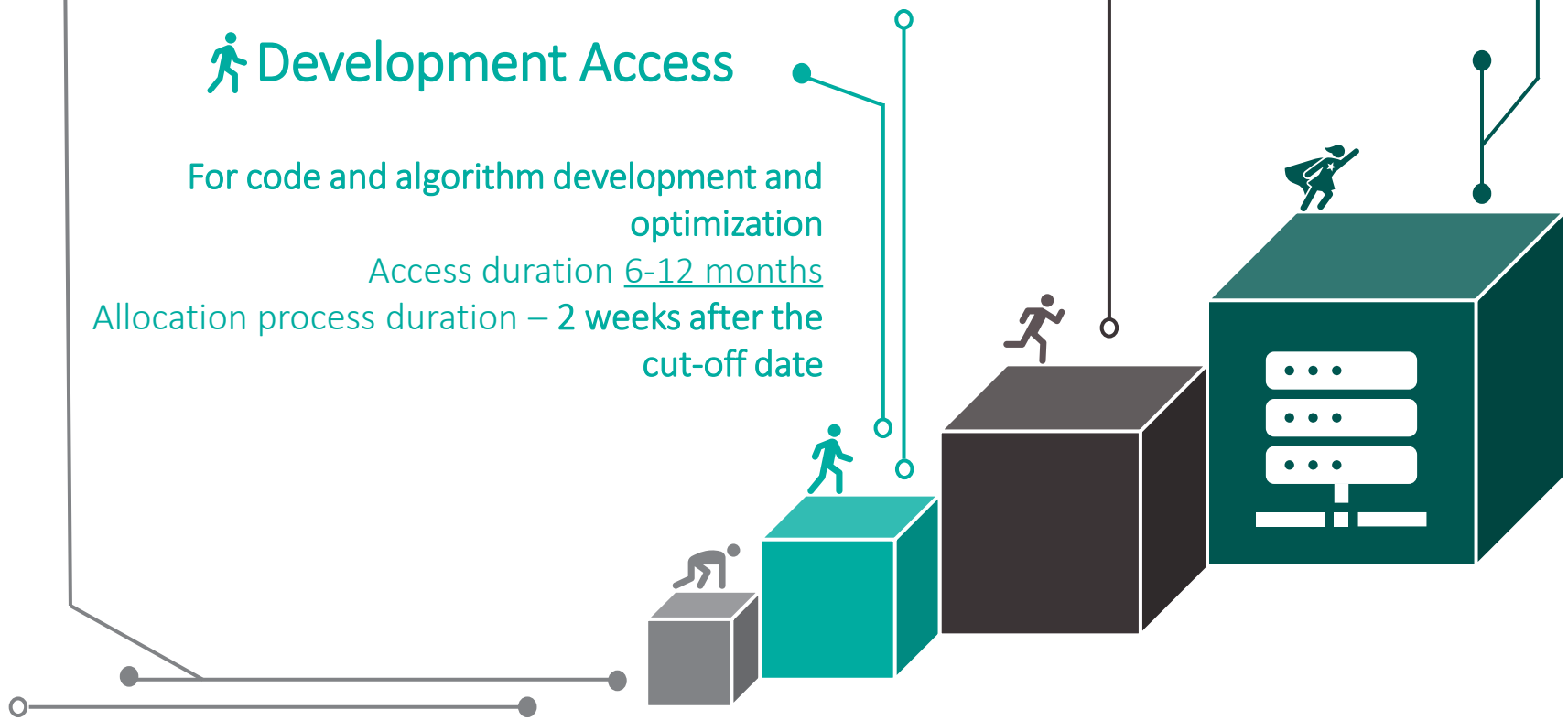
For code and algorithm development and optimization
Access duration 6-12 months
Allocation process duration – **2 weeks after the cut-off date**

Regular Access

For research applications requesting large allocations
Access duration 12 months
Peer-Review process duration – **4 months after the cut-off date**

Extreme Scale Access

For high-impact, high-gain research applications requesting extremely large allocations
Access duration 12 months
Peer-Review process duration – **6 months after the cut-off date**





AI Applications

EuroHPC Joint Undertaking

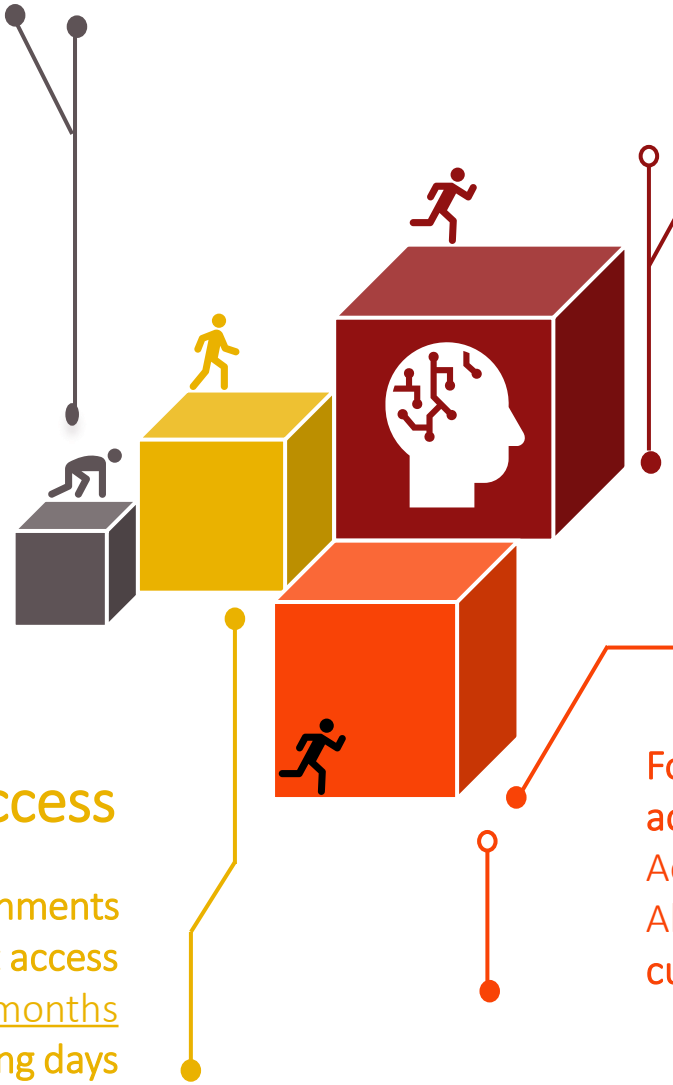
VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

Playground Access

For new users or those with smaller computational needs for performing AI computations

Access duration 1, 2 or 3 months

Allocation process duration – **2 working days**



Large Scale Access

For industrial AI applications with high impact needing large allocations

Access duration 3, 6 or 12 months

Peer-Review process duration – **2 weeks after the cut-off date**

Fast Lane Access

For industrial users familiar with HPC environments requiring fast access

Access duration 1, 2 or 3 months

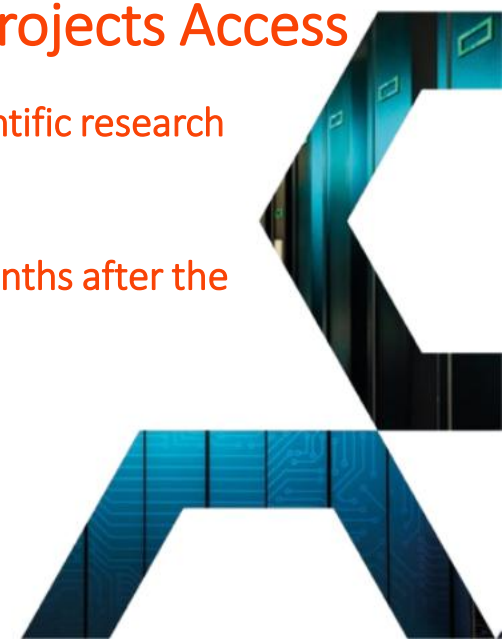
Allocation process duration – **4 working days**

AI for Science and Collaborative Projects Access

For AI applications performing scientific research activities

Access duration 6 months

Allocation process duration – **1 months after the cut-off date**



Quantum Access

Quantum Access Pilot

For collecting performance data, code and algorithm development, development of workflows and QC trainings

Access duration 3-6 months
Allocation process duration – 2 weeks after the cut-off date (monthly cut-off dates)

Evaluations based on **technical feasibility**
Final results communication per system applied to.
Emulator benchmark assignment for proposals to obtain feasibility proof.



Peer-Review Processes – all access calls

EuroHPC Joint Undertaking

VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

EXTREME SCALE ACCESS

REGULAR ACCESS

REGULAR ACCESS

BENCHMARK & DEVELOPMENT ACCESS

AI FOR SCIENCE & COLLABORATIVE EU PROJECTS ACCESS

LARGE SCALE ACCESS

PLAYGROUND & FAST LANE ACCESS

QUANTUM ACCESS

1. Admin check
2. Technical Assessment
3. Scientific Evaluation
4. Response Phase
5. Rapporteur Reporting
6. ARC meeting
7. RAP meeting
8. GB results approval



Upcoming cut-off dates

Extreme Scale Access – 26 Oct
Regular Access - TBD

Monthly cut-offs – 1st of each month

AI for Science Access – 30 Oct
Large Scale Access – 30 Oct

No cut-off dates

Monthly cut-offs – 1st of each month

ACCESS CALL	CUT-OFF MONTH (X)											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Extreme Scale Access				X						X		
Regular Access			X						X			
Development Access	X	X	X	X	X	X	X	X	X	X	X	X
Benchmark Access	X	X	X	X	X	X	X	X	X	X	X	X
AI for Science and Collaborative EU Projects Access		X		X		X		X		X		X
AI for Industrial Innovation: Large Scale Access	X	X	X	X	X	X	X	X	X	X	X	X
	X	X	X	X	X	X	X	X	X	X	X	X
AI for Industrial Innovation: Fast Lane Access	Continuously open											
AI for Industrial Innovation: Playground Access	Continuously open											
Quantum Access Pilot	X	X	X	X	X	X	X	X	X	X	X	X



Impact of EuroHPC JU access calls

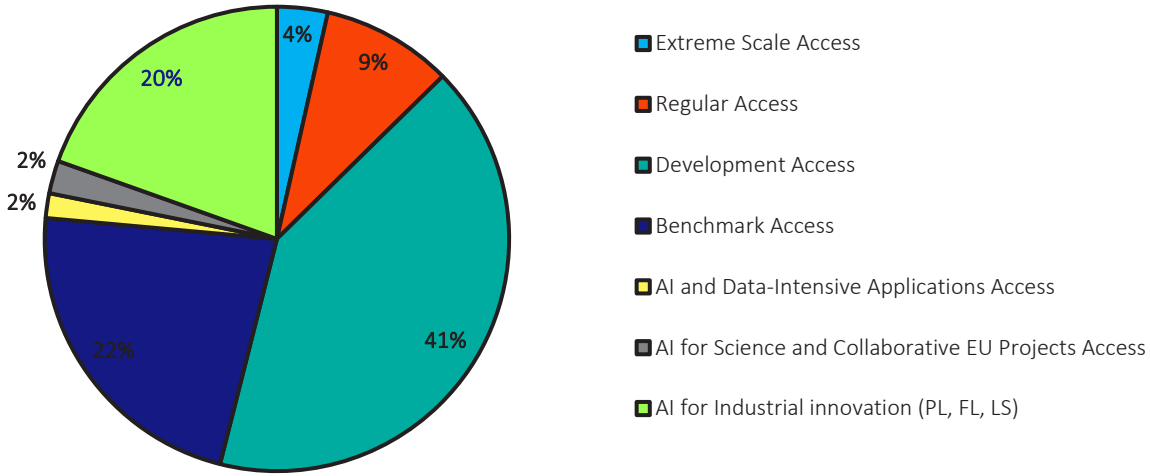
ACCESS CALL	PROPOSALS SUBMITTED	PROPOSALS AWARDED	NODE HOURS AWARDED
Extreme Scale Access (Dec 2022 - Apr 2026)	233 ↑143% vs last cut-off	162	100 856 071
Regular Access (Dec 2021 - Mar 2026)	625 ↑ 200% vs last cut-off	419	51 715 942
Development Access (Jan 2022 - Sep 2026)	2 461 ↑350% vs Jan 2026	1 896	12 135 863
Benchmark Access (Jan 2022 - Sep 2026)	1 266 ↑1044% vs Jan 2026	1 033	4 457 467
AI and Data-Intensive Applications Access (Apr 2024 - Apr 2025)	123	79	3 266 600
AI for Science and Collaborative EU Projects Acc (Jun 2025 - Sep 2026)	231 ↑230% vs 2025	105	6 370 042
Playground Access (Apr 2025 - Sep 2026)	621 ↑423% vs 2025	467	469 375
Fast Lane Access (Apr 2025 - Sep 2026)	553 ↑345% vs 2025	362	2 180 686
Large Scale Access (Apr 2025 - Sep 2026)	155 ↑151% vs 2025	69	9 432 405
TOTAL	6 268	4 592	190 884 451



Impact of EuroHPC JU access calls

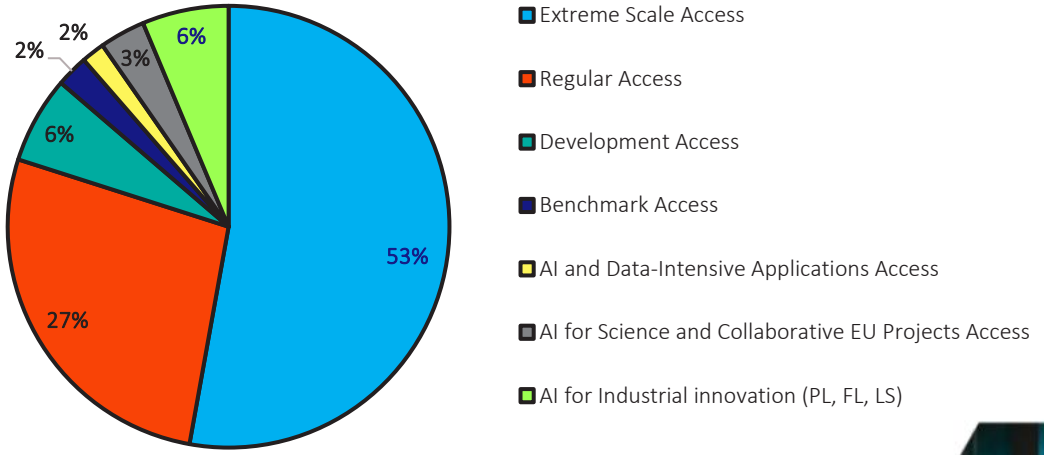
VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

Awarded proposals distribution across access calls



>4 500 PROPOSALS AWARDED

Awarded resources distribution across access calls



>190 M NODE HOURS AWARDED



VSB TECHNICAL UNIVERSITY OF OSTRAVA | IT4INNOVATIONS NATIONAL SUPERCOMPUTING CENTER

THANK YOU FOR YOUR ATTENTION

Branislav Jansík
branislav.jansik@vsb.cz

IT4Innovations National Supercomputing Center
VSB – Technical University of Ostrava
Studentská 6231/1B
708 00 Ostrava-Poruba, Czech Republic
www.it4i.eu

