EuroHPC

הנק נוסבכר

#EuroHPC
Joint Undertaking

The European High Performance Computing Joint Undertaking (EuroHPC JU) will pool European resources to develop top-of-the range exascale supercomputers for processing big data, based on competitive European technology.

Member countries are Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Montenegro, the Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden and Turkey.

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3 out of top 10 supercomputers in the world

Rank	System	Cores	Rmax (PFlop/s)	Rpeak (PFlop/s)	Power (kW)
5	**LUMI** - HPE Cray EX235a, AMD Optimized 3rd Generation EPYC 64C 2GHz, AMD Instinct MI250X, Slingshot-11, HPE EuroHPC/CSC Finland	2,752,704	379.70	531.51	7,107
6	**Leonardo** - BullSequana XH2000, Xeon Platinum 8358 32C 2.6GHz, NVIDIA A100 SXM4 64 GB, Quad-rail NVIDIA HDR100 Infiniband, EVIDEN EuroHPC/CINECA Italy	1,824,768	238.70	304.47	7,404
7	**Summit** - IBM Power System AC922, IBM POWER9 22C 3.07GHz, NVIDIA Volta GV100, Dual-rail Mellanox EDR Infiniband, IBM DOE/SC/Oak Ridge National Laboratory United States	2,414,592	148.60	200.79	10,096
8	**MareNostrum 5 ACC** - BullSequana XH3000, Xeon Platinum 8460Y+ 40C 2.3GHz, NVIDIA H100 64GB, Infiniband NDR200, EVIDEN EuroHPC/BSC Spain	680,960	138.20	265.57	2,560

https://eurohpc-ju.europa.eu/supercomputers/our-supercomputers_en

1st Israeli awardee

- **Dr Ronnie Kamai, BGU**
  - **Won 325,000 hours on Discoverer**
  - **Broadband earthquake simulations accounting for source, path and site effects in a 3D velocity model of the Dead-Sea Transform.**

LUMI
LEONARDO
MARENOSTRUM 5
MELUXINA
KAROLINA
DISCOVERER
VEGA
DEUCALION
JUPITER

4.52 petaflops
Sustained performance

5.94 petaflops
Peak performance

Compute partitions:	One partition providing 1128 nodes, 4,44 petaflops
Central Processing Unit (CPU):	AMD EPYC 7H12 64core, 2.6GHz, 280W (Code name Rome)
Graphics Processing Unit (GPU):	No
Storage capacity:	2 petabytes
Applications:	Traditional Computational, HPC as a Service / Federated HPC Supercomputing services
TOP500 ranking:	#53 in EU; #166 globally (November 2023 ↗)

https://eurohpc-ju.europa.eu/access-our-supercomputers/eurohpc-access-calls_en

EuroHPC JU Call for Proposals for Benchmark Access 2024

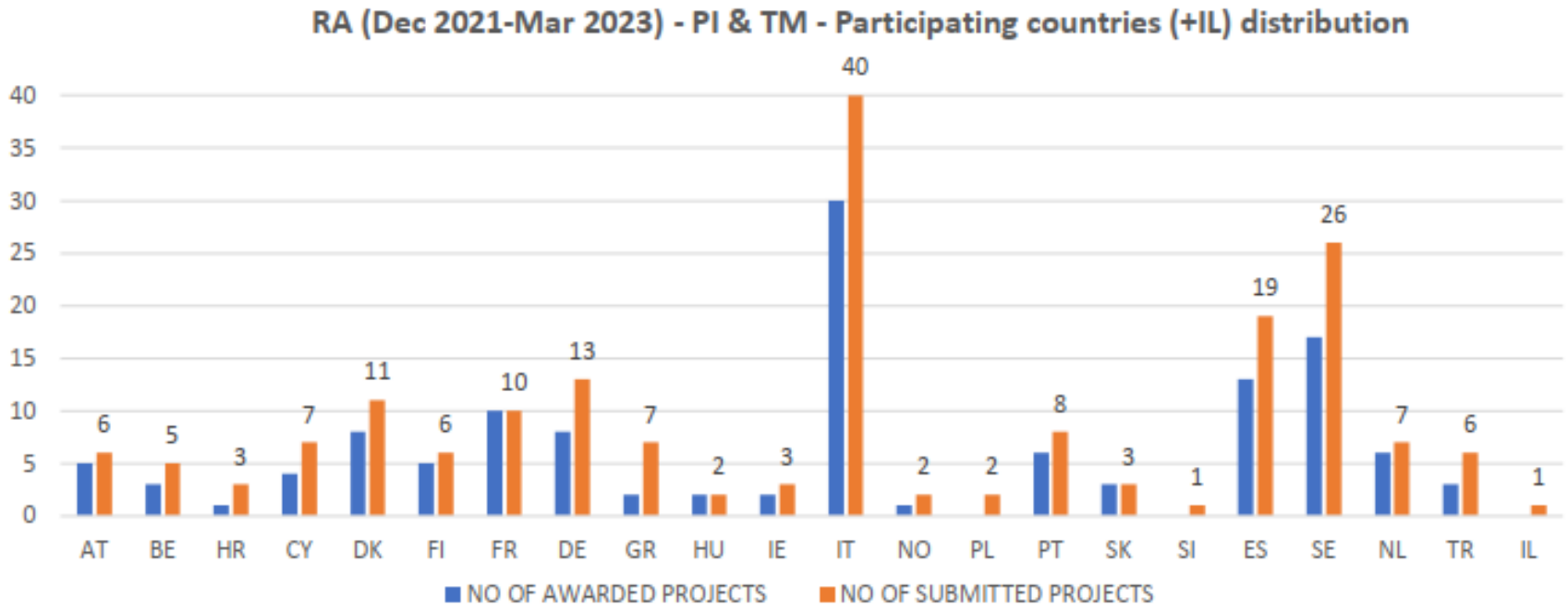
Reference	EUROHPC JU CALL FOR PROPOSALS FOR BENCHMARK ACCESS MODE
Opening date	1 December 2023
Deadline model	Multiple cut-off
Deadline dates	1 Jan 2024, 11:00 / 1 Feb 2024, 11:00 / 1 Mar 2024, 11:00 / 1 Apr 2024, 11:00 / 1 May 2024, 11:00 / 1 Jun 2024, 11:00 / 1 Jul 2024, 11:00 / 1 Aug 2024, 11:00 / 1 Sep 2024, 11:00 / 1 Oct 2024, 11:00 / 1 Nov 2024, 11:00 / 1 Dec 2024, 11:00 (CET)

CALL STATUS: OPEN

EuroHPC JU Call for Proposals for Development Access 2024

Reference	EUROHPC JU CALL FOR PROPOSALS FOR DEVELOPMENT ACCESS MODE
Opening date	1 December 2023
Deadline model	Multiple cut-off
Deadline dates	1 Jan 2024, 11:00 / 1 Feb 2024, 11:00 / 1 Mar 2024, 11:00 / 1 Apr 2024, 11:00 / 1 May 2024, 11:00 / 1 Jun 2024, 11:00 / 1 Jul 2024, 11:00 / 1 Aug 2024, 11:00 / 1 Sep 2024, 11:00 / 1 Oct 2024, 11:00 / 1 Nov 2024, 11:00 / 1 Dec 2024, 11:00 (CET)

Regular Access – country statistics



SYSTEM*	SITE (COUNTRY)	ARCHITECTURE	PARTITION	BENCHMARK**
LEONARDO CINECA	CINECA (IT)	Atos BullSequana XH2000	**Leonardo Booster**	3 500
LUMI	CSC (FI)	HPE Cray EX	**LUMI-C**	7 000
				STORAGE - TIB HOURS 105 498
			LUMI-G	3 000
DISCOVERER Sofia Petascale Supercomputer	Sofia Tech Park (BG)	Atos BullSequana XH2000	**Discoverer CPU**	7 000
MELUXINA HIGH PERFORMANCE COMPUTING IN LUXEMBOURG	LuxProvide (LU)	Atos BullSequana XH2000	**MeluXina CPU**	5 000
			MeluXina GPU	1 000
		Atos BullSequana X430 A5	**MeluXina FPGA**	1 500
KAROLINA	IT4I VSB-TUO (CZ)	HPE Apollo 2000 Gen10 Plus x86_64	**Karolina CPU**	7 000
			Karolina GPU	1 000
VEGA HPC	IZUM Maribor (SI)	Atos BullSequana XH2000	**Vega CPU**	5 000
			Vega GPU	400

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Systems available for benchmark access

SYSTEM*	SITE (COUNTRY)	ARCHITECTURE	PARTITION	DEVELOPMENT*
LEONARDO CINECA	CINECA (IT)	Atos BullSequana XH2000	**Leonardo Booster**	3 500
LUMI	CSC (FI)	HPE Cray EX	**LUMI-C**	15 000
				STORAGE - TIB HOURS 105 498
			LUMI-G	10 000
DISCOVERER Sofia Petascale Supercomputer	Sofia Tech Park (BG)	Atos BullSequana XH2000	**Discoverer CPU**	15 000
MELUXINA HIGH PERFORMANCE COMPUTING IN LUXEMBOURG	LuxProvide (LU)	Atos BullSequana XH2000	**MeluXina CPU**	10 000
			MeluXina GPU	3 000
		Atos BullSequana X430 A5	**MeluXina FPGA**	5 000
KAROLINA	IT4I VSB-TUO (CZ)	HPE Apollo 2000 Gen10 Plus x86_64	**Karolina CPU**	15 000
			Karolina GPU	3 000
VEGA HPC	IZUM Maribor (SI)	Atos BullSequana XH2000	**Vega CPU**	10 000
			Vega GPU	1 000

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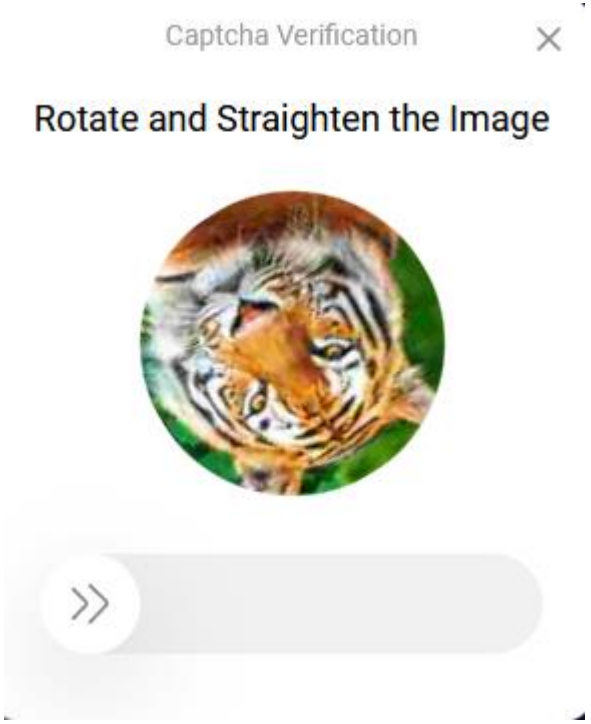
Systems available for development access

How to apply?

- https://pracecalls.eu/
- **Unique captcha system (slide bar)**



- **Project Application**
  - **The Project**
  - Principal Investigator
  - Contact Person
  - Team Members Information
  - Partitions
  - Code Details and Feasibility
  - Acceptance of Terms of Reference

The Project

Project details

Project title*

Project summary (abstract)*

Explain the scientific case of the project for which you intend to use the code(s)*

Keywords*

Deadline
01/01/2024 12:00:00

Documents

Delete Application

- Project Application
  - The Project
  - **Principal Investigator**
  - Contact Person
  - Team Members Information
  - Partitions
  - Code Details and Feasibility
  - Acceptance of Terms of Reference

Organization with research activity*

◯ Yes ◯ No

Organization head office is located in Europe*

◯ Yes ◯ No

Percentage of R&D in Europe vs total R&D*

Organization department*

Organization group

Organization address*

- Project Application
  - The Project
  - Principal Investigator
  - Contact Person
  - **Team Members Information**
  - Partitions
  - Code Details and Feasibility
  - Acceptance of Terms of Reference

Team Members Information

Please insert all the team members that will participate in the project

Team Members

Personal Information

Gender

Title

First (given) name*

Last (family) name*

Initials

- Project Application
  - The Project
  - Principal Investigator
  - Contact Person
  - Team Members Information
  - Partitions
  - Code Details and Feasibility
  - Acceptance of Terms of Reference

Partitions

Partitions

Partition name*

Code(s) used*

This field is a multi-text field, for adding another code separate it with a comma

Average number of processes/threads*

Average job memory (total usage over all nodes in GB)*

Maximum amount of memory per process/thread (MB)*

Total amount of data to transfer to/from (GB)*

Justification of data transfer*

Describe the I/O strategy regarding the parameters indicated below.

Is I/O expected to be a bottleneck?*

Total amount of data to transfer to/from (GB)*

Justification of data transfer*

Describe the I/O strategy regarding the parameters indicated below.

Is I/O expected to be a bottleneck?*

I/O libraries, MPI I/O, netcdf, HDF5 or other approaches*

Frequency and size of data output and input*

Number of files and size of each file in a typical production run*

Total storage required (GB)

Code Details and Feasibility

This tab should overall include the following: description of main algorithms, how they have been implemented and parallelized, and their main performance bottlenecks and the solutions to the performance issues you have considered. For each code that needs to be optimized, please provide the details below. Codes can be added by clicking on the Add code button.

Development of the code(s) description*

Code details

Name and version of the code

Webpage and other references

Licensing model

Contact information of the code developers

Your connection to the code (e.g. developer, collaborator to main developers, etc.)

Scalability and performance

Describe the scalability of the application and performance of the application*

What is the target for scalability and performance?*

i.e. what performance is needed to reach the envisaged scientific goals

Optimization of the work proposed

Explain how the optimization work proposed will contribute to future Tier-0 projects*

Describe the impact of the optimization work proposed - is the code widely used; can it be used for other research projects and in other research fields with minor modifications; would these modifications be easy to add to the main release of the software?*

Describe the main algorithms and how they have been implemented and parallelized*

Applications

Application ID	Call	Status	PI Name	Affiliation	Research Field Group	Research Field Title	Partition	Submit Date
DRAFT-3743	EuroHPC Benchmark Acce	Draft	Donald Duck	Weizmann Institute	PE10 Earth System Scienc	PE10_12 Sedimentology, s	LUMI-C	
DRAFT-3758	EuroHPC Development Acc	Draft	Mickey Mouse	Technion	SH3 Environment, Space an	SH3_10 Urbanization, cities	Vega GPU	