EuroHPC JOINT UNDERTAKING

DECISION OF THE GOVERNING BOARD OF THE EuroHPC JOINT UNDERTAKING No 65/2025

Amending the Joint Undertaking's Work Programme and Budget for the year 2025 (Amendment No 8)

THE GOVERNING BOARD OF THE EUROHPC JOINT UNDERTAKING,

Having regard to Council Regulation (EU) 2021/1173 of 13 July 2021 on establishing the European High Performance Computing Joint Undertaking and repealing Regulation (EU) 2018/1488[1], (hereinafter, "the Regulation"),

Having regard to the Statutes of the European High Performance Computing Joint Undertaking annexed to the Regulation (thereinafter "Statutes") and in particular to Articles 1(o), 7(5)(b), 9(4)(b) and (c) and 18 of thereof,

Having regard to the Council Regulation (EU) 2024/1732 of 17 June 2024 amending Council Regulation (EU) 2021/1173 as regards a EuroHPC initiative for start-ups in order to boost European leadership in trustworthy artificial intelligence[2],

Having regard to Decision of the Governing Board of the EuroHPC Joint Undertaking No 3/2020, approving the Financial Rules of the EuroHPC Joint Undertaking[3],

Having regard to Decision of the Governing Board of the EuroHPC Joint Undertaking No 66/2024 of 28 November 2024 adopting the Joint Undertaking's Work Programme and Budget for the year 2025,

Having regard to Decision of the Governing Board of the EuroHPC Joint Undertaking No 53/2025 of 4 December 2025 adopting the amended Joint Undertaking's Work Programme and Budget for the year 2025 (Amendment No 7),

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[1] OJ L 256, 19.7.2021, p. 3–51

[2] OJ L, 19.6.2024, p. 1-5.

[3] Readopted by Decision of the Governing Board of the EuroHPC Joint Undertaking No 17/2021, approving the re-adoption of Governing Board Decisions adopted under the framework of Regulation (EU) 2018/1488 and its updated Rules of Procedure in the view of Regulation (EU) 2021/1173.

WHEREAS

(1) The Joint Undertaking's Work Programme and Budget for the year 2025 has been adopted by the means of the Decision of the Governing Board No 66/2024 of 28 November 2024, and amended by the means of Decision No 01/2025 of 5 February 2025 (Amendment No 1), Decision No 09/2025 of 7 April 2025 (Amendment No 2), Decision No 19/2025 of 7 May 2025 (Amendment No 3), Decision No 26/2025 of 26 June 2025 (Amendment No 4), Decision No 39/2025 of 9 October 2025 (Amendment No 5), Decision No 48/2025 of 21 October 2025 (Amendment No 6) and Decision No 53/2025 of 4 December 2025 (Amendment No 7)

(2) The annual Work Programme needs to be amended for the eight time (and the Budget for the 4th time) in 2025 to reflect the following changes:

- **The European Commission requested the JU to receive additional funding before the year end 2025 for future actions related to the soon to be adopted amended EuroHPC Regulation[4] :**
  - **EUR 60 million coming from Connecting Europe Facility (CEF)**
  - **EUR 20 million coming from Horizon Europe (HE) and**
  - **EUR 15 million coming from Digital Europe Programme (DEP)**

(3) The Statutes of the EuroHPC JU confer on the Governing Board the powers to adopt the annual work programme and its annual budget including the staff establishment plan,

(4) The Executive Director of the EuroHPC Joint Undertaking submitted the amended Work Programme to the Governing Board,

(5) In the interest of legal certainty and clarity, an amended Work Programme and Budget of the EuroHPC Joint Undertaking for the year 2025 shall be adopted by the Governing Board,

HAS ADOPTED THIS DECISION:

Article 1

[4] COUNCIL REGULATION on amending Council Regulation (EU) 2021/1173 of 13 July 2021 on establishing the European High Performance Computing Joint Undertaking and repealing Regulation (EU) 2018/1488 (COM(2025) 414 final)

The amended Annual Work Programme and Budget of the EuroHPC Joint Undertaking for the year 2025 annexed to this decision is adopted.

Article 2

The Executive Director shall make the amended Annual Work Programme and Budget 2025 publicly available on the website of the EuroHPC Joint Undertaking.

Article 3

This Decision shall enter into force on the date of its adoption.

Done at Luxembourg, on 18 December 2025

For the Governing Board

Rafal Duczmal

The Chair

Annex: WP25 Amendment No 8

WORK PROGRAMME and BUDGET

EuroHPC JOINT UNDERTAKING (JU)

2025

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INTRODUCTION

The EuroHPC Joint Undertaking (hereinafter "EuroHPC JU" or "JU"), will contribute to the ambition of value creation in the Union with the overall mission to develop, deploy, extend and maintain in the Union an integrated world class supercomputing and quantum computing infrastructure and to develop and support a highly competitive and innovative High Performance Computing (HPC) ecosystem, extreme scale, energy-efficient, environmentally sustainable and highly resilient HPC and data technologies.

In July 2021, Council Regulation (EU) 2021/1173 (EuroHPC JU Regulation) was adopted, repealing Council Regulation (EU) 2018/1488, and provides the basis of the Work Programmes of the Joint Undertaking.

The Annual Work Programme 2025 contains the actions to be implemented in 2025. Calls to be launched in 2025 will be prepared by the JU and presented for adoption by the Governing Board by separate Governing Board Decisions.

General Conditions and restrictions:

For all activities implemented by the EuroHPC JU that are funded from the Horizon Europe (HE) budget, the Governing Board may decide to limit in the calls for proposals the eligibility of participants according to Horizon Europe Article 22(5).

For all activities implemented by the EuroHPC JU that are funded from the Digital Europe Programme (DEP) budget, the Governing Board may decide to limit in the calls for proposals or procurements the eligibility of participants according to Digital Europe Articles 12(6) and 18(4).

For all activities implemented by the EuroHPC JU that are funded from the Connecting Europe Facility (CEF) budget, the Governing Board may decide to limit in the calls for proposals or procurements the eligibility of participants according to Connecting Europe Facility Article 11(4).

All actions with Union contribution below 100% are EU Synergy calls. Grants and procurements can be linked with another grant funded from any other EU funding programme including the Recovery and Resilience Fund, provided that there is no double funding and that such support does not cover the same cost. The grants under both calls will be managed as linked actions.

The Governing Board may decide to allocate a 'STEP Seal' to projects that are funded from Horizon Europe or the Digital Europe Programme. The STEP seal[5] is an EU quality label awarded to high-quality digital technologies and deep tech innovation projects contributing to the STEP objectives.

Restrictions for the protection of European digital infrastructures, communication and information systems, and related supply chains*:*

The protection of European communication networks has been identified as an important security interest of the Union and its Member States[6]. In line with the Commission Recommendation on the cybersecurity of 5G networks of 2019[7] and the subsequent report on EU coordinated risk assessment of the cybersecurity of 5G networks of 2019[8], the EU Toolbox on 5G cybersecurity[9], the second report on Member States' progress in implementing the EU toolbox on 5G cybersecurity of 2023[10], and the related Communication on the

[5] For conditions see the STEP Regulation

[6] European Council conclusions of 1 and 2 October 2020 (EUCO 13/20), point 11; Council Conclusions on the significance of 5G to the European Economy and the need to mitigate security risks linked to 5G, 14517/19.

[7] Commission Recommendation (EU) 2019/534 of 26 March 2019 Cybersecurity of 5G networks, L 88/42.

[8] NIS Cooperation Group, Report on EU coordinated risk assessment of the cybersecurity of 5G networks, 9 October 2019.

[9] NIS Cooperation Group, EU Toolbox on 5G Cybersecurity, 29 January 2020.

[10] NIS Cooperation Group, Second report on Member States' progress in implementing the EU Toolbox on 5G Cybersecurity, June 2023.

implementation of the 5G cybersecurity toolbox of 2023[11], the Commission together with the Member States has worked to jointly identify and assess cyberthreats and security risks for 5G networks[12]. The toolbox also recommends adding country-specific information (e.g. threat assessment from national security services, etc.). This work is an essential component of the Security Union Strategy and supports the protection of electronic communications networks and other critical infrastructures.

Entities assessed as "high-risk suppliers", are currently set out in the second report on Member States' progress in implementing the EU toolbox on 5G cybersecurity of 2023[13] and the related Communication on the implementation of the 5G cybersecurity toolbox of 2023[14].

In accordance with art 136 (2) of the Financial Regulation (2024/2509), this Work Programme has identified actions that fall under the AI Factories pillar, the Infrastructure pillar or the Connected and Federated pillar that concern strategic assets and interests, for which it sets out specific award procedures aimed at ensuring the protection of the integrity of digital infrastructure, communication and information systems, and related supply chains.

This entails the need to avoid the participation of high-risk supplier entities and the use of non-secure equipment and other goods, works and/or services in the deployment of key digital infrastructures, communication and information systems, and related supply chains to prevent technology transfer and the persistence of dependencies in materials, semiconductor components (including processors), computing resources, software tools and virtualisation technologies, and to preserve the integrity of the concerned systems, including from a cybersecurity perspective.

In order to protect the concerned strategic assets and interests of the Union or its Member States, it is therefore appropriate that the two following additional eligibility criteria apply to the actions listed below and identified in the Work Programme as "subject to restrictions for the protection of European digital infrastructures, communication and information systems, and related supply chains":

1. Entities that are assessed as high-risk suppliers of mobile network communication equipment (and any entities they own or control) are not eligible to participate in any capacity, including as beneficiaries, affiliated entities, associated partners, third parties giving in-kind contributions, subcontractors or recipients of financial support to third parties (if any).

   The assessment is based on the following criteria:

   - likelihood of interference from a non-associated third country, for example due to:
     - the characteristics of the entity's ownership or governance (e.g. state-owned or controlled, government/party involvement);
     - the characteristics of the entity's business and other conduct (e.g. a strong link to a third country government);
     - the characteristics of the respective third country (e.g. legislation or government practices likely to affect the implementation of the action, including an offensive cyber/intelligence policy, pressure regarding place of manufacturing or access to information).
   - (cyber-)security practices, including throughout the entire supply chain;
   - risks identified in relevant assessments of Member States and third countries as well as other EU institutions, bodies and agencies, if relevant.

[11] Communication from the Commission: Implementation of the 5g cybersecurity Toolbox, Brussels, 15.6.2023 C(2023) 4049 final.

[12] Within the NIS framework NIS 1 + 2 [Directive - 2022/2555 - EN - EUR-Lex (europa.eu)]

[13] NIS Cooperation Group, Second report on Member States' progress in implementing the EU Toolbox on 5G Cybersecurity, June 2023.

[14] Communication from the Commission: Implementation of the 5G cybersecurity Toolbox, Brussels, 15.6.2023 C(2023) 4049 final

2. Equipment and other goods, works and/or services related to 5G/6G mobile network communication equipment, and other technologies linked to the evolution of European communication networks must:
    - not be subject to security requirements by third country that could affect the implementation of the action (e.g. technology restrictions, national security classification limiting the use of the equipment, etc.);
    - comply with (cyber-)security guidance issued by the Commission, in particular communications on the 5G toolbox;
    - apply (cyber-)security requirements throughout the life cycle, including the selection and award procedure and criteria for purchases, the use, and also the related services, including installation, upgrading or maintenance;
    - ensure (cyber-)security by adequately protecting the availability, authenticity, integrity, and confidentiality of stored or transmitted or processed data or the functions or services offered by, or accessible via, that equipment.

   Exceptions may be requested from the Governing Board and will be assessed on a case-by-case basis, taking into account the criteria provided for in the 5G cybersecurity toolbox, the security risks and availability of alternatives in the context of the action.

The Governing Board shall agree on the list of concerned actions in this Work programme that fall under the AI Factories pillar, the infrastructure pillar or the Connected and Federated pillar and that shall be identified as "subject to restrictions for the protection of European digital infrastructures, communication and information systems, and related supply chains".

OPERATIONS

The key objective of the EuroHPC JU is to further deploy and provide access in the Union to a world leading service and data infrastructure with high-end supercomputers which are indispensable to run the most demanding and strategic applications, such as climate change, personalised medicine etc.

This action builds on the previous infrastructure activities undertaken by the EuroHPC JU since its creation in 2018. The Operational section of this Work Programme will be organised using the Pillars of activity as set out in Regulation.

Furthermore, on 9 July 2024, the Council Regulation (EU) 2024/1732 of 17 June 2024 amending Regulation (EU) 2021/1173 as regards a EuroHPC initiative for start-ups in order to boost European leadership in trustworthy artificial intelligence came into force. This work programme will now include calls related to this new AI Pillar.

Pillars of Action

The 2025 Work Programme will follow the different pillars of actions as set out in the Regulation (2021/1173), amended by Regulation (2024/1732).

Since most actions are ongoing over more than one year, this work programme will summarise ongoing actions in each Pillar (if any) and then in a separate section introduce the Calls to be launch in 2025. In 2025, the JU will also launch calls that were committed in 2024 and due to changes in priorities linked to the amendment of the EuroHPC Regulation will be launched from 2025 onwards. (please annex to this document for more details)

TABLE OF ACTIONS WITH BUDGET ALLOCATION

Actions linked to the future amended EuroHPC Regulation (COM (2025) 414 final)	**To be confirmed once amended Regulation comes into force**	**CEF, HE and DEP**	**To be confirmed once amended Regulation comes into force**	**60 Million in 2025 from CEF** **20 Million in 2025 from Horizon Europe** **15 Million in 2025 from Digital Europe Programme**	**60 Million in 2025 from CEF** **20 Million in 2025 from Horizon Europe** **15 Million in 2025 from Digital Europe Programme**
AI Factories	Procurements and Operational costs: AI-optimised and upgraded EuroHPC supercomputers[15]	DEP	EU 50% PS 50%	437 Million in 2025 (a total of 952 Million until 2027)	874 Million in 2025 (a total of 1,904 Million until 2027)
	Procurement and Operational costs of an AI-optimised EuroHPC supercomputer in the Netherlands	DEP	EU 50% PS 50%	60,7 Million (additional 23 Million provided by the EU budget in 2026 or 2027)	Total of 121.5 Million to be committed in 2026 and 2027

[15] For information on procurements organised under the first AI Factory cut off, please see relevant section in this Work Programme

	AI Factory Grants	Horizon Europe	EU 50% PS 50%	152 Million (a total of 214.6 Million until 2026)	314 Million (a total of 429 Million until 2026)
	Cooperation of AI Factories	Horizon Europe	EU 50% PS 50%	25 Million	50 Million
	AI Factories Sovereign Cloud and edge-cloud bridges ***Call to be launched in 2026***	CEF	100%	Total of 29 Million, out of which 10 Million from 2025 (a total of 119 Million over a three-year period starting in 2025)	Total of 29 Million (a total of 119 Million over a three-year period starting in 2025)
	EuroHPC AI Factory Antennas	Horizon Europe	EU 50% PS 50%	35 Million in 2025 and 20 Million in 2026	70 Million in 2025 and 40 Million in 2026
Technology	Quantum Enhanced ML ***Call to be launched in 2026 and budget to be adjusted (See minutes GB51)***	Horizon Europe	EU 50% PS 50%	8 Million	16 Million
	~~Post-exascale computing~~	~~Horizon Europe (2026)~~	~~EU 50%~~ ~~PS 50%~~	~~20 Million~~ ~~*(budget to be committed in 2026)*~~	~~40 Million~~ ~~*(budget to be committed in 2026)*~~
	Quantum Grand Challenge[16]	Horizon Europe	EU 100%	4 Million (budget committed in 2024)	4 Million (budget committed in 2024)

[16] see annex: Work Programme 2024 - calls to launch in 2025 and 2026 ;

	HPC/QC Middleware technologies ***Call to be launched in 2026***	Horizon Europe	EU 50% PS 50%	20 Million	40 Million (budget committed in 2024)
Applications	Development of new benchmarks for HPC, Quantum Computing, and AI	Horizon Europe	EU50% PS 50%	2.0 Million	4 Million (budget committed in 2024
	HPC Centres of Excellence and HPC Lighthouse Codes	Horizon Europe	EU 50% PS 50%	60 Million *(budget committed from 2024, 2025, and 2026 contributions)*	120 Million *(budget committed from 2024, 2025, and 2026 contributions)*
	~~Workflows and Services for new Computing Environments~~	~~Horizon Europe (2026)~~	~~EU 50%~~ ~~PS 50%~~	~~20 Million~~ ~~*(budget to be committed in 2026)*~~	~~40 Million~~
	~~Code reengineering in new HPC/AI environments - HPC for AI/AI for HPC~~	~~Horizon Europe (2026)~~	~~EU 50%~~ ~~PS 50%~~	~~20 Million~~ ~~*(budget to be committed in 2026)*~~	~~40 Million~~
Competences and Skills	National Competence Centres	DEP (2026)	EU 50% PS 50%	20 Million *(budget to be committed in 2026)*	40 Million
	CSA NCC Coordination	DEP (2026)	EU 100%	2 Million *(budget to be committed in 2026)*	2 Million
	EuroHPC Summit 2026	DEP	100%	700,000	700,000
	User Day 2025	DEP	100%	200,000	200,000

International	CSA Collaboration with third countries on AI Factories and HPC/AI (TPC)	Horizon Europe	100%	1.5 Million	1.5 Million
	CSA Collaboration HPC with third countries (e.g.: Latin America) ***Call to be launched in 2026***	Horizon Europe	100%	3 Million	3 Million
	International HPC Summer School	Horizon Europe	100%	1 Million	1 Million

AI FACTORIES PILLAR

Ongoing activities:

The JU's AI Factories strategy will continue to be implemented in 2025.

The rolling calls (see GB Decision No 57/2024 of 15 October 2024 approving the amendment Work Programme 2024- 5th amendment) to select

(1) existing hosting entities of EuroHPC supercomputers for acquiring Advanced Experimental AI-optimised Supercomputing Platforms (optional), as well as for establishing an associated AI Factory (Call Ref. EUROHPC-2024-CEI-AI-01)
(2) the Hosting Entities for acquiring or upgrading EuroHPC supercomputers with AI capabilities, an Advanced Experimental AI-Optimised Supercomputing Platform (optional) and AI Factory (Call Ref. EUROHPC-2024-CEI-AI-02)

will be continuously open until 31st December 2025, with pre-defined cut-off dates that will trigger the evaluation of the applications submitted up to each respective cut-off date or until the depletion of available funds. Cut off dates will be on 1 February 2025, 2 May 2025 and subsequently every 3 months with last cut-off date being the 31st of December 2025, or until the available budget runs off.

Calls in 2025

AI Factories (Call Ref. EUROHPC-2024-CEI-AI-01)

A permanently Open EuroHPC JU Calls for Expression of Interest to select the existing EuroHPC Hosting Entities for operating an AI Factory. The hosting entity commits to undertake AI Factories activities (i.e., the full range of AI factory services).

The above-referred call text for AI Factories for the Work Programme 2024 describes the action. It is continuously open until 31st December 2025, with pre-defined cut-off dates which will trigger the evaluation of the applications submitted up to each respective cut-off date or until the depletion of available funds.

Selected Upgraded and AI Optimised Supercomputers to be procured in 2025(Call Ref. EUROHPC-2024-CEI-AI-02)

Two different possibilities are enabled to establish an AI factory: one that is to develop it around a newly acquired AI-optimised supercomputer (hereinafter "new AI EuroHPC supercomputer") or to develop it around an upgrade of an existing EuroHPC supercomputer with AI capabilities (hereinafter "upgraded AI EuroHPC supercomputer").

The acquisition of new AI EuroHPC supercomputers is based on Article 12a of the Regulation, whereby the EuroHPC JU shall acquire them and shall own them. An AI-optimised supercomputer means a supercomputer that is primarily designed for training large scale, general-purpose Artificial Intelligence models and emerging artificial intelligence applications. In accordance with Article 12a(2) of the Regulation, the Union's contribution should cover up to 50 % of the acquisition costs plus up to 50 % of the operating costs of these AI-optimised supercomputers. The EuroHPC JU will be the owner of the AI optimised supercomputers it has acquired.

The acquisition of an upgraded AI EuroHPC supercomputers is based on Articles 4(1)(h) and 15(1) of the Regulation. According to Article 15(4) of the Regulation, the EuroHPC JU shall acquire, jointly with the contracting authorities of the Participating State where the selected hosting entity is established or with the contracting authorities of the Participating States in the selected hosting consortium, the upgrade of the supercomputer and shall own it under the same conditions of ownership of the original EuroHPC supercomputer. In accordance with Article 15(5) of the Regulation, the percentage of the Union's financial contribution for the acquisition costs of the upgrade shall be the same as the percentage of the Union's financial contribution for the original EuroHPC supercomputer, depreciated over the expected remaining lifetime of the original supercomputer. For the petascale supercomputers acquired during the time of application of Regulation (EU) 2018/1488 the Union financial contribution for the upgrade shall cover up to 35 % of the additional operating costs.

Indicative Budget:

In 2025, the total indicative budget of EUR 794 Million for the acquisition and operation of the supercomputers and upgrades and the operation of the AI Factories would be made up of an EU contribution (DEP) of EUR 397 Million committed in 2025 matched by a PS contribution of EUR 397 Million.

In 2025, the Union financial contribution (Horizon Europe) of EUR 157 Million shall cover up to 50% of the costs associated with the setting up and operation of the "AI Factories".

The allocation of 49 Million Euros, subject to available funds that will be provided by the European Commission, on top of the MFF allocation, will be committed in Work Programme 2026 and 2027 to support an additional project that appears in the ranking list established in Decision 45/2025 for the acquisition of an AI-optimised supercomputer and the establishment of an AI Factory (third cut-off) to be located in the Netherlands. The Authorising Officer will only sign a Hosting Agreement when this funding is received.

The following procurements of AI Factory systems will be launched in 2025:

	Process responsible	Call	Budget (EUR)	EU Contribution	Procurement goal	Joint Procurement	Procurement Status	Launch date (or exp.)
L-AIF (LU)	EuroHPC JU	AIF 1st cut-off	80,000,000.00 €	40,000,000.00 €	AI optimised system	No	Launched	14/04/2025
MIMER (SE)	EuroHPC JU	AIF 1st cut-off	29,760,000.00 €	14,880,000.00 €	AI optimised supercomputer	No	Launched	23/05/2025
LUMI-AI (FI)	EuroHPC JU	AIF 1st cut-off	387,800,000.00 €	193,900,000.00 €	AI optimised supercomputer	No	Launched	24/05/2025
BSC-AI (ES)	EuroHPC JU	AIF 1st cut-off	128,792,280.00 €	64,396,140.00 €	AI optimised supercomputer	No	Launched	Jun-25
HammerHAI (DE)	EuroHPC JU	AIF 1st cut-off	55,000,000.00 €	27,500,000.00 €	AI optimised supercomputer	No	Launched	14/04/2025
IT4LIA (IT)	EuroHPC JU	AIF 1st cut-off	29,000,000.00 €	14,500,000.00 €	AI optimised supercomputer	No	In preparation	Sep-25
BRAIN++ (BG)	EuroHPC JU	AIF 2nd cut-off	69,827,914.00 €	34,913,957.00 €	AI optimised supercomputer	No	In preparation	Sep-25
AI:AT (AT)	EuroHPC JU	AIF 2nd cut-off	50,000,000.00 €	25,000,000.00 €	AI optimised supercomputer	No	In preparation	Sep-25
PIAST AIF (PL)	EuroHPC JU	AIF 2nd cut-off	87,500,000.00 €	43,750,000.00 €	AI optimised supercomputer	No	In preparation	Nov-25
SLAIF (SL)	EuroHPC JU	AIF 2nd cut-off	123,720,000.00 €	61,860,000.00 €	AI optimised supercomputer	No	In preparation	Oct-25

Cooperation of Artificial Intelligence Factories

Specific conditions

Expected EU contribution per project	The JU estimates that an EU contribution of EUR 25 million would allow the outcomes of this action to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 50 million.
Type of Action	Research and Innovation Action
Admissibility conditions	The conditions are described in the General Annex A of the Horizon Europe Work Programme 2023-2025. The page limit of the application is **70** pages.
Eligibility conditions	The conditions are described in the General Annex B of the Horizon Europe Work Programme 2023-2025. A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide.
Award criteria	The criteria are described in of the General Annex D of the Horizon Europe Work Programme 2023-2025.
Documents	The documents are described in General Annex E of the Horizon Europe Work Programme 2023-2025.
Procedure	The procedure is described in General Annex F of the Horizon Europe Work Programme 2023-2025. The granting authority can fund a maximum of one project.
Legal and financial set-up of the Grant Agreements	As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to **50%** of the eligible costs. The rules are described in General Annex G of the of the Horizon Europe Work Programme 2023-2025.

Overview:

To provide consistent end-user service, the EuroHPC AI Factories and AI Factories Antennas (hereinafter collectively referred to as AIF+As) must be coordinated and cooperate along specific lines to be interoperable technically and procedurally. Networking and sharing of experiences, data and, best practices are necessary to avoid duplication of efforts, to harmonise the approaches, and help create a unified approach to AI development across Europe by promoting trustworthiness and compliance.

The central objective of this Action is to maximize the impact of the AIF+As' supercomputing resources, data and services across Europe, being responsible for the cooperation and exchange of services, assets and best practices of the AIF+As, in particular facilitating the sharing of data, software, applications, knowledge, information, and training.

In order to accomplish these objectives, the selected consortium will also establish effective cooperations with other related European HPC, data, and AI initiatives, such as the EuroHPC Federation Platform, the AI Gigafactories, the European AI Office, the Apply AI Strategy, the AI-on-Demand Platform (AIoD), the Distributed Open Marketplace for Europe (DOME), the Testing and Experimentation Facilities (TEFs), the Common European Data Spaces, the Simpl middleware platform, EU Data Labs, OpenWebSearch.EU, EU Cloud services, the European Digital Innovation Hubs (EDIHs), the HPC Centres of Excellence (CoEs) and Lighthouse Codes, the HPC National Competence Centres (NCCs), the European Alliance for Industrial Data, Edge and Cloud, or the Alliance for Language Technologies (ALT-EDIC).

Scope:

A. General coordination and networking

Proposals should aim at coordinating and promoting networking and collaboration of the AIF+As. They are expected to establish a communication platform, facilitate dialogue, enable asset sharing, promote the objectives of the AIF+As, and organize outreach events and workshops on topics of interest to the AIF+As and their communities.

The Action will support and enhance the alignment of AIF+As through targeted activities, building common standards of service to provide a harmonised experience to users. The activities should leverage on synergies and complementarity of the AIF+As. It is expected to identify solutions and tools available from the AIF+As network to support and assist AIF+As in addressing requests and needs of their constituencies.

The Action should:

- Assist the development of the AIF+As and coordinate their collaboration, ensuring a seamless user experience across all facilities. Coordinate the joint activities and exchange of best practices across the AIF+As, including the sharing of assets and knowledge to prevent duplication of efforts and speed up developments, and support projects spanning across two or more AIF+As or federating/distributed learning and inference when applicable.
- Attract new European user communities and support the engagement of startups, industry, and SMEs in AIF+As activities, while maximizing visibility and outreach to these groups.
- Promote joint training offerings and the exchange of training materials and courses. Support talent detection, attraction, and development, and enhance mobility of HPC/AI specialists between communities, academia, public, and private sectors.
- Implement and coordinate technology transfer activities at the European level and for the Digital Single Market, and promote the adoption of developed methods and technologies by AIF+As users and the wider European HPC/AI communities.
- Develop a comprehensive AIF service directory, detailing all services offered by AIF+As, including both HPC and cloud-based solutions, as well as associated support services, and advise and support AIF+As with the development of sustainability.
- Support an Annual European AI Factories event connecting all the AI community in Europe, in collaboration with the EuroHPC JU, and promote AIF+As' users' networking, especially for different users' profiles and sectors, to foster innovation.
- Define and monitor meaningful qualitative and quantitative common KPIs for AIF+As to measure the impact of this initiative on the European HPC and AI ecosystems.

B. Networking of AIF Data Labs

Data Labs contribute to the objectives of the European Data Union Strategy by scaling up access to data for AI. They create the link between data holders, Common European Data Spaces[17], domain-specific data ecosystems, and the AIF+As and the AI innovation ecosystem. Their role is to facilitate the availability and use of high-quality data under appropriate technical, governance, and regulatory conditions. AIF Data Labs are operational components within the AIF+As that will provide AI developers with access to technical infrastructure, data management tools, and large datasets required for the development, testing, and validation of AI models.

Each Data Lab will offer a consistent set of services, including data discovery, standardisation, cleaning, enrichment, and synthetic data generation, as well as guidance on data governance and compliance with EU legislation. Data Labs will also play a key role in supporting legal and regulatory compliance by providing services such as pseudonymisation and anonymisation of datasets, the use of secure processing environments, and legal assistance on the use of data.

Data Labs will be implemented across a set of priority sectors aligned with those identified by the Apply AI Strategy as having high potential for the development and deployment of trustworthy and impactful AI solutions. These includes healthcare and life sciences, manufacturing and robotics, public administration, cybersecurity and internal security, culture and languages, scientific research, and climate and environmental modelling.

The Action should:

- Support the networking and federation of Data Labs across AIF+As into a common European framework, with a strong emphasis on the use of the Simpl open-source middleware as the core interoperability platform between the different data facilities involved in each Data Lab. This framework should ensure interoperability, secure data exchange, and federated access across the AIF+As, while connecting Data Labs to the corresponding Common European Data Spaces and AI flagship initiatives in line with European priorities.
- Enable efficient data use across sectors and borders, ensure regulatory and technical alignment, and promote the reuse of shared tools and resources.
- Integrate Data Labs activities with AIF+As, ensuring that AI developers can seamlessly use datasets and tools provided by the Data Labs in model development and testing.
- Enable the exchange and reuse of data management and processing tools, including for data discovery, cleaning, enrichment, and synthetic data generation.
- Develop of legal and regulatory compliance services within Data Labs, including mechanisms for pseudonymisation and anonymisation, the provision of secure and compliant data processing environments, and guidance on the lawful use and sharing of data.

C. Development of the AIF software stack

Proposals should aim at developing European a complete and coherent open-source software suite to foster sovereignty and diversity of deployment options across the AIF+As and the EU HPC/AI ecosystem, preventing external dependencies and vendor lock-in.

The AIF software stack must leverage and complement the EuroHPC Federation Platform, covering the entire lifecycle from data acquisition, pretraining, training, fine-tuning and inferencing across the federated EuroHPC JU resources, including the system management and the computing environment within each AIF.

The Action should:

- Analyse and align cross-AIF software requirements, ensuring that harmonised standards, security classifications, and service-level objectives are defined across all AIF+As.

[17] Including the Simpl platform supporting data access and interoperability among European data spaces.

- Implement the necessary components of an open-source software stack for orchestrated and optimised AI workloads and job scheduling in cloud native environments between AIF+As. Where needed, develop utilities and tools for data preparation, data curation, data pipelines, embeddings and RAG libraries, validation/certification, benchmarking of models, security of models/data, prompt management, and deployment of models.
- Implement a system management platform to enable the deployment, management, and dynamic scaling of resources and services in a cloud native and secure way, providing a variety of components and tools that will allow resources to be organised into independent clusters and custom services to be deployed on these clusters, enabling the creation of independent tenant and tailored platform services.
- Ensure the integration the AIF software stack into the EuroHPC Federation Platform as the common interface to access the AIFs computing and storage resources, to enable the execution of inter-AIF AI pipelines and workflows, including standardised portable formats and the transparent movement and versioning of model artifacts and large-scale datasets between sites.
- After proper assessment, implement and promote a European registry for AI models and HPC/AI artifacts and services, specifically addressing the needs of startups and SMEs, taking into account the diversity of the European ecosystem. Where possible, leverage and integrate with existing EU initiatives like AIoD and DOME. The AI model registry must allow the model metadata to be accessible by all AIF+As. These should include version control, model lineage, access management, experiment tracking, monitoring data and any other metadata that is essential to enable the management and execution of any stage of an AI pipeline across different AIF+As. Organise the sharing of existing HPC/AI codes and libraries and facilitate access to upgraded HPC/AI application codes.
- Develop guidelines and standards for:
    - Secure and trusted environments, for guaranteeing the confidentiality and integrity of computational processes;
    - Software and application development environment configuration;
    - Containerisation for multi-tenant environments;
    - AIF+As cloud-computing services, including internal as well as third-party cloud-based potential offerings.

All software deliverables must follow common standards of open software development and include plans to assure their continuity, maintenance, and development based on future needs.

D. Provision of EU open web data

Proposals should develop, deploy and operate across AIF+As a European federated web data service to ensure sovereignty in the open web data (OWD) independently of external sources.

The Action should:

- Develop services and best practices around open web data for training and fine-tuning of AI models, AI applications, and AI-based search.
- Deploy and operate a web data service, encompassing general/focused crawling to generate multi-modal raw data (text, image, audio, video) covering all EU languages, metadata creation, indexing, searching, and use case partitioning into domain-specific data pools.
- Integrate the EU open web service into the AIF Data Labs ecosystem.

Expected Outcome:

Upon completion of the Action, the European HPC and AI ecosystems will be strengthened through an effective network of AI Factories supporting the adoption and use of HPC in the development of trustworthy artificial intelligence (AI) by startups and SMEs, but also by the private and public sector in general, taking into account the specific needs of the local and national ecosystems. The coordinated network will facilitate synergies and

assets reutilisation, support, training, staff exchange, knowledge transfer between, AIF+As, as well as prevent duplication of efforts.

The Action will ensure the network of AIF+As will be embedded in an enhanced European AI/ HPC ecosystem with strong links to other European HPC, AI, and data initiatives (see above).

Moreover, the Action will result in:

- Contribution to the realisation of the EuroHPC overall and specific objectives.
- A common governance baseline across AIF+As to ensure the full interoperability and the collective compliance or the network of AIF+As.
- Seamless user experience across AIF+As, with users receiving a consistent offer of core services.
- Effective coordination and exchange of best practices and information among the network of AIF+As.
- Establishment of a network of AIF Data Labs in 7-8 strategic domains, including a common framework for data access and data management.
- A sovereign, complete, robust AIF open-source software stack, including optimised AI workload orchestration and job scheduling, essential data management tools, security and validation frameworks, deployment mechanisms, resource management and dynamic scaling utilities, and enhanced sharing and access to HPC/AI models, codes and libraries.
- Mechanisms that will enable the portability and sharing of model artifacts and datasets between different AIF+As and their deployment on third-party cloud based platforms.
- Easy access across AIF+As to up-to-date, rich, high-quality open web data compliant with EU regulations and values.
- Guidelines for key technical and structural elements of AIF+As.
- Curated access to services and facilities offered by AIF+As.
- Maximised visibility and outreach of AIF+As, in particular to AI startups, SMEs and industry.
- Improved coordination and increased availability of training activities across AIF+As and within the European HPC ecosystem.
- Contribution to the attraction of HPC/AI talent and development of a distributed pool of experts in Europe.

The JU considers that proposals requesting a contribution from the EU of up to EUR 25 million and a duration of 3 years would allow this specific challenge to be addressed appropriately, with the following indicative EU budget distribution per subtopic:

- General coordination and networking: EUR 2.5 million
- Networking of AIF Data Labs: EUR 7.5 million
- Development of the AIF software stack: EUR 12.5 million
- Provision of EU open web data: EUR 2.5 million

Nonetheless, this does not preclude submission and selection of proposals requesting another duration or other amounts. Only one proposal, covering all four subtopics in the scope, will be selected.

Enhancing AI Factories with sovereign cloud/edge computing infrastructures

THIS CALL WILL BE POSTPONED UNTIL 2026

AI is transforming industries and creating new economic opportunities for the EU. To leverage this technology shift, European Start Ups and SMEs need robust and reliable industrial cloud systems capable of supporting the computing power provided by AI Factories.

Pre-training of Large AI models is highly compute intensive. Once the model is trained, the need for heavy computational resources decreases and a complementary cloud infrastructure becomes crucial for further model development (AI inference), finetuning and deployment, application development and for scaling up. A European cloud and edge infrastructure around AI Factories would need to cater for the needs of finetuning and running Gen AI models by using relatively small clusters of GPUs, offering in addition capacity storage facilities with substantial throughput for managing large datasets and (ii) high-capacity networks between compute nodes. The complementary cloud/edge service infrastructure needed for AI Factories should be provided by private actors.

Expected Outcome:

- Strengthening the European cloud industry by creating a sovereign cloud dedicated to artificial intelligence, high-performance computing and quantum computing.
- Enhancing the current and future capacities of the EU HPC/AI ecosystem, and in particular of AI factories, by providing a secure, unified and scalable system to facilitate the development of (AI) GenAI HPC-based solutions.
- Delivery of a high-quality range of digital resources and services for industrial and academic addressing the development of massive GenAI models and AI for science in Europe
- Ensuring that the EU's vision, and ethical standards are well reflected in the GenAI HPC-based solutions developed.
- Contribution to the development of a competitive European converged HPC/AI/Cloud ecosystem
- Aligning the EU and national initiatives and bridging the gaps between EU and international efforts in these domains, and interaction and collaboration with other similar international efforts

Indicative Budget:

- An EU contribution from the Connecting Europe Facility 2 Programme of EUR 119 Million (100% EU funded) will be committed over a three-year period starting in 2025. In 2025, EUR 29 Million Euros will be available for this activity. In 2026, EUR 30 Million will be available for this activity and in 2027, EUR 60 Million will be available for this activity.

Type of Action: Procurement

Call - EuroHPC AI Factory Antennas

HORIZON-EUROHPC-JU-2025-AIFA-01

Overview of this call[18]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[19]	Indicative number of projects expected to be funded
		2025/2026		
Opening (indicative): 09 April 2025[20] Deadline (indicative): 09 July 2025				
HORIZON-EUROHPC-JU-2025-AIFA-01: EUROHPC AI FACTORY ANTENNAS	HORIZON-JU-RIA	110	5	13
Overall indicative budget		110		

General conditions relating to this call

The aim of AI Factories is to provide European startups as well as the industrial and the scientific community with enhanced access to AI optimised computing capabilities and underpinning services for the training and development of general-purpose, large-scale AI models, and for the development, testing and validation of emerging AI applications.

Call EUROHPC-2024-CEI-AI-01 and Call EUROHPC-2024-CEI-AI-02 were launched on 14 September 2024. The present Call for proposals aims to select 'AI Factory Antennas' that will be linked with an established AI factory and its AI optimised supercomputer. This call is launched in accordance with the

18 AI Factory Antennas

19 Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

20 The call will be open after the third AI Factory call cut-off (TBC) and close in XXX 2025 allowing for all Participating States who wish to be part of an AI Antenna to apply.

EuroHPC Regulation[21], taking into account the EU Financial Regulation[22] and where relevant on the basis of Financial Rules of the EuroHPC JU[23].

The aim of an AI Factory Antenna is to provide national AI ecosystems of a Participating State of the EuroHPC JU with relevant support services, algorithmic support, training activities and access to talent. The AI Factory Antenna will also have to ensure access to supercomputing resources from an established AI Factory.

This call for proposals will allow for more EuroHPC Participating States to have their own 'AI Factory Antenna' without having to invest in supercomputing resources required for the establishment of a fully-fledged AI Factory.

To be eligible under this call, proposals by EuroHPC Participating States for establishing an AI Factory Antenna must fulfil the following two conditions:

- **The Participating State has not yet been selected to host an AI Factory or be already partner of a selected AI Factory;**
- **The proposal must include a (pre- agreed) association with an established AI Factory.**

All selected AI Factory Antennas under this call will thus be in a position to provide AI-optimised computing capabilities and services for the large-scale training and development of general-purpose AI models, and other AI applications/ solutions to their national stakeholders and users of their countries. Where relevant, an AI Factory Antenna may under this call also acquire and provide (small scale) AI compute resources for the fine tuning, testing and validation of AI applications, complementing the AI-optimised computing resources provided by its linked AI Factory,

Proposals for establishing AI Factory Antennas are invited for the following topic(s):

HORIZON-EUROHPC-JU-2025-AIFA-01: EUROHPC AI FACTORY ANTENNAS

Specific conditions	
Expected EU contribution per AI Factory Antenna	The EuroHPC JU estimates that a maximum EU contribution of up to EUR 5 million for a duration of up to 3 years would allow these outcomes to be addressed appropriately. The duration should be aligned with the duration of the established AI Factory. .

[21] Council Regulation (EU) 2021/1173 on establishing the European High Performance Joint Undertaking, as amended by Council Regulation 2024/1732 of 17 June 2024 amending Regulation (EU) 2021/1173 as regards a EuroHPC initiative for start-ups in order to boost European leadership in trustworthy artificial intelligence (https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401732&qid=1741078538770)

[22] Regulation (EU, Euratom) 2024/2509 of the European Parliament and of the Council of 23 September 2024 on the financial rules applicable to the general budget of the Union (recast), OJ L, 2024/2509, 26.9.2024 (hereinafter referred to as 'FR') (Regulation - EU, Euratom - 2024/2509 - EN - EUR-Lex)

[23] Decision of the Governing Board of the EuroHPC JU No 3/2020 Approving the Financial Rules of the EuroHPC Joint Undertaking readopted by Decision of the Governing Board of the EuroHPC JU No 17/2021 approving the re-adoption of Governing Board Decisions adopted under the framework of Regulation (EU) 2018/1488 and its updated Rules of Procedure in the view of Regulation (EU) 2021/1173.

Expected relationship between AI Factory and AI Factory Antenna	The established AI Factory will be expected to link up with the AI Factory Antenna and include it in all AI Factory activities. For these activities, it will not receive additional EU funds. The selected AI Factory Antenna and the AI Factory will be expected to sign a Memorandum of Understanding setting out the terms of their collaboration
Indicative budget	**The total indicative budget for the AI Factory Antenna call is up to EUR 110 million. The maximum amount of the EU contribution (up to 50 % of the total eligible costs) that may be allocated to an AI Factory Antenna is up to EUR 5 million and is subject to EU budget availability.**
Type of Action	HORIZON JU Research and Innovation Action
Eligibility conditions	**The current Call is open to a single entity or a consortium of entities from one EuroHPC Participating State.** **Furthermore, entities established in countries with which association to Horizon Europe negotiations are being finalised and/or pending ratification, and which have committed to join the EuroHPC JU in the year when the call is launched, are eligible to participate. However, even if such entities are selected, the Grant Agreement can only be signed if the association with the Horizon Europe has started producing legal effects, and if the Governing Board of EuroHPC JU has confirmed membership of the new Participating State.** **Entities or consortia of entities that are already beneficiaries of an AI Factory grant and are fulfilling the conditions specified in Article 9 of the EuroHPC Regulation are ineligible to apply for this Call.** **Participation in more than one AI Factory Antenna is not permitted.**
Procedure	The granting authority will fund applications that meet all the evaluation criteria and subject to the ranking list approved by the EuroHPC Governing Board.
Legal and financial set-up of the Grant Agreements	Applicants to this call will need to submit the following documents: Applicants must provide a Letter(s) of Support proving the commitment of the Participating State to the AI Factory Antenna proposal and the commitment of this Participating State to cover the expenses of the proposal not covered by the EU contribution. Such commitment letter should be provided by an authorised representative of the Participating State. Applicants representing an AI Factory Antenna must provide a Letter of Intent co-signed with the consortium leader of an established AI Factory agreeing to their association, setting out how it will be linked with this established AI Factory. The AI Factory Antenna will be expected to substantiate how it can work in close cooperation and synergy with the established AI Factory extending the services it provides currently and in the future.

	This 'Letter of Intent' should also include an Annex providing a short overview of the main association conditions agreed between the respective parties and should include the financial conditions of such an association (if any). If the proposal is selected, this 'Letter of Intent' will be turned into a 'Memorandum of Understanding' (see below). In order to assess the applicants' eligibility, the following supporting documents are requested: - The legal entity identification form[24] duly completed and signed by the person authorised to enter into legally binding commitments on behalf of the applicant organisation(s) to be submitted in original; - AI Factory Antenna consortium: in addition to the supporting documents referring to their legal status, the consortium members will submit a signed declaration (modal mandate letter Annex XYZ) based on the model Consortium Agreement/Power of Attorney, appointing a consortium leader and giving a mandate to him. - Each applicant in an AI Factory Antenna consortium must fill-in and provide the duly signed Declaration of Honour
Other conditions	This action is an EU Synergy call. Grants and procurements can be linked with another grant funded from any other EU funding programme. The grants of this call will be managed as linked actions with the Calls EUROHPC-2024-CEI-AI-01 and EUROHPC-2024-CEI-AI-02

Expected Outcome:

The present Call for proposals is launched for the selection of an entity or a consortium of entities to establish an AI Factory Antenna. This call is launched in accordance with the EuroHPC Regulation, taking into account the EU Financial Regulation and where relevant on the basis of Financial Rules of the EuroHPC JU.

For the purposes of this call, an AI Factory Antenna is an entity, or a consortium of entities from a single EuroHPC Participating State.

The AI Factory Antennas will strengthen the network of EuroHPC AI Factories. The AI Factory Antennas will provide relevant support services, algorithmic support, training activities, access to talent and other support services to the national AI ecosystem(s) while also ensuring remote computing access to AI-optimised supercomputing capacity of the linked AI Factory. These services will also contribute to the mission and objectives of an 'established AI Factory' to which the AI Factory Antenna is associated.

An 'established AI Factory' is an AI Factory which has been selected via Calls EUROHPC-2024-CEI-AI-01 and EUROHPC-2024-CEI-AI-02. For the purposes of this call, an 'established AI Factory' may also be referred to as an 'AI Factory hosting entity'

[24] http://ec.europa.eu/budget/contracts_grants/info_contracts/legal_entities/legal_entities_en.cfm

The call is open to entities or consortia of entities fulfilling cumulatively the following activities as defined in Article 4 (h) (iv), (v), (vi), (vii), (viii) and conditions as defined in Article 9 (5a) of the EuroHPC Regulation:

a) The applicant entity or entities shall represent one single EuroHPC Participating State that has agreed, with a Letter of Intent, to contribute to participating in an established 'AI Factory'.

b) The applicant entity that represents the 'AI Factory Antenna' and the coordinator of the established AI Factory shall enter into an agreement which, if successful, will form the basis of Memorandum of Understand to this effect.

c) The applicant entity that represents the 'AI Factory Antenna' has to be registered as a legal entity in one of EuroHPC's Participating States.

d) The applicant entity or entities that are identified in the application as being part of the 'AI Factory Antenna' must have a legal personality on the date of the deadline for submission of applications and must be able to demonstrate their existence as a legal person. In case the application is submitted by several different legal entities from the same Participating State, this criterion (c) applies to all entities.

e) Applications should include the provision of appropriate supporting documentation proving the commitment of the Participating State and to cover the share of the total cost of the participation in the established AI Factory that is not covered by the Union contribution or by the hosting member state where the established AI factory is located as set out in Article 5 of the Regulation or any other Union contribution as set out in Article 6 of the Regulation. Such commitment documentation should be provided by an authorised representative of the Participating State. A commitment letter template will be provided for applicants (to be added later).

~~f)~~ In the case of an AI Factory Antenna 'consortium', the agreement shall take the form of a partnership between the legal entities from the Participating State, of which the consortium leader will take the lead and act as coordinator of the consortium. The coordinator will act as an intermediary for all communications between the established AI Factory, the EuroHPC JU and the AI factory Antenna. However, if selected, the partners of AI factory Antenna consortium as well as the Hosting Entity of the AI Factory are jointly responsible for implementing the action(s) resulting from the awarded grant agreement. To implement the action(s) properly, they must make appropriate internal arrangements. The AI Factory Antenna must be given power of attorney by the applicant entities to represent it to sign and administrate the grant agreement (consortium leader).

g) The AI Factory Antenna shall assume full liability towards the EuroHPC JU for the implementation of the AI Factory Antenna services as a whole, including financial and operational liability.

Scope:

Applicants should provide:

a) A description of the national AI ecosystem(s) their AI Factories Antenna aims to target

b) A description of the features their AI Factories Antenna will have in terms of activities and service offering.

c) A description of how the AI Factory Antenna will cooperate and synergise with the established AI Factory it will be linked with, extending/enhancing/complementing the services and activities it provides currently or in the future.

In detail the Applicants should structure their proposal as follows:

a. A general description of the concept of the proposal and the needs for an AI Factory Antenna

1) *Concept of the AI Factory Antenna*

   a) *Vision, Rationale and Objectives* of the proposed AI Factory Antenna.

   b) *A roadmap* for developing the national AI ecosystem(s) and how it would be served, justifying the need for setting up the AI Factory Antenna.

2) *Targeted key Industrial sectors and Applications and targeted Stakeholders and their needs*:

   a) Description of the *key industrial/application sectors* as well as of the key obstacles to overcome to further develop the AI innovation ecosystem in these sectors.

   b) Presentation of a convincing plan for attracting key AI stakeholders from these sectors.

   c) Description of any plans the Applicants to include *internal or external cloud solutions* to bridge the needs towards an end-to-end computing continuum.

3) *Links to a national AI strategy, and national data and access policies to computing and data*:

   a) Description of how the AI Factory Antenna proposal is linked to the national AI Strategy / Strategies or equivalent[1] of the Applicant(s).

   b) Description of how the AI Factory Antenna is linked to a current *National Data Policy* of the hosting entity or the hosting consortium, enabling access to large datasets. If this does not exist, description of a plan to make available large data sets to the AI Factory Antenna ecosystem.

   c) Where relevant, description of an *AI user-friendly access policy of the AI Factory Antenna* to the national share of computing time of the associated EuroHPC supercomputer and how it will contribute to the development of the national AI Ecosystem.

4) Unless otherwise agreed with the established AI Factory, Applicants must *outline an indicative financial contribution plan,* specifying how the AI Factory Antenna will support the established AI Factory in terms of, for example, in kind or in cash contribution [for example, participation in the capital expenditure (Capex) or operational expenditure (Opex) of the AI optimised supercomputer of the established AI Factory] for access to the AI optimised supercomputing resources and to any of the respective services of the established AI Factory. A preliminary agreement between the AI Factory Antenna and the established AI Factory may be documented in the Letter of Intent. In the Annex of this 'Letter of Intent', a short overview of the main association conditions agreed between the respective parties should be described as well as the financial conditions of this association (if any). If the proposal is selected, the 'Letter of Intent' will be formalised into a Memorandum of Understanding (MoU) upon selection.

[1] In the absence of a formal national AI strategy, the Applicants will need to describe the strategic national (or Consortium) character of their AI Factory Antenna approach.

5) *Overall plan for networking the AI Factory Antenna with the other EuroHPC AI Factories and Antennas.*

6) *Overall plan for linking the AI Factory Antenna to a national strategy for startups/SMEs:* description of the plans the Applicants have for linking the AI Factory Antenna ecosystem with relevant national/regional investment measures targeted at startups and SMEs.

b. A detailed description of the AI Factory Antenna data facilities and services and its networking with other AI Factories and AI Factories Antennas:

1) *AI Factory Antenna tools and services*

   - *Overview of the user support services*: This includes: (i) Description of the range of services that the AI Factory Antenna will provide to the AI ecosystem (e.g., guidance for using the HPC environment, adapting the computational tasks associated to the training and fine-tuning of the AI models and related inference activities to the HPC environment, etc.). (ii) Description of a plan for servicing private and public national users as well as users from other EuroHPC Participating States. (iii) Description of the foreseen professional user support plan, describing the range of user support activities (i.e., how the AI Factory Antenna plans to engage with and serve the broader AI community – from startups, SMEs and large industry to academia and research institutions – and how will these professional services be provided). (iv) Description of the resources required to support the established AI Factory in providing a well-functioning user support service.

   - *Computing, Software and application development environments*: description of any (small scale) AI computing resources available or to be acquired by and become available under the AI Factory antenna, as well as the software environment the AI Factory Antenna will support the AI Factory in delivering, including ready-to-use set of AI-oriented tools containerized workloads and workflows, etc.

2) *Data facilities, access to data, confidentiality and integrity of data*

   - *Data facilities:* Description of the data repositories and data assets that the AI Factory Antenna plans to make available to the AI ecosystem.

   - *Access to Common European Data Spaces*, including preliminary agreements on the principles of an access and use, establishing relevant data repositories (e.g., Hugging Face).

   - *Plans for establishing secure and trusted environments,* for guaranteeing the confidentiality and integrity of sensitive data and for ensuring the integrity of computational processes.

3) *Trustworthy AI*: description of the plans the Applicants have for developing of robust guidelines and standards for AI algorithmic development aligned with the principles and requirements of the AI Act.

4) *AI Factory Antenna Hub facilities (where relevant)*

   - *co-working space facilities:* description of the plans the Applicants have for making available co-working space physical facilities, possibly complemented also by virtual working spaces.

- *hosting facilities for AI students*: and description of the Applicants Plans for making available a physical campus hosting AI students located nearby or associated to the established AI Factory.

5) *AI Factory Antenna training facilities*

   - *Skills plan*: Description of the AI Factory Antenna Skills Plan outlining the skills needed for the targeted AI stakeholders, including a description of a diverse range of training courses, complementary training facilities and activities and timelines tailored to the varying needs of potential users.

   - *Access to human capital*: in house and external direct access to the necessary human capital and talent to provide the necessary education/training activities planned. This includes plans for collaboration and engagement with universities to train and equip students at all levels with the necessary in-demand AI skills.

6) Detailed plans for networking the AI Factory Antenna with existing European and national initiatives and with other EuroHPC AI Factories and AI Factory Antennas.

   - *Networking with other existing European and national AI & HPC initiatives:* Detailed plans for linking the AI Factory Antenna with European and national AI and HPC initiatives such as TEFs, EDIH, National HPC Competence Centres, ALT-EDIC, or others, and to engage with them while avoiding duplication of efforts.

   - *Networking with other AI Factories and AI Factories Antennas*: Detailed plans for linking the AI Factory Antenna with other established AI Factories and AI Factory Antennas once they become operational in order to network, exchange best practice, share experiences, and avoid duplication of efforts.

c. A description of the AI Factory Antenna Implementation Plan:

1) *Implementation plan and risk management*: Applicants should provide an indicative implementation plan, an organisational structure and roles for the management of the AI Factory Antenna, and a project timeline with phases for the establishment of the AI Factory Antenna. Applicants should also include a risk management approach by identifying potential risks and mitigation strategies. Applicants should also indicate a timeline for the signature of a Memorandum of Understanding with the established AI Factory to take place if selected. This Memorandum of Understanding should set out agreed activities and milestones to deliver these activities.

2) Key performance indicators (KPIs): Applicants should provide a description of a set of KPIs and metrics that the Applicant(s) will use to measure the contributions to the success of the activities of the AI Factory Antenna and associated AI ecosystem. (see European Commission Concept Paper found in the Annex 1 of this Call for Proposals for more information)

3) *Budget estimate of the proposal*: Applicants should provide an estimated budget the establishment of the AI Factory Antenna, including development, implementation and expected operational costs.

d. A comprehensive description of the expected Impacts of the AI Factory Antenna:

Applicants should describe the pathways to achieve the expected outcomes and expected impacts and the measures they will take for maximising these expected outcomes and impacts.

Evaluation and Selection Criteria

This Call for Proposals will be evaluated by a peer review process against the evaluation criteria detailed below:

a. **Vision, plans and capability of the AI Factory Antenna to address the challenges of the Artificial Intelligence start-up ecosystem, and research and innovation ecosystem and the Artificial Intelligence user community and providing a supportive centralised or distributed Artificial Intelligence-oriented supercomputing service**

   - Contribution, clarity and pertinence of an AI Factory Antenna being linked to an established AI Factory, in terms of vision, rationale, objectives, development roadmap, targeted key industry sectors and stakeholders, internal or external cloud solutions planned to bridge the needs towards an end-to-end computing continuum and networking with other initiatives.

   - Contribution, clarity and pertinence of an AI Factory Antenna being linked to an established AI Factory data facility, access to data, confidentiality and integrity of data.

   - Pertinence of the links of the AI Factory Antenna to the respective national AI Strategy, national data and access policies to computing and data, and to a national strategy for investing in startups/SMEs.

   - Quality and efficiency of the Implementation Roadmap, including its deliverables and milestones, the risk management approach and the Key performance Indicators.

   - Clarity and pertinence of the plans to invest in physical and virtual infrastructure, including in (small scale) AI computing resources, required for the AI Factory Antenna.

   - Soundness of the AI Factory Antenna's budget.

   - Credibility of the pathways to achieve the expected outcomes and expected impacts.

   - Suitability and quality of the measures to maximise expected outcomes and impacts.

b. Quality and pertinence of experience and know-how available from the applicant entity that would provide Artificial Intelligence-oriented supercomputing service environment

   - Quality and pertinence of experience and know-how available from the applicant entity that will support the established Artificial Intelligence-oriented supercomputing service environment.

   - Quality and pertinence of the AI Factory Antenna user support services, including the quality and efficiency of the plan for offering professional services.

   - Quality and pertinence of the AI Factory Antenna tools and software and application development environments.

c. Plans for interaction and cooperation of the AI Factory Antenna with the established AI Factory, other established AI Factories, and other AI Factory Antennas with EuroHPC Competence Centres and EuroHPC Centres of Excellence, and with relevant Artificial Intelligence activities such as the hubs of Artificial Intelligence start-ups, the Artificial Intelligence and data ecosystems, the Artificial Intelligence Testing and Experimentation Facilities, the European central Artificial Intelligence platform, the Artificial Intelligence-

oriented Digital Innovation Hubs and other related initiatives.

- Quality and pertinence of the proposed AI Factory Antenna.
- Clarity and pertinence of the networking activities of the AI Factory Antenna with established European and national initiatives and with other EuroHPC AI Factories.
- Soundness of the plans of the AI Factory Antenna for developing Trustworthy AI.
- Clarity on how the activities of the AI Factory Antenna are complimentary with the established AI Factory and not overlapping with established or future National Competence Centres (NCCs). As a reminder, the NCCs should establish and maintain a network of national HPC users, promote HPC use and uptake in the private and public sector and reach out to new potential users. This includes awareness raising and outreach activities to communicate the benefits of HPC to potential users with a specific focus on SMEs. The NCCs should foster the development of the necessary expertise, especially for HPC applications, of the local communities and relevant national stakeholders in collaboration with other NCCs and European initiatives. Furthermore, the role of NCCs is limited to providing HPC expertise, training, advisory and consultancy services rather than engaging directly in operational activities of clients and stakeholders.

d. Existing capabilities and future plans of the AI Factory Antenna to contribute to the development of the talent pool

- Pertinence and effectiveness of existing capabilities and future plans of the hosting entity to contribute to the development of the talent pool.
- Quality and pertinence of structured training facilities and training programmes highlighting relevant courses, activities, and learning pathways tailored to meet the diverse needs of potential users.
- Quality and pertinence of strategy to foster collaboration and engagement with universities, research centres and other training providers to train and equip students at all levels with the necessary in-demand AI skills.

Applicants should also refer for guidance to the European Commission Concept Paper found in the Annex 1 of this Call for Proposals.

ANNEX 1: "AI Factories" Concept Paper

Version 4.0, 25 July 2024

This concept paper addresses the EuroHPC Governing Board Members. It defines the way to implement the AI Factories[25]. It describes how the EuroHPC JU and Member States and consortia are to establish AI Factories and outlines their key features and activities. These will be reflected in the EuroHPC Call for Expression of Interest to host AI Factories.

Section 1 of this concept paper provides a description of what is an AI Factory. Thereafter a set of eligibility conditions for Member States to implement AI Factories are presented in Section 2. Section 3 provides a summary of the technical specifications that are expected to be addressed in Member States proposals on AI Factories. The Appendix I to this paper provides an overview of the different implementation modes to establish AI Factories across the EU through the EuroHPC JU.

1. What are AI Factories?

The Commission launched the AI Innovation Package in January 2024 to support European startups, and SMEs in the development of trustworthy AI. The AI Package proposed a limited number of targeted amendments to the EuroHPC JU Regulation for implementing the AI Factories around the EuroHPC supercomputers, which were largely endorsed by the Competitiveness Council on May 23, 2024.

The amended EuroHPC Regulation, so called the "AI Factories Act", expanded its objectives to include the development and operation of 'AI Factories'. AI Factories are entities which provide an AI supercomputing service infrastructure and will build open AI ecosystems formed around EuroHPC supercomputing facilities (hosting entities[26]). The activities covered by AI Factories will be open to public and private users, and with privileged access conditions for startups and small and medium-sized enterprises (SMEs). The amended regulation brings together the necessary resources around these supercomputers – namely computing power, data, and talent, to offer a wide and exhaustive range of services to public and private users, AI startups and SMEs, AI companies and researchers

[25] According to the AI Factories Act (Council Regulation (EU) 2024/1732 of 17 June 2024 amending Regulation (EU) 2021/1173 as regards a EUROHPC initiative for start-ups in order to boost European leadership in trustworthy artificial intelligence), an AI Factory is a centralised or distributed entity providing an Artificial Intelligence supercomputing service infrastructure which is composed of: 1) an Artificial Intelligence-optimised supercomputer or Artificial Intelligence partition of supercomputer, 2) an associated data centre, dedicated access and artificial intelligence-oriented supercomputing services and attracting and pooling talent to provide the competences required in using the supercomputers for Artificial Intelligence. AI Factories should include the following features:

i. Acquiring, upgrading, and operating AI-optimised supercomputers to enable fast machine learning and training of large General Purpose AI (GPAI) models;
ii. Facilitating access to the AI dedicated supercomputers, contributing to the widening of the use of AI to a large number of public and private users, including startups and SMEs;
iii. Offering a one-stop shop for startups and innovators, supporting the AI startup and research ecosystem in algorithmic development, testing evaluation and validation of large-scale AI models, providing supercomputer-friendly programming facilities and other AI enabling services;
iv. Enabling the development of a variety of emerging AI applications based on GPAI models;
v. Attracting, pooling, and training talent to develop their competences and skills in using the EuroHPC supercomputers for AI.

[26] 'hosting entity' refers to a legal entity which includes facilities to host and operate a EuroHPC supercomputer and which is established in a Participating State that is a Member State.

needed for the development of European general purpose AI models and other emerging AI applications or data driven applications, as well as subsequent targeted inferencing activities.

AI Factories in each Member State or a hosting consortium of Participating States will be connected to those in other Member States and to other relevant AI initiatives, such as Testing and Experimentation Facilities, Digital Innovation Hubs, EDICs, etc., thus creating a closely interconnected AI ecosystem across the whole Europe.

The different elements of an AI Factory should not be seen in isolation but rather aligned and mutually reinforce each other. **The AI Factories** should cover **two main components namely i) the AI optimised Supercomputer and ii) the associated "AI Factories" activities and services**.

It is expected that a number of AI Factories will be established in a few Member States or consortia of Participating States around existing, upgraded or new AI optimised supercomputers. These AI Factories will serve the European and national AI communities.

The **AI Factories will be serving public and private users from all the EuroHPC Participating States**, including those which are not eligible or do not wish to host an AI Factory. Such users may be granted access to the share of EU's access time and necessary services provided by any of the EuroHPC AI Factories.

In order to serve users from Participating States, which do not host an AI Factory, the EuroHPC JU will act as first entry point. The JU will then dispatch the request to the appropriate AI Factory/Factories based on a number of selection criteria. These criteria as well as the access policy concerning the EU access time will be defined and agreed in due time by the EuroHPC Governing Board.

AI startups, which are supported through the EIC Acceleration Challenge of Horizon Europe, will be given a priority access to the AI optimised supercomputers and services offered by an AI Factory.

The EuroHPC Participating States, which do not host an AI Factory, can collaborate with one or more AI Factories through a strategic agreement with a hosting entity, similar to many of the current EuroHPC systems.

The provision of services by the AI Factories should be without prejudice to the EU **state aid rules**. The European Commission will provide guidelines in due time on this matter. In principle, provision of (free) services to startups and SMEs should be covered by the General Block Exemption Regulation[27]. On the other hand, provision of services to big industry should be fee-based.

1) AI Factories - Key Features to consider from a national perspective

The following section outlines a set of key policy features and technical activities that a Member State or a consortium of Participating States should undertake to support the development of an AI Factory that is to be co-funded by the EuroHPC JU. These are further summarised in Appendix II and will be further expanded in the relevant Calls for Expression of Interest.

Investing in AI optimised supercomputers

[27] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32014R0651.

AI Factories should be developed around AI optimised supercomputers to address and serve the needs of national users, their AI ecosystem and potential AI European and national AI stakeholders and serve the needs of their targeted AI ecosystem. There are three possibilities that a Member State or a Consortium of Participating States and the corresponding hosting entity can consider here – these are presented in detail in the Appendix I.

Creating a national AI Ecosystem

Hosting entities should define and justify their needs and design choices in the context of their targeted AI usages and national/local ecosystems. Hosting entities should therefore present a comprehensive assessment of the users and AI Ecosystems they would like to serve and enhance through the AI Factory, ensuring a minimum critical mass justifying the need for an AI Factory. The assessment should include at least the following aspects:

i. **National AI Strategy**

To what extent the establishment and deployment of an AI Factory is linked and contributes to the implementation of the national AI strategy of the hosting country/countries of the hosting consortium.

ii. **National Data Policies and access strategies to the AI optimised supercomputers**

Applicants would need to describe the current National Data Policies in place (including possible access to data spaces that are available through their participation to EU initiatives such as EDICs) for enabling the access to large datasets, as well as the availability of knowledge corpus. In cases where such National Data Policy does not exist, applicants would need to provide a plan of how they will make available large data sets to the AI Factory ecosystem.

In both the above cases, Applicants should describe how they will implement policies facilitating the access to open / FAIR[28] data and proprietary data (including if necessary different fee schemes depending on the use of data for AI training/fine-tuning/inference).

iii. **National Access Policy to AI Community**

To ensure a cohesive HPC for AI approach and foster the national and local ecosystem, it is expected that Applicants would put in place an AI user-friendly access policy to the national share of computing time of the EuroHPC supercomputer and describe how it will contribute to the development of the national AI Ecosystem.

iv. Stakeholders

To build a thriving AI ecosystem, Applicants should clearly identify and be capable of attracting key stakeholders which can contribute to their success of their AI ecosystem. These should include:

a. AI Companies/AI Developers/AI Startups and SMEs.

b. AI Technology solution providers.

[28] Findable, accessible, interoperable, and reusable

c. Potential Data providers which can supply high-quality data for AI training and analysis.

d. AI Users that will benefit from AI Factories generated AI-driven applications and solutions.

e. AI communities, including academia and students.

f. Private investors / incubators.

v. AI Ecosystem needs and challenges

Applicants should identify the needs and challenges of the AI ecosystem they intend to serve. Each AI Factory should preferably focus on selected applications/domains that are aligned with the strategic vision and strategic specialisation areas of the hosting country and/or the consortium of Participating States. They should identify the key barriers and obstacles that may hinder the creation of a thriving AI ecosystem, and the extent to which the deployment of the AI Factory can overcome these obstacles to create an AI ecosystem that harnesses the full potential of AI for the benefit of the relevant stakeholders.

Applicants may include internal or external cloud solutions to bridge the needs towards an end-to-end computing continuum spanning model development, training, fine-tuning, and inference.

vi. Strategy for AI startups/SMEs

To foster a thriving AI ecosystem, a proactive startups / SMEs policy at a national/regional level plays a vital role in fostering and attracting investment in the AI sector. By facilitating access to capital to startups/SMEs and/or implementing targeted tax incentives, governments can encourage investment and support startups/SMEs to ensure the success and growth of businesses. Hosting entities are encouraged to link the AI Factory ecosystem with relevant national/regional investment measures targeted at startups and SMEs.

vii. AI Factories – KPIs

Applicants should propose key performance indicators (KPIs) and metrics to measure the contributions to the success of their AI Factory and associated AI ecosystem, such as (but not limited to):

- Number of private AI users served annually, notably start-ups and SMEs;
- Number of public AI users served annually.
- Number of participants in the AI Factory ecosystem, including European ones, served.
- Number and quality of services provided by the AI Factory
- Number of AI training sessions provided.
- Number/quality/size of GenAI open models released.

- Number/volume of available quality databases annually.
- Number of AI science applications served/released.
- Number of industrial/SME/startup applications served/released.
- Number of AI dedicated researchers in the AI Factory.
- Number of students participating in AI Factory activities.
- Usage of the AI optimised supercomputer.
- Degree of oversubscription to the AI access calls.

Applicants may propose other relevant KPIs.

2) Overview of the Technical Specifications / Activities of AI Factories

This section provides a succinct overview of the main technical aspects that are expected to be included in the forthcoming AI Factory Calls for Expression of Interest.

a. Compute

AI Factories should deliver a minimum computing capacity to address the needs of users and their AI ecosystem, including potential AI European model developers and serve the needs of their targeted AI ecosystem.

Their targeted compute requirement should be ideally justified through the use AI/HPC benchmarks. These may include, e.g. (indicative)**:**

- **HPL-MxP benchmark:** The high-performance Linpack mixed precision benchmark seeks to address the convergence of HPC and AI workloads.
- **MLPerf Training HPC benchmark:** Benchmark, targeted at supercomputers, measuring the performance of training machine learning models for scientific applications and data**.** Minimum time-to-solution (e.g., training a 10 billion parameter language model in 45 days).

Applicants may propose further benchmarks, including inference related benchmarks where appropriate.

b. Storage

AI Factories must ensure enough storage capacity to handle large and numerous databases, as well as providing the necessary flexibility to increase their capacity according to the evolution of needs of users. **The storage should be collocated with the supercomputer or connected through a high speed (terabit) connection to maximize data throughput and minimise latency.**

- **High-capacity storage:** Adequate storage capacity to manage vast datasets**.**

- **High-speed storage**: Availability of fast storage to ensure rapid data access and transfer.

Applicants are expected to propose I/O[29] benchmarks to test the performance of proposed storage systems.

To strike a balance between capacity and speed, a tiering storage approach that combines different technologies, from fast disks to tapes, may be considered.

c. Data

The availability and accessibility to large data repositories with high quality curated data is fundamental for the AI community to flourish. AI Factories must guarantee high-speed connectivity and unrestrained access to European Data Spaces and relevant data repositories.

- **Data facility:** Co-located or very high-speed connection to (at least) one associated data facility linked to the supercomputer. Data centres to host large volumes of data necessary for AI Factories and associated data facilities must be operational within 12 months of being selected to host an AI Factory.
- **Access to Common European Data Spaces[30]:** Hosting entities should clearly identify interaction with and access to which Common European Data Spaces they wish to interact and have access to, provided that these correspond to their targeted / selected applications / domains that are aligned with the strategic vision and strategic specialisation areas of the hosting country / hosting Consortium. Hosting Entities should also describe the principles of an eventual access to and use of agreement with such Common European Data Spaces. Complementary and relevant data repositories (e.g., Hugging Face) should also be considered, as well as readiness to integrate into the future EuroHPC Federation Platform, which will be federating EuroHPC JU supercomputers and European HPC resources.
- **Security:** AI Factories should guarantee the confidentiality and integrity of sensitive data and ensure the integrity of computational processes. Users of computing capacity could for example be authenticated using the EU eID Wallet, once available.
- **Secure and Trusted environments**: Where justified, AI Factories should establish secure and trusted (research) environments for both industry and scientific research ensuring the confidentiality and integrity of data.

d. Connectivity

AI Factories should ensure a high-bandwidth, low-latency secure networking to support rapid data transfer between nodes and storage systems. In addition, AI Factories should ensure secure

[29] Input/output operations.

[30] Common European Data Spaces | Shaping Europe's digital future (europa.eu)

connection to the forthcoming EuroHPC Hyper-connectivity network. Indicative references are described below:

- **High-bandwidth, low-latency internal networking**
- **Hyper-connectivity** (e.g. minimum of 100 Gbps, expandable to 1 Tbps).

e. Software and application development

AI Factories should provide a rich software environment including a ready-to-use set of AI-oriented tools (e.g., Pytorch, TensorFlow, etc.) with clear use-cases and examples for efficient use at large-scale, enabling new users to adapt quickly to the environment, as well as to facilitate the use of containerized workloads and workflows. It should be noted that most software tools at the core of AI development and execution are open source and should be supported; otherwise, AI Factories should establish adequate licensing mechanisms.

f. User Support for national users and users from the EuroHPC Participating States

Each hosting entity should present their foreseen HPC/AI professional support plan, describing the range of support activities to be offered and provided to users. This may include providing guidance for using the HPC environment, adapting the computational tasks associated to the training and fine-tuning of the models and related inference activities to the HPC environment. User support should be primarily targeting MLOps (machine learning operations). For example, users support activities should include assessing the HPC needs of the users' tasks, providing guidance on missing elements for implementation in HPC environments, parallelization techniques for optimising the memory and computing usage of the hosting supercomputer to speed up (pre-) training, fine-tuning the models for specific datasets and tasks (training or inference), or optimising the final model for efficient deployment and use. The number of required FTEs should be well justified, and the user support team should provide a well-functioning service (below 4h response time where possible).

Applicants should also describe the way they plan to serve public and private users from the EuroHPC Participating States. Such users shall be granted the share of EU's access time to the AI optimised supercomputers and AI Factory services. For such users, hosting entities should propose an appropriate access policy that respects a number of conditions for access (such as for example those in relation to the handling of sensitive information, security, confidentiality, unethical use, etc.).

AI services, including User Support, should be provided in a consistent and professional manner following industrial standards.

g. Co-working and entrepreneurial AI Factory Hubs

Applicants would need to provide a plan for making available physical facilities located nearby or associated to the foreseen AI Factory, such as sufficient large and well-adapted co-working spaces, possibly complemented by virtual working spaces. These will serve startups and SMEs, scientific communities/ talented students and HPC/AI support teams, as well as incubators and accelerators to meet and work on common ideas and projects and get access to capital and to community support that are critical to developing the AI ecosystem.

Hosting entities should also include and/or identify the availability of a physical campus facility located nearby or associated to an AI Factory for hosting talented AI students working or trained in the AI Factory. Such facility would stimulate the relationship between the AI Factory and the local universities to create an environment that can attract the necessary talented human capital and build vibrant, attractive, and dynamic communities of practice along the AI Factory region.

h. Skills/Education

Hosting entities should present a comprehensive AI Factory Skills Plan outlining the skills required for the AI stakeholders they intend to target/serve and how to achieve them. This plan should include the offer of a structured training program highlighting relevant courses, activities, and learning pathways tailored to meet the diverse needs of potential users. Similarly hosting entities should convincingly demonstrate that they have direct access to the necessary human capital and talent and, provide a strategy as to how they intend to collaborate and engage with universities, research centers and other training providers to train and equip students at all levels with the necessary in-demand AI skills. The availability of adequate training facilities (such as for example small GPU sandboxes) at universities or research centers could help them attract and train talent.

Hosting entities should demonstrate capacity to put in place training on advanced subjects such as AI for HPC, Deep Learning, AI Programming environments, etc. Additionally, they should show extensive experience in using different delivery modes to provide advanced training in subject areas that require intensive hands-on experience (on-site, online, hybrid) and capacity to deliver a variety of training actions other than courses such as workshops, hackathons, summer-schools, etc. It is crucial that Hosting Entities also demonstrate the capacity to collaborate with other institutions to deliver training. It will be the responsibility of each AI Factory to design and present a robust and comprehensive set of training/education actions to be implemented.

i. Engagement/ Interacting with the AI community

AI Factories should professionally engage with and serve the broader AI community – from academia and research institutions, to startups, SMEs, and industry – liaising with existing initiatives like TEFs, EDICs, EDIHs and National HPC Competence Centres. AI Factories need to identify the main stakeholders at regional and national level and establish connections through networking events and conferences, sharing knowledge and working together on joint projects. Strategic formal partnerships, talent exchange, and joint initiatives can further strengthen these collaborations. It should be noted that national and local ecosystems should be the starting point for building AI Factories. The organisation and coordination of AI, data and HPC initiatives at the European level is important and ensuring to avoid national silos.

Hosting entities may consider the use and support of external professional service companies to optimise their offering and engagement with the AI ecosystem.

j. AI Factories networking

AI Factories should establish a collaborative framework to ensure effective networking and resource optimisation among themselves (e.g., knowledge sharing, specialisation, assets reutilisation, support, training, staff exchange, etc.). The collaboration between AI Factories is very important to enable a

thriving European AI ecosystem. This activity will be developed more extensively at a later stage when several AI Factories are operational.

A particular collaboration use case are HPC/AI projects spanning across two or more AI Factories, where users should have a homogeneous end-to-end experience. The collaboration framework must envisage different formal and informal collaboration mechanisms, including the allocation of resources for this purpose, in order to benefit from synergies and avoid duplication of efforts across the ensemble of AI Factories.

k. Developing trustworthy AI

The AI Factories will cooperate with the AI Office and the TEFs to develop robust guidelines and standards for AI development within AI Factories, aligned with the principles and requirements of the AI Act. These guidelines should cover among other, areas such as data protection, transparency, and accountability. This will help create a unified approach to AI development across Europe and different entities and promote trustworthiness and compliance.

The AI Factories will furthermore work closely with the Testing and Experimentation facilities (TEFs), and the national AI supervision agencies, to test and validate AI solutions developed in the AI Factories to ensure they are considered trustworthy and compliant with the AI Act and robust enough to be used in real world settings.

ANNEX II

AI OPTIMISED SUPERCOMPUTERS FOR AI FACTORIES

It becomes clear that AI Factories need **to deploy timely so that an AI dedicated supercomputing and service infrastructures for Europe's AI start-up and research ecosystem can be operational**.

Three complementary tracks can be considered:

"AI Factories" Track

This track is foreseen for those Hosting Entities that are already hosting a EuroHPC Supercomputer which can demonstrate enough computing resources for training large scale, general-purpose artificial intelligence models and emerging artificial intelligence applications can be appointed as AI Factory.

This track will be implemented through a permanently Open EuroHPC JU Call for Expression of Interest of Hosting Entities to appoint existing EuroHPC Supercomputing systems as an AI Factory. The hosting entity commits to undertake AI Factories activities (i.e., the full range of AI factory services).

Further to the appointment of an existing EuroHPC Supercomputing system as an AI Factory, an implementation grant may be awarded to cover for the AI Factories activities (i.e., services). An amendment to the existing Hosting Agreement should be introduced.

Upgraded AI Optimised Supercomputer Track

This track is foreseen for those Hosting Entities that are willing to upgrade their current EuroHPC supercomputer towards an AI Factory.

This track will be implemented through permanently Open EuroHPC JU Call for Expression of Interest of Hosting Entities to deploy and operate an AI Factory (Upgrade supercomputer to AI + AI Factory (Services, Skill development, User support)).

Further to the selection of Hosting entities, a Call for Tender (e.g., procurement) for the acquisition of the upgrade will be launched in addition to one accompanying grant to cover for the AI Factories activities (e.g. services). The existing grant for operational costs will be adapted in consequence. An amendment to the existing Hosting Agreement should be introduced.

New AI Optimised Supercomputer Track

This track is foreseen for those Hosting Entities that are willing to acquire a new AI Factory optimised Supercomputer.

Permanently Open EuroHPC JU Call for Expression of Interest of Hosting Entities to deploy and operate an AI Factory (AI new system + AI Factory (Services, Skill development, User support).

Further to the selection of Hosting entities, a Call for Tender (e.g., procurement) for the acquisition of the new supercomputer will be launched in addition to 2 accompanying grants to cover for the operational costs of the supercomputer and another one to cover for the AI Factories activities (e.g. services).

It should be noted that these 3 AI Factories Implementation tracks can be implemented in parallel.

ANNEX III

AI Ecosystem Key Features

Key Feature	Key Feature Description	How address it
AI optimised supercomputers	• Is the application developed around an AI optimised supercomputer (existing, upgraded, or new)?	Provision by the Applicants of the description of an AI-optimised supercomputer.
National AI Strategy	• To what extent the establishment and deployment of an AI Factory is linked and contributes to the implementation of the national AI strategy of the hosting country/countries of the hosting consortium?	Provision by the Applicants of the description of the National AI Strategy or equivalent, clearly showing the strategic character of the AI Factory proposal. **NB:** In the absence of a formal national AI strategy, applicants will need to describe the strategic national (or Consortium) character of their AI Factory approach.
National Data Policies	• Is there a current National Data Policy enabling the access to large datasets, availability of knowledge corpus, etc., and if not, is there a plan included describing how the proposal will make available large data sets to the AI Factory ecosystem? • Does the proposal include a plan on how to implement policies facilitating the access to open data and proprietary data (including if necessary different fee schemes depending on the use of data for training/fine-tuning/inference)?	Provision by the Applicants of the description of: 1. National Data policy or equivalent. 2. Meaningful implementation policy for access to large data sets **NB:** the access to available "data" is key to facilitate the functioning of any AI Factory.
Access Policy	• Does the proposal include an AI user-friendly national access policy?	Provision by the Applicants of a description of the access policy to the nationally owned computing time of the EuroHPC supercomputer.

		NB: This is an essential requirement for a part of the application on an AI Factory proposal to provide
Stakeholder participation	• Does the application include a plan on how to attract key national AI stakeholders?	Provision by the Applicants of a description of a convincing plan for attracting such key AI stakeholders. **NB:** This is an essential requirement for an AI Factory.
AI Ecosystem needs and challenges	• Does the proposal describe its strategic focus industrial / application sectors and how it would help develop further the AI ecosystem in these sectors? • Does the proposal include any plans for provision of cloud solutions?	Provision by the Applicants of the description of the key industrial/application sectors as well as of the key obstacles to overcome to further develop the AI innovation ecosystem in these sectors. Provision by the Applicants of any internal or external cloud solutions to bridge the needs towards an end-to-end computing continuum. **NB:** The identification of the above is essential for justifying the need of building an AI Factory that corresponds to the strategic national priorities.
Strategy for startups and SMEs	• Does the proposal include plans for linking to an existing or developing a new national/regional strategy for helping investment in the AI startups and SMEs?	Provision by the Applicants of the description of any plans they have on linking to an existing or developing a new investment strategy for AI start-ups and SMEs. **NB:** While not an essential requirement for an AI Factory, it would help a lot to further grow the national AI innovation ecosystem.
KPIs	• Does the proposal include key performance indicators (KPIs) and targets to measure the contributions to the success of the AI Factory and associated AI ecosystem?	Inclusion by the Applicants of a set of meaningful KPI indicators and realistic targets.

		NB: These are critical to monitor progress and identify where/when needed corrective action.

INFRASTRUCTURE PILLAR

Ongoing activities:

The JU's Infrastructure strategy will continue to be implemented in 2025.

- The first exascale supercomputer to be located in Jülich Supercomputing Centre in Germany will be operational in 2025.
- The Greek mid-range supercomputer is being procured and will be inaugurated in 2025
- The Lisa/Leonardo upgrade is being procured and will be inaugurated in 2025.
- The Discoverer + upgrade will be fully operational in Q1 2025
- In 2024, the JU finalised the procurements of the six quantum computers. Two new hosting entities, Luxembourg and the Netherlands have been confirmed and procurement for two additional quantum computers will begin in 2025.
- The JU will finalise the procurement of its second exascale supercomputer, Alice Recoque, to be located in France.
- In 2025, the Arrhenius mid-range supercomputer, based in Sweden will be inaugurated.
- In order to develop a fully operational access capacity for users of EuroHPC Systems, the JU will update its access procedures in line with the amended access policy adopted in 2024.
- Hosting agreements with the mid-range computers CASPir to be in Ireland and LEVENTE, to be in Hungary were signed. With the selection of an AI Factory hosted by CYFRONET, the EHPCPL mid-range system procurement is cancelled.

Procurements launched in 2025:

	Process responsible	Call	Budget (EUR)	EU Contribution	Procurement goal	Joint Procurement	Procurement Status	Tender Launch date (or exp.)
INNOVATE (IT)	EuroHPC JU	Call for Industrial System	11,615,385.71 €	4,065,385.00 €	Industrial level supercomputer	Yes	In preparation	Sep-25

Ongoing Procurements of mid-range systems:

	Process responsible	Call	Budget (EUR)	EU Contribution	Procurement goal	Joint Procurement	Procurement Status	Launch date (or exp.)
LEVENTE (HU)	LiU	Mid-range 2021	21,876,223.00 €	10,938,111.50 €	General purpose supercomputer able with emphasis on AI applications	Yes	In preparation	Dec-25
DAEDALUS (EL)	GRNET	Mid-range 2021	36,228,287.85 €	12,679,900.75 €	General purpose supercomputer able to support traditional scientific and AI applications	Yes	Contract signed	21/06/2024
CASPIr (IE)	Uni. Galway	Mid-range 2021	25,000,000.00 €	8,750,000.00 €	General purpose supercomputer able to support traditional scientific and AI applications	Yes	In preparation	Dec-25
Arrhenius (SE)	LiU	Mid-range 2022	45,295,000.00 €	15,853,250.00 €	General purpose supercomputer able to support traditional scientific and AI applications	Yes	Contract signed	08/11/2024

CONNECTED AND FEDERATED SUPERCOMPUTERS PILLAR

Ongoing activities:

Procurement of connected HPC infrastructure and services

Following the results set out in the 'Study for Hyper-connectivity for HPC resources" (EuroHPC/LUX/2022/OP/01), which provided a comprehensive analysis of the communication and/or connectivity services needed for EuroHPC infrastructure and other relevant European and national supercomputing and data infrastructures; the JU launched a call for tender for *Acquisition of Hyperconnectivity Services for HPC Systems in Europe.* This call for tender will be managed during 2025.

Procurement of Federating Supercomputers and services

In 2023, the JU launched a call for tender for the deployment and operation of a platform for federating resources (including high performance computing, quantum computing and data management resources) providing Union-wide, cloud-based secure services for a wide range of public and private users across Europe. This procurement was launched in 2023 and will be fully operational across all EuroHPC Hosting Entities by 2025.

TECHNOLOGY PILLAR

Ongoing Activities

A number of Horizon 2020 grants managed by the JU concluded in 2024. The portfolio includes, for example, the development of software for future European supercomputer architectures, a European high-speed interconnect and a RISC-V based processor.

The JU launched a FPA RISC-V call in 2023 and the follow-up SGA (HORIZON-EUROHPC-JU-2022-TECH-03) was launched in 2024. A Pre-Commercial Procurement (PCP) that appeared in Work Programme 2023 is cancelled by the Governing Board.

A call on Innovation Action in Low Latency and High Bandwidth Interconnects was awarded in 2024. The JU also awarded the launched the HPC Energy efficiency R&I Call to develop new technologies that will reduce the energy consumption of future EuroHPC supercomputers in 2024.

The Post-Exascale call has been cancelled.

Calls in 2025

Call - Quantum Grand Challenge

HORIZON-JU-EUROHPC-2026-QGC-02

Overview of this call[1]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[2]	Indicative number of projects expected to be funded
		2025		
Opening: 14 Oct 2025 Deadline(s): 08 Jan 2026				
HORIZON-JU-EUROHPC-2026-QGC-02-01: Quantum Grand Challenge	CSA	4.00	0.20 to 0.30	12
Overall indicative budget		4.00		

General conditions relating to this call

This action supports the EU's ambition to strengthen its position as a global leader in quantum computing technologies by accelerating the development of industrial-scale quantum computing platforms. This call for proposals therefore invites European quantum computing startups to develop quantum computing solutions with a clear market perspective. This action directly supports the objectives of the Digital Decade,[3] and the Quantum Declaration,[4] and makes an integral contribution to the EU's digital transition.

The action is implemented in two phases: In the first phase (Phase 1) European start-ups are invited to prepare a technical and financial roadmap that demonstrates the potential of their quantum computing solution and provide physical proofs of principle or preliminary prototypes. At the end of Phase 1 the output of the startups will be evaluated and the start-ups successfully passing the technical and financial evaluation will be eligible to participate in the second phase (Phase 2, not subject to this call) and submit a proposal to the European Investment Bank (EIB) for financing in connection with the full maturation of the proposed quantum computing solution. The objective of Phase 2 is achieving technological maturity and market readiness in alignment with InvestEU's objectives of fostering innovation, competitiveness, and sustainable growth in strategic sectors.

In Phase 1 indicatively 12 start-ups will be retained and will receive a Horizon Europe grant of up to EUR 0.3 million, for a project duration of 4 months. The action will be implemented as a mono-beneficiary grant.

Throughout Phase 1, the European Investment Bank (EIB) Advisory and other interested public or private financial partners may support quantum startups in assessing their projects' financial viability and facilitating access to private capital.

In Phase 2, indicatively 6 start-ups may receive long-term financial support of up to EUR 30 million under InvestEU, which benefits from a dedicated top-up from Horizon Europe concerning quantum for this purpose. The investment projects under Phase 2 will be led by the retained start-ups – acting as the final recipients of the InvestEU and Horizon Europe-backed financing – and are expected to actively involve end-users to ensure relevance, market alignment, early validation and commercialisation of the solutions.

Proposals are invited against the following topic(s):

HORIZON-JU-EUROHPC-2026-QGC-02-01: Quantum Grand Challenge

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 0.20 and 0.30 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 4.00 million.
Type of Action	Coordination and Support Actions

Admissibility conditions	The conditions are described in the General Annex A of the Horizon Europe Work Programme 2023-2025.
Eligibility conditions	The conditions are described in the General Annex B of the Horizon Europe Work Programme 2023-2025. Proposals must be submitted by a single legal entity (mono-beneficiary CSA). A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide. In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, and security, it is important to avoid a situation of technological dependency on a non-EU source, in a global context that requires the EU to take action to build on its strengths, and to carefully assess and address any strategic weaknesses, vulnerabilities and high-risk dependencies which put at risk the attainment of its ambitions. As Phase 2 is implemented by the EIB under InvestEU, participation is limited to legal entities established in Member States and the InvestEU associated countries Norway and Iceland. For the duly justified and exceptional reasons listed in the paragraph above, in order to guarantee the protection of the strategic interests of the Union and its Member States, entities established in an eligible country listed above, but which are directly or indirectly controlled by a non-eligible country or by a non-eligible country entity, may not participate in the action unless it can be demonstrated, by means of guarantees positively assessed by their eligible country of establishment, that their participation to the action would not negatively impact the Union's strategic assets, interests, autonomy, or security. Entities assessed as high-risk suppliers of mobile network communication equipment within the meaning of 'restrictions for the protection of European communication networks' (or entities fully or partially owned or controlled by a high-risk supplier) cannot submit guarantees.[6]
Award criteria	The general criteria are described in the General Annex D of the Horizon Europe Work Programme 2023-2025. The following modifications to the general award criteria apply: **1. Excellence** • Relevance to the call objectives, including relevance for the EU's strategic interests and strategic goals for quantum technologies. • Feasibility of the proposed Phase 1 activities, including the capacity to develop integrated quantum hardware-software systems and produce tangible deliverables like a proof of principle or prototype, as a foundation for advancing solutions towards validated pilot implementations in real-world settings, through active engagement with end-users to ensure relevance, functionality, and adoption.

	2. Impact • Progress beyond the state-of-the-art, in particular how the envisioned quantum computing solutions address major challenges or deliver significant benefits, such as improving efficiency, solving previously intractable problems, or enabling new capabilities. • The potential societal, industrial, and economic impact of the project. **3. Implementation** • Credibility of how Phase 1 activities (roadmap development, proof of principle, and preliminary prototypes) will lead to scalable systems and real-world impact in Phase 2.
Documents	The documents are described in General Annex E of the Horizon Europe Work Programme 2023-2025.
Procedure	The procedure is described in General Annex F of the Horizon Europe Work Programme 2023-2025. Eligible proposals submitted under this topic and exceeding all the evaluation thresholds will be awarded a STEP Seal [https://strategic-technologies.europa.eu/about/step-seal_en].
Legal and financial set-up of the Grant Agreements	The rules are described in General Annex G of the of the Horizon Europe Work Programme 2023-2025. The following exceptions apply: Selected applicants in Phase 1 will receive Horizon Europe grants to develop feasibility studies, technical and financial roadmaps, and early prototypes. These mono-beneficiary projects (CSA) will span approximately four months, with up to EUR 0.3 million available per selected project. Proposals must include early validation of a functional prototype and a structured industrialisation roadmap with performance, integration, and financial viability metrics. At the conclusion of Phase 1, an independent end-of-action review will be carried out. Indicatively, up to six projects demonstrating strong technical progress and credible market readiness plans may be referred to submit investment proposals in Phase 2 to the European Investment Bank (EIB) under InvestEU, benefiting from a dedicated Horizon Europe top-up, under their own rules and subject to separate application and due diligence. This creates no entitlement, automatic progression, or prioritisation. The EIB Advisory and associated public/private financial partners will support Phase 1 participants with tailored advice to assess financial viability and prepare for potential EIB due diligence. Phase 2 will be implemented under InvestEU, benefiting from a dedicated Horizon Europe top-up, with funding volumes and conditions subject to EIB's eligibility and InvestEU financial assessment criteria.
How to submit an application	Proposals for the grant in Phase 1 must be submitted via the EU Funding & Tenders Portal. Applicants are encouraged to refer to the **Horizon Europe Programme Guide** for detailed instructions. Proposals for the financing in Phase 2 must be submitted to the EIB via its venture debt webpage (https://www.eib.org/en/products/equity/venture-debt/index), after successful evaluation at the end of Phase 1.
Exceptional page limits to	Proposals should have an indicative length of 10 pages.

proposals/applications	

Expected Outcome: **Phase 1: Prepare a technical and financial roadmap for a quantum computing solution**

- A detailed technical and financial roadmap, including performance milestones, risk assessments, financial viability assessment, and commercialization timelines.
- Technical documentation that summarizes preliminary results from benchmarks ranging from component level (e.g. fidelity measurements, connectivity, energy-state relaxation time, dephasing time), via system level (e.g. GHZ states, Quantum Volume, CLOPS, Clifford volume) to application level (e.g. Q-Score, MaxCut, quantum compilation volumetric benchmark, Quantum Application Score) and tangible proofs of principle or prototypes, representing the basis for advancing solutions towards validated implementations in real-world settings in Phase 2, if the project is retained.
- An application strategy identifying target sectors and detailing how the proposed integrated quantum systems will deliver quantifiable improvements.
- Expression of interest from potential end-user partners who should collaborate with the project in Phase 2, if the project is retained.

Objective: The primary objective is to establish a comprehensive technical and financial roadmap that demonstrates the potential of the quantum computer developed by the start-up for scientific innovation, economic relevance, and eventual industrial-scale deployment. In addition to the roadmap, eligible companies should deliver physical proofs of principle or preliminary prototypes that demonstrate the feasibility of their integrated hardware and software quantum computing systems. These outputs will be subject to technical assessment and a financial pre-screening, and pending a positive outcome, they will form the basis for consideration in Phase 2. The projects should showcase the added value of their quantum computing solutions in one or more carefully chosen application sectors, selected by the start-up based on technical feasibility and projected market return. As of Phase 2, the start-up should be accompanied by a number of users representative of the selected application sectors. Applicants are encouraged to include in their proposal Expressions of Interest from those user representatives.

Scope: Proposals should develop an integrated technical and financial roadmap together with a benchmarking strategy. The roadmap should outline how the targeted quantum computer, combining hardware and software components, may be developed in Phase 2, ensuring a fully integrated solution.

Projects should develop detailed financial viability assessments, identifying potential revenue models, commercialization pathways, and criteria for unlocking private investment during subsequent phases. Participants will receive, as appropriate to their project's needs, tailored advisory services from the EIB Advisory, including technical and financial planning during the execution of their project in Phase 1.

To ensure that Phase 1 delivers tangible outputs beyond planning documents, projects are expected to demonstrate prototypes or proofs of principle that showcase the technical feasibility of the proposed quantum computing solution in representative use cases. Standalone software-only or hardware-only approaches will not be considered. The proposal should specify appropriate performance metrics (e.g., number of physical qubits, quantum volume, gate- and readout fidelities, scalability targets, implementation of logical qubits), potential error mitigation methods and respective milestones, and the proposed methodology for validating these metrics in experimental setups at the indicated milestone date.

Proposals should identify industry-relevant use cases or societal challenges that aim to address high-impact applications. Metrics such as potential computational advantages over classical computing approaches in specific tasks, improved energy efficiency, or unique problem-solving capabilities should be highlighted to support the added value in real-world adoption in the sense of quantum utility[7], without necessarily requiring claims of quantum supremacy. While references to quantum advantage metrics are encouraged where relevant, they are not mandatory at this stage. Applicants are encouraged to adopt standardized benchmarking methods (inspired by global best practices) that measure key performance indicators such as quantum volume, gate fidelity, and qubit coherence times.

Proposals should include clear descriptions of how benchmarking and performance metrics will be integrated into project activities and demonstrate their relevance to both technological milestones and commercial objectives.

At the end of Phase 1, the retained projects will be evaluated for potential eligibility to continue into Phase 2. The evaluation will consider the quality of technical progress, benchmarking results, feasibility and impact of the integrated hardware-software prototypes, and financial viability in alignment with investor expectations. Priority will be given to entities integrating their solutions into existing EU supercomputing centres (HPCs) to facilitate testing and deployment in high-performance computing environments. Up to 7 startups from Phase 1 will be retained for Phase 2.

Financial Pre-screening: At the end of Phase 1 the Financial Pre-screening will assess the following items:

- Satisfactory indications of financial and commercial standing of the entity (including pre-appraisal of business description, products/services, business model, clients, competitive advantage and business plan).
- Satisfactory preliminary Know Your Customer and compliance check (including pre-appraisal of corporate structure and governance, shareholders and funding).

Phase 2: Bankable Deployment, Scalability, and Real-World Demonstrations

Horizon Europe Cluster 4 Work Programme 2026 will provide EUR 100 million as a top up to InvestEU (EIB).

The primary objective of phase 2 is to support the transition from prototype quantum computing solutions to scalable, market-ready platforms through long-term financing under InvestEU with the benefit of a dedicated Horizon Europe top up, ensuring technological maturity, financial viability, and alignment with market needs to attract both public financing and additional private investors. The proposals should demonstrate commercial potential and provide tangible, real-world applications that validate the quantum computing platform's ability to integrate into existing industrial and societal infrastructures. The entities that successfully passed the evaluation at the end of Phase 1 will be eligible to submit a full investment project to the EIB under InvestEU, which benefits from a dedicated top-up of Horizon Europe.

Scope: The entity should evolve its early prototypes from Phase 1 into fully operational quantum computing platforms, demonstrating significant improvements in hardware and software integration. The platforms should be scalable and demonstrate clear progress in quantum volume, error correction, and system coherence.

The quantum computing solutions should be validated in real-world industrial or societal environments, showcasing performance benefits over classical computing in well-defined application domains. The entity should work closely with industrial end-users to ensure that quantum computing platforms align with concrete use-cases of interest. The entities may involve inter alia research institutions, supercomputing centres, additional industrial partners, and potential investors to assist them in achieving their objective. Tangible performance benchmarks (e.g.,

computational efficiency gains, error mitigation improvements, cost reductions) must be demonstrated in selected application sectors.

In addition, the entity should ensure to meet the requirements for financing of InvestEU, Horizon Europe and the EIB, which will be assessed as part of the due diligence, which is expected to take 3 to 4 months, depending on the project.

Financing Structure:

The financing provided in phase 2 will be tailored to the project's needs, and typically consist of two tranches of about EUR 15 million each, provided as venture debt financing by the EIB:

- one tranche of high-risk financing supported under the InvestEU Thematic financial product which benefits from a dedicated top-up of Horizon Europe,
- and one tranche of lower risk financing supported under the InvestEU General Debt financial product.

[2] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

[3] https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en

[4] https://digital-strategy.ec.europa.eu/en/library/european-declaration-quantum-technologies

~~[5]~~

[6] The guarantees shall in particular substantiate that, for the purpose of the action, measures are in place to ensure that: a) control over the applicant legal entity is not exercised in a manner that retrains or restricts its ability to carry out the action and to deliver results, that imposes restrictions concerning its infrastructure, facilities, assets, resources, intellectual property or know-how needed for the purpose of the action, or that undermines its capabilities and standards necessary to carry out the action; b) access by a non-eligible country or by a non-eligible country entity to sensitive information relating to the action is prevented; and the employees or other persons involved in the action have a national security clearance issued by an eligible country, where appropriate; c) ownership of the intellectual property arising from, and the results of, the action remain within the recipient during and after completion of the action, are not subject to control or restrictions by non-eligible countries or non-eligible country entity, and are not exported outside the eligible countries, nor is access to them from outside the eligible countries granted, without the approval of the eligible country in which the legal entity is established.

[7] Quantum utility refers to the point at which quantum computers can perform reliable computations that are beyond the capabilities of classical computers, offering practical and potentially economically viable solutions to specific real-world problems.

Advancing quantum-enhanced machine learning

Call to be launched in 2026 and budget to be adjusted (See minutes GB51)

Expected outcome:

Proposals under this call aim to achieve transformative advancements in the integration of Artificial Intelligence (AI), notably Machine Learning (ML), with quantum technologies. The expected outcomes include:

- Techniques utilizing quantum processors and simulators as pre-processing stages for AI, leading to improvements in processing speed, computational complexity, modelling accuracy, and reduction in the number of samples needed, at scales achievable in the near- to mid-term (hundreds of physical qubits).
- Development of hybrid systems combining quantum processors and existing High-Performance Computing (HPC), including hybrid algorithms, to enhance AI capabilities.
- Creation of novel Quantum Machine Learning (QML) algorithms and their integration with existing AI frameworks, expanding computational capabilities and transforming traditional AI systems into more efficient solutions.
- Discovery of new near-term quantum algorithms to enhance AI performance.
- Development of scalable QML models and algorithms that combine quantum computing's power with machine learning for faster data processing and improved prediction accuracy in fields like hydrologic research, climate modelling, terrain classification in satellite remote sensing data, drug discovery, and image-based medical diagnosis.

Scope:

The focus of this call is to encourage and support innovative research and development projects that integrate Artificial Intelligence (AI) and quantum computing. Projects should explore scenarios where quantum processors and High-Performance Computing (HPC) are combined into hybrid systems, including hybrid algorithms, to enhance AI capabilities. Emphasis is placed on utilizing quantum processors and simulators as pre-processing stages for AI, achieving overall improvements in processing speed, computational complexity, modelling accuracy, and reducing the number of samples needed, at scales achievable in the near- to mid-term (hundreds of physical qubits).

This includes the development and evaluation of scalable Quantum Machine Learning (QML) systems that can handle massive data and complex computations. Resource estimation is important to identify the expected usefulness and timelines for the deployment of quantum technologies in AI applications.

Efficient training of classical models using quantum computers is another key area, including neural networks and deep reinforcement learning with applications such as autonomous driving. Proposals could address efficient solutions to hard problems in AI using quantum computers, such as coalition problems with applications in renewable energy distribution, bin packing with applications in logistics, job-shop scheduling with applications in industrial production, and image analysis.

The scope includes the development of scalable QML models and algorithms that combine the power of quantum computing with machine learning for faster data processing and improved prediction accuracy in fields like hydrologic research, climate modelling, terrain classification in satellite remote sensing data, drug discovery, and image-based medical diagnosis.

Indicative Budget:

An EU contribution of EUR 8 Million (50% of total funding) will be allocated for the support action.

HPC/QC Middleware technologies (see Work Programme 2024)

Call to be launched in 2026

Post-exascale computing (RIA)

This call is cancelled

High Performance Computing (HPC) has recently reached the Exascale computing performance, opening a new era of post-exascale computing in which solutions based on "business as usual" will simply not work. HPC is already confronted to a rapidly changing computing environment, for example with the emergence of extremely large AI models (e.g. LLM, multimodality, Generative AI, etc.), which require huge computing capacity with heterogeneous accelerated architectures combined with massive storage and complex data management. This new complex environment entails a whole new set of challenges not only for HPC technologies but also for key applications, as existing methods will not be effective to harness and fully exploit post-exascale environments which require a radical change in code development methodologies and frameworks supporting such applications.

Post-exascale is not just characterized by a huge computational performance in terms of floating point operations per second (FLOPS), but also by an increasing heterogeneity of computing platforms and architectures, the renaissance of AI (in particular generative AI) and the convergence of HPC with AI and Big Data, the need for energy-efficient and more sustainable systems, the shift from classic 64-bit to AI-driven models with reduced precision, the new approaches to traditional modeling and simulation, etc., combined with and the new usage models of supercomputers driven by the changing demands of users and applications.

It is urgent for Europe to stay at the forefront of the world efforts in HPC with a strong action to support the European HPC ecosystem to lead the way in this new post-exascale era, ensuring current and future social, scientific and industrial progress in a wide range of disciplines and applications. This action will strongly support European digital sovereignty with autonomous and sustainable European solutions that will be developed, integrated and deployed in the future post exascale computing infrastructure, representing a strategic alternative to the dependence on technology from our global competitors.

Scope

Proposals are invited to address current or longer-term research challenges across the whole HPC system stack, affecting software stacks, libraries, interconnects, storage, hardware, application co-design, etc. in the post-exascale era and that will shape the next generation of HPC software environments. Proposals should address one or more of the following topics, addressing additional topics if relevant:

- Development of a European post-exascale HPC software stack, from low-level software to application support, offering generic, portable, interoperable, reusable, sustainable and cross-domain solutions.
- Development of hybrid AI/HPC elements of the post-exascale software stack necessary to accelerate HPC use for AI and to provide AI at scale for science, covering and integrating existing and upcoming AI/ML and data science frameworks/tools/libraries/compilers/etc., and providing interfaces between traditional HPC libraries and the AI/ML frameworks.
- Methods for a comprehensive support for performance optimization in the post-exascale era, including novel integrating tools and mechanisms to monitor, measure, analyse and compare performance metrics across the software stack and at new complex environments, ensuring detailed insights into system behaviour and optimization opportunities.
- Methods for a sustainable HPC software production, integration, management and installation model, fostering the use/reuse of modular/interoperable and portable SW components for fast integration and development, through modern software packaging and contributing to an "industrial" software production environment towards a "As a Service" model.
- Software/application co-design, supporting application transition to post-exascale, portability and sustainability and helping communities to face the challenges of the heterogeneous post-exascale environments.

Examples of issues that could be addressed are the shift from classic 64-bit algorithms to AI-driven models and mixed precision computing; post-Exascale application-driven software stack; high-productivity programming interfaces,

~~sustainable software development, productization and maintenance, including tailoring and customisation of the software stack to different HPC systems and environments; services and workflows fostering sustainability re-use/modularity/interoperability etc., and support for hybrid HPC/AI workflow design. Additional issues are hiding hardware complexity to improve productivity, portability, and composability; asynchronous parallelism with dynamic optimizations to improve scalability; post-exascale mathematics and algorithms, adaptive mesh refinement, mixed precision, energy-aware algorithms; AI for automatic scientific code generation, addressing code robustness and efficiency; physics-based AI and hybrid simulation models, surrogate models, observational data reduction, HPC for distributed AI models; The above list of issues is not exhaustive, and proposers are invited to identify and justify any other relevant research challenges.~~

~~Proposals should build where appropriate on the work developed or driven by European stakeholders and reusing as possible software components from national and European projects and initiatives. In line with Horizon Europe rules, these different projects need to be developed in coordination with each other, in order to ensure convergence on the final outcome.~~

~~Expected outcome:~~

- ~~Supporting European digital sovereignty with autonomous and sustainable European solutions that will be developed, integrated and deployed in the future post-exascale computing infrastructure, representing a strategic alternative to the dependence on technology from our global competitors.~~
- ~~State-of-the-art advances in critical post-exascale research challenges in all areas of the HPC system stack and software environment, including a hybrid European HPC/AI software stack.~~
- ~~Accelerate the diffusion and application of HPC for AI at all stages and broadening the use base.~~
- ~~Reducing the costs of building and deploy applications on exascale and future post-exascale infrastructures~~
- ~~Capitalizing on and consolidating software production in Europe while ensuring software sustainability, and supporting and actively drive efforts in standardization where applicable.~~
- ~~Development of an "industrial" production environment converging towards "As a Service" for HPC/AI use.~~

~~Indicative Budget:~~

~~This topic will support Research and Innovation Actions of up to 5 Million of EU funding each. An EU contribution of EUR 20 Million (50% of total funding) will be matched by a PS contribution of EUR 20 Million (50% of total funding).~~

APPLICATIONS PILLAR

Ongoing Activities:

The latest HPC Centres of Excellence selected in 2023 will be operational between 2024 and 2026.

The European Quantum Excellence Centres (QECs) in applications for science and industry, launched in 2023, with the evaluations taking place in 2024, will be operational between 2025 and 2028.

The EuroHPC Inducement Prize for Quantum Computing and Simulation Applications, which appears in Work Programme 2023 will be launched in 2026, once the EuroHPC Quantum Computers are operational.

Strategy on the Application Pillar

In 2024, the Governing Board discussed a strategy on next steps in the Applications Pillar and calls to implement this strategy will be confirmed in this Work Programme, confirming activities that are committed in 2024, 2025 and possibly in 2026.

Budget allocation for the Applications Pillar

~~In 2024, an EU contribution from the Horizon Europe Programme of EUR 28 Million (50% of total funding) will be matched by a PS contribution of EUR 28 Million (50% of total funding). The total contribution to this pillar will therefore be EUR 56 Million.~~

~~In 2025, another EU contribution from the Horizon Europe Programme of EUR 18 Million (50% of total funding) will be matched by a PS contribution of EUR 18 Million (50% of total funding). The total contribution to this pillar will therefore be EUR 36 Million.~~

Amendment 3 of this Work Programme allocates the following funds to the Call on HPC Centres of Excellence and HPC Lighthouse Codes. The total of EUR 60 Million (50% of total funding)) envelope will be allocated to actions linked to the Applications Pillar from

- EUR 20 Million of 2024 contributions (Horizon Europe)
- EUR 18 million of 2025 contributions (Horizon Europe)
- EUR 22 million to be committed as from 2026 (Horizon Europe)

Furthermore, the two calls – the Workflows and Services in new computing environments (RIA) and the Code reengineering in new HPC/AI environments - HPC for AI/AI for HP (RIA) (see below)~~-~~are cancelled.

Calls in 2025:

Development of new benchmarks for HPC, Quantum Computing, and AI

Call – A European HPC-centric Benchmark Framework

HORIZON-JU-EUROHPC-JU-2024-BENCHMARK-05

Overview of this call

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution per project (EUR million)[31]	Indicative number of projects expected to be funded
		2024		
Opening: 11 December 2025 Deadline(s): 24 March 2026				
HORIZON-EUROHPC-JU-2024-BENCHMARK-05-01: A European HPC-centric Benchmark Framework	Research and Innovation Action (RIA)	4.00	0.50 to 1.00	1

[31] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

HORIZON-EUROHPC-JU-2024-BENCHMARK-05-02: A European Benchmarking Framework for hybrid quantum-classical computing	Research and Innovation Action (RIA)		0.50 to 1.00	1
Overall indicative budget		4.00		

General conditions relating to this call

Algorithms and applications for High-Performance Computing (HPC) are increasingly utilising a combination of heterogeneous resources and technologies such as Artificial Intelligence (AI), Quantum Computing (QC) resources, GPUs and specialised accelerators. Conventional metrics do not adequately capture the performance of such heterogeneous architectures or hybrid workloads and existing benchmarks consequently yield results that don't fully reflect the actual load conditions of production systems. Existing benchmarks exhibit shortcomings for several reasons. Firstly, benchmarks are often designed with different, sometimes conflicting, goals in mind, using varying metrics and reporting standards, making a fair comparison of results across different systems difficult. Secondly, benchmarks oftentimes have a strong focus on measuring system or component performance in isolated scenarios. However, in real-world supercomputing environments, HPC systems execute multiple workloads simultaneously that can interfere with each other affecting the system's or components' overall performance. Lastly, some of the most common benchmarks are not freely available, which limits their accessibility and acceptance of the broader European end-user community, making it difficult for different stakeholders to assess and optimize systems consistently.

With this advent of resource demanding, cross-platform applications, performance metrics need to encompass data movement efficiency, energy consumption, scalability across heterogeneous systems and other metrics that are considered relevant. Therefore, a new set of appropriate metrics and benchmarks for the next generation of EuroHPC infrastructure should be defined and standardised. Such standardized benchmarks will provide the basis for a fair comparison between different systems and architectures. As the landscape of conventional HPC, AI-infused HPC (HPC-AI) and hybrid HPC-QC evolves rapidly, having a consistent and widely accepted set of metrics and benchmarks will ensure that performance claims can be objectively verified. This comparability is crucial for researchers, vendors and funding agencies in making informed decisions about hardware and software investments.

AI workloads are increasingly injected into HPC systems, combining large-scale data processing with machine learning models. AI benchmarks need to measure performance not only in terms of training times and inference speed but also efficiency across different neural networks and HPC architectures. AI-specific metrics measuring, for example, throughput, latency, accuracy, and energy efficiency are critical. These metrics should reflect the performance of AI workloads on various hardware configurations, from CPUs and GPUs to AI-specific accelerators.

Quantum computing introduces fundamentally different computational paradigms. Current QC-centred benchmarks do not properly account for hybrid HPC-QC workflows. Hybrid HPC-QC benchmarks need to measure the throughput performance of the entire hybrid workflow, i.e. from job allocation, via job scheduling to job execution, including latency and accuracy. The associated metrics should reflect the performance of hybrid workflows across different HPC system and different HPC-QC integration approaches.

Consequently, improving and extending available metrics and benchmarks and subsuming them into a novel benchmarking suite is a central objective of this call, contributing to the JU's ambition to create and maintain a globally competitive supercomputing, AI- and QC- infrastructure. The envisioned benchmarking suite must entail **real-world applications** and **state-of-the-art use-cases** to be meaningful.

Proposals are invited against the following topic(s):

HORIZON- JU-EUROHPC-2024-BENCHMARK-05-01: A European HPC-centric Benchmarking Framework

Specific conditions	
Expected EU contribution per project	The EuroHPC JU estimates that an EU contribution of between EUR 0.50 and 1.00 million would allow these outcomes to be addressed appropriately. The expected duration of this action is **3 years**. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	HORIZON JU "Research and Innovation Action"
Admissibility Conditions:	The conditions are described in the General Annex A of the Horizon Europe Work Programme 2023-2025. The page limit of the application is **70** pages.
Eligibility Conditions:	The conditions are described in the General Annex B of the Horizon Europe Work Programme 2023-2025. A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide. The following legal entities are eligible to participate • National HPC centres • Research and academic institutions focused on HPC • Standardisation bodies • Other public and private entities regularly procuring, operating or using significant HPC resources, if clearly explained and duly justified in the proposal, and provided no conflict of interest exists Due to potential conflicts of interest, for-profit entities with business models around hardware and software for HPC are generally not eligible for participation.
Award criteria	The criteria are described in of the General Annex D of the Horizon Europe Work Programme 2023-2025.
Documents	The documents are described in General Annex E of the Horizon Europe Work Programme 2023-2025.
Procedure:	The documents are described in General Annex E of the Horizon Europe Work Programme 2023-2025. The granting authority can fund a maximum of **one project**.

	Eligible proposals submitted under this topic and exceeding all the evaluation thresholds will be awarded a STEP Seal [https://strategic-technologies.europa.eu/about/step-seal_en].
Legal and financial set-up of the Grant Agreements	As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to **50%** of the eligible costs. The rules are described in General Annex G of the of the Horizon Europe Work Programme 2023-2025.

Expected Outcome:

- Enhanced decision-making through comprehensive system comparisons that improves the procurement process for exascale, post-exascale supercomputers and supercomputers with dedicated AI capabilities. This will enable more informed choices regarding the acquisition of new systems and upgrades of existing ones.
- Competent HPC application developers and end-users in selecting systems that best meet their needs, balancing quality factors like accuracy with considerations of cost, such as time-to-solution.
- Overall improved operation and fine-tuning of HPC and HPC-AI systems leading to improved performance, throughput and energy optimization, and improved end-user experience.
- A unified, extensible and well-documented benchmarking **framework** to easily accommodate new, community-contributed benchmarks with common standards, versioning and control.
- A well-maintained and continuously updated **benchmarking suite** for exascale and post-exascale HPC, incl. set of apps, as well as AI models.

Scope:

A.) Deployment of a **benchmarking framework** for designing, developing and executing exascale HPC and HPC-AI benchmarks. The envisioned benchmarking framework will:

- offer a fine grained and **fair comparison methodology** among different HPC systems, i.e. all benchmarks, benchmark run rules[32] and benchmark submission rules must be designed to ensure reproducibility, repeatability and replicability of metrics on the same system, ensuring fairness and comparability of metrics across different systems
- define precise **performance metrics** with a clear focus on pertinent energy-related performance indicators, but also time-so-solution
- **standardise** all benchmarking input- and output formats
- **collect and report** all benchmarking results while offering statistically sound result analyses
- ensure that all benchmarks are **executable** on the respective target environment(s)

[32] Run rules define required and forbidden hardware, software, optimization, tuning, and procedures.

- offer a standardized **structured workflow** capturing and streamlining the entire benchmarking process
- offers a standardised **repository** with transparent **version control**
- provide a **reference implementation** for each benchmark
- use a EuroHPC **reference system**, where applicable, to normalize the performance metrics produced by the benchmarking suite, i.e. each benchmark is run and measured on this system to establish a reference value for that benchmark[33]; subsequently, the normalized performance is the quotient of the performance value attained on the EuroHPC reference machine and the one on the system under test;
- is of **production-quality** and ready to assess all EuroHPC supercomputers and supercomputers with AI capabilities,
- provides all required templates with relevant input data to properly execute the benchmarking suite on every EuroHPC system.

The benchmarking framework along with its workflows will be realised in a software implementation that offers to the end-user a dynamic workspace for the entire workflow.

B.) Establishing a comprehensive set of applications from which on can easily derive an exascale HPC and HPC-AI **benchmarking suite** utilizing the framework developed in the first objective. This benchmarking suite, with its associated performance metrics, will be designed to measure and assess the performance of HPC, as well as HPC-AI[34] systems at various levels of granularity, encompassing:

a. **Microbenchmarks**: Microbenchmarks focus on small or very small building blocks of real programs. They are typically characterized by a narrow focus on a single subsystem and used by component developers or system integrators for assessing the performance and optimizing specific parts of the system, e.g. the memory subsystem, or the interconnect. Examples include: dense and sparse linear algebra operations including tensor operations, spectral methods, n-body methods, (un)structured grid methods and others.

b. **Application and workflow benchmarks**: Application benchmarks are used for measuring the performance of a system under typical user inflicted workloads. Applications are comprehensive and attain a broad focus covering multiple components and their interactions. They are used by end-users, system administrators, and procurement authorities who need to evaluate overall system performance and compare different systems for their specific purposes: system selection, system optimization or system procurement. Examples are CFD, molecular dynamics simulation, numerical weather prediction, atomic scale materials modelling and others, AI model training, service/inference. Note that the concept of an application benchmarks encompasses real application benchmarks and their synthetic flavours, proxy applications, mini-apps, kernels and similar. Workflow benchmarks go beyond application benchmarks by accounting for system-performance effects of the flow and control-flow

[33] When two different systems are compared with the same benchmark, their performance relative to each other must be invariant, even is different reference machines are used.

[34] We shall refer to conventional HPC and HPC-AI systems and benchmarks collectively as HPC-AI systems and benchmarks.

complexities of integrated scientific workflows. These workflows couple computational and data manipulation steps across simulation and modelling, end-to-end AI workflows, and high-performance data analytics.

c. **System benchmarks**: System benchmarks offer a comprehensive system performance assessment under conditions where multiple, diverse workloads are concurrently executed and orchestrated by job schedulers and workload managers, reflecting a realistic, multi-user production environment. This involves running a curated portfolio of applications and is used by system administrators for optimizing the performance of schedulers and workload managers and by procurement authorities to assistant in system procurement decision-making. An example is running an ensemble of large AI multimodal model training simultaneously with large scale lattice Boltzmann simulations.

The envisioned benchmarking suite is expected to:

- be available for relevant hardware architectures
- provide documentation for developers and end-users
- catalogue **well-established** benchmarks of both technical areas
- continuously update the portfolio with **novel** benchmarks of both technical areas
- ensure that each benchmark produces at least one metric, examples are time-to-solution (under a quality constraint), throughput or utilization
- define reliable and appropriate **common metrics** to compare the different architectures based on pre-defined criteria (e.g. efficiency)
- ensure that all benchmarks and associated metrics will comprehensively cover all relevant workloads and performance aspects ensuring to meet the diverse needs of the European HPC-AI community in a **future-proof manner**
- offer a comprehensive coverage of contemporary and upcoming architectures, utilizing current representative and upcoming workloads from the HPC and HPC-AI domains
- be **application oriented**, reflecting actual use-patterns, use-cases and diverse workloads in all two technical areas (exascale HPC, as well as HPC-AI), ensuring that the genuine capabilities and limitations of each system is well-captured
- ensure the **scalability** of each benchmark by identifying relevant scale parameters[35],

Proposals should provide a thorough justification for the selection of each benchmark and performance metric, clearly explaining how they align with the specific requirements and priorities of the European HPC-AI landscape. The inclusion or integration of existing benchmarks under the umbrella of this initiative is encouraged, provided there are prior agreements with the benchmark owners and compatibility with licensing conditions.

[35] For example, the scale parameter for an FFT benchmark is the window size and the scale parameters for AI model training applications include the size of the dataset, model size, and, in some cases, the number of models being trained simultaneously (e.g., in bagging scenarios).

Proposals must outline a strategy for ensuring the sustainability and availability of the benchmarking suite beyond the duration of the action, specifically focusing on how to transform it into a community-driven effort. The proposal must also outline a clear IP plan targeting industry needs.
The consortium will actively coordinate with international collaborators to establish common and objective benchmarking standards
The project will also propose and maintain a detailed **strategic development roadmap** for the action, which:

i. anticipates future developments in HPC, including emerging technologies and prospective AI models

ii. identifies and addresses novel opportunities for exascale systems with a clear focus on energy efficiency

iii. foresees the hardware agnostic (ARM, x86, RISC-V) and hardware inclusive (processors, accelerators and hybrid systems) support of heterogeneous systems

The consortium will actively engage with industry and research communities through workshops, working groups, and feedback loops to receive continuous feedback ensuring that all benchmarks are relevant and up to date.

Requirements:

i. The proposal will eliminate duplication of effort by building on existing European benchmarking efforts and initiatives in HPC, such as PRACE Unified European Application Benchmark Suite (UEABS). Each proposal is expected to outline a strategy for aligning with and incorporate their results.

ii. The benchmark suite must specify a workload in an implementation independent way.

iii. Define a dataset and quality criteria:

    1. Detail benchmark specifications to test the supercomputing current and future systems against SOTA metrics.

    2. Address relevant metrics of the target system per technical area i.e. Performance, Scalability, Resource utilization, Energy efficiency, and extend where necessary.

    3. Contribute to relevant standardization efforts, including security standards such as ISO 27001, and AI standards like ISO 22989 and 23053.

    4. Define a methodology to deal with legacy applications and legacy systems.

iv. Define HPC utilization metrics including breakdown by benchmarking area (microbenchmarks, application benchmarks, mixed-workload benchmarks) and corresponding qualitative and quantitative KPIs to drive the development towards the objectives:

    1. Define effective KPIs between the different benchmarking areas.

    2. Collect and analyse user feedback to evaluate how the benchmark suite efficiently and fairly compares diverse systems.

v. Define a mechanism to monitor the benchmarking framework and pool appropriate existing benchmark suites, relevant for architectures of all participating HPC centres for deployment in a common data repository:

    1. The developed **automation framework** together with the benchmarks will be onboarded to a common software repository created within other EuroHPC initiatives.

2. Enable continuous improvement, e.g. within an automated integration and testing workflow for the benchmark suite and framework repository, with appropriate tools, including version tracking of the benchmarks (where applicable including the data sets, build infrastructure, etc.).

3. Define a mechanism for extending the benchmark suite: identification, selection, and standardisation of future relevant benchmarks, governance.

4. Extensive user documentation must be prepared and deemed sufficient by the users to effectively understand and use the benchmark suite.

vi. The consortium should demonstrate complementary expertise regarding the two main technical areas/key topics that add up to the modularity layered benchmark framework.

vii. The benchmarking framework and the encompassing benchmarking suite will be made available to the user communities under the European Union Public Licence (EUPL).

viii. The benchmarking framework will be defined by the selected proposal, thriving consensus among stakeholders representing the HPC and HPC-AI communities, ensuring alignment with their diverse needs. This collaborative approach will establish a single point of agreement, providing a unified standard that accommodates the evolving landscape of high-performance computing and its related fields.

ix. All technical and legal aspects should already be addressed at the proposal stage and not deferred to a later time or the consortium agreement. Where required, an appropriate modification of, e. g., the general terms and conditions for users of supercomputers should be elaborated and implemented by the participating HPC operators.

x. Proposals are expected to leverage on the **code.europa.eu** repository and provide all relevant software, including necessary supporting data and documentation, via the platform if compatible with the repository's policy

HORIZON-JU-EUROHPC-2024-BENCHMARK-05-02: A European Benchmarking Framework for hybrid quantum-classical computing

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 0.50 and 1.00 million would allow these outcomes to be addressed appropriately. The expected duration of this action is **3 years**. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 2.00 million.
Type of Action	HORIZON JU "Research and Innovation Action"
Admissibility Conditions:	The conditions are described in the General Annex A of the Horizon Europe Work Programme 2023-2025. The page limit of the application is **70** pages.

Eligibility Conditions:	The conditions are described in the General Annex B of the Horizon Europe Work Programme 2023-2025. A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide. In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, and security, participation in this topic is limited to legal entities established in Member States, associated countries, to Horizon Europe and EuroHPC JU Participating States. Proposals including legal entities which are not established in these countries[36] will be ineligible. This decision has been taken on the grounds that, in the area of research covered by this topic, EU open strategic autonomy is particularly at stake. It is important to avoid a situation of technological dependency on a non-EU source, in a global context that requires the EU to take action to build on its strengths, and to carefully assess and address any strategic weaknesses, vulnerabilities and high-risk dependencies which put at risk the attainment of its ambitions.
Award criteria	The criteria are described in of the General Annex D of the Horizon Europe Work Programme 2023-2025.
Documents	The documents are described in General Annex E of the Horizon Europe Work Programme 2023-2025.
Procedure	The procedure is described in General Annex F of the Horizon Europe Work Programme 2023-2025. The granting authority can fund a maximum of **one project.** Eligible proposals submitted under this topic and exceeding all the evaluation thresholds will be awarded a STEP Seal [https://strategic-technologies.europa.eu/about/step-seal_en].
Legal and financial set-up of the Grant Agreements	As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to **50%** of the eligible costs. The rules are described in General Annex G of the of the Horizon Europe Work Programme 2023-2025.

[36] Albania, Armenia, Austria, Belgium, Bosnia-Herzegovina, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Faroe Islands, Finland, France, Germany, Georgia, Greece, Hungary, Iceland, Ireland, Israel, Italy, Kosovo, Latvia, Lithuania, Luxembourg, Malta, Moldova, Montenegro, Netherlands, North Macedonia, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye, United Kingdom, all countries that automatically eligible for funding under Horizon Europe as provided in list-3rd-country-participation_horizon-euratom_en.pdf (V3.5 – 20.08.2025).

Expected Outcome:

- Enhanced evidence-based decision making through comprehensive system comparison that improves the procurement process for quantum-accelerated supercomputers (hybrid HPC-QC). This will enable more informed choices regarding the acquisition of new systems and upgrades of existing ones
- Overall improved operation and fine-tuning of hybrid HPC-QC systems leading to improved performance, throughput and energy optimization, and improved end-user experience
- Enhancing the competitiveness of EU quantum suppliers through transparent benchmarking of industrially relevant workflows
- A unified, extensible and well-documented **benchmarking framework** to easily accommodate new, community-contributed benchmarks with common standards, versioning and control.
- A well-maintained and continuously updated **benchmarking suite** for QC- and hybrid HPC-QC workflows with **open-source reference implementations** for every benchmark, SDK-agnostic specifications and sample datasets.
- **Active contributions to European and global standardisation** on QC-, and hybrid HPC-QC benchmarking, certification and sustainability via standardisation bodies such as IEEE P7130/P7131, CEN-CENELEC JTC22-WG3, IEC/ISO JTC3 etc.

Scope:

A.) Development of a **benchmarking framework** addressing the following aspects:

- offer a fine grained and **fair comparison methodology** among different systems and integration approaches, i.e. all benchmarks, benchmark run rules[37] and benchmark submission rules must be designed to ensure reproducibility, repeatability and replicability of metrics on the same system, ensuring fairness and comparability of metrics across different systems
- define and continuously update a precise and relevant **performance metrics catalogue**
- **standardise** all benchmarking input- and output formats
- **collect and report** all benchmarking results while offering statistically sound result analyses
- ensure that all benchmarks are **executable** on the respective target environment(s)
- offer a standardized **structured workflow** capturing and streamlining the entire benchmarking process
- offers a standardised **repository** with transparent **version control**
- provide at least one **reference implementation** based on EU SDK for each benchmark
- is of **production-quality** and ready to assess all of EuroHPC's QC- and hybrid HPC-QC systems

[37] run rules define required and forbidden hardware, software, optimization, tuning, and procedures.

- provides all required templates with relevant input data to properly execute the benchmarking suite on every EuroHPC system.

The benchmarking framework along with its workflows will **be realised in a software implementation** that offers to the end-user a dynamic workspace for the entire workflow.

B.) Establishing a comprehensive QC- and hybrid HPC-QC **benchmarking suite** utilizing the framework developed in the first objective. This benchmarking suite, with its associated performance metrics, will be designed to measure and assess the performance of QC- and hybrid HPC-QC systems.

The envisioned **benchmarking suite** is expected to:

- be generally **hardware agnostic**, enabling cross-device verification (e.g. via entangled-state comparisons, or distributed inner-product tests)
- provide thorough documentation for developers and end-users
- develop **novel hybrid** HPC-QC benchmarks within the following three key areas:
    - **Throughput**: capturing true end-to-end performance including queue-to-result latency, provisioning delays and data movement overhead
    - **Latency**: queue-to-solution time, end-to-end (i.e. submission-to-result)
    - **Energy**: per-shot energy, cryogenic overhead, control-electronics draw, classic-compute share, energy-to-solution (incl. all contributions, i.e. quantum-core, cryogenic, control electronics, classical compute)
- catalogue relevant, **well-established** QC benchmarks from across the entire software stack, including from micro-benchmarks up to representative QC-application code, e.g.:
    - **Component level/ Gate level**: gate fidelities, connectivity, energy-state relaxation time, coherence (T_1/ T_2), randomized benchmarking (RB), cross-talk RB, error-per-layered-gate (EPLG), logical-error rate, logical error scaling (Λ)
    - **System level**: Clifford-volume, cross-entropy (XEB), CLOPS/ rQOPS, MegaQuOp, GHZ-state fidelity (single shot read-out)
    - **Software/ Compiler level**: error-syndrome mapping, decoding-throughput metrics, quantum compilation volumetric benchmarks
    - **Application layer**: VQE, QAOA, MaxCut, Q-Score, quantum-enhanced ML, Monte Carlo sampling, workload-specific benchmarks, quantum application score
- support of both noisy-intermediate-scale-quantum- (NISQ) and FTQC- regimes (e.g. logical-error rates, logical-clock rate, decoding throughput)
- ensure that each benchmark produces at least one metric
- define reliable and **common metrics** to compare different qubit modalities, as well as the depth of the HPC-QC integration, based on pre-defined criteria (e.g. efficiency)

- ensure the **scalability** of each benchmark by identifying relevant scale parameters

Proposals should provide a thorough justification for the selection of each benchmark and performance metric, clearly explaining how they align with the specific requirements and priorities of the European HPC-QC landscape. The inclusion or integration of existing benchmarks under the umbrella of this initiative is clearly foreseen, provided there are prior agreements with the benchmark owners and compatibility with licensing conditions.

The proposal must also outline a clear IP plan and licensing strategy under the European Union Public Licence (EUPL-1.2) to safeguard openness and promoting European industrial uptake enabling first exploitation within EU- and Participating States.

The project will also propose and maintain a detailed **strategic development roadmap** for the action, which:

i. anticipates future developments in QC and hybrid HPC-QC, including emerging technologies

ii. foresees the hardware agnostic and hardware inclusive support of hybrid HPC-QC systems

The consortium will actively engage with industry and research communities through workshops, working groups, and feedback loops to receive continuous feedback ensuring that all benchmarks are relevant and up to date.

Requirements:

i. The proposal shall take into consideration the state of the art of development quantum computing benchmarking.

ii. Define a mechanism to monitor the benchmarking framework and pool appropriate existing benchmark suites, relevant for architectures of all participating HPC-QC centres for deployment in a common data repository.

iii. The benchmarking framework and the encompassing benchmarking suite will be made available to the user communities under the European Union Public Licence (EUPL).

iv. Proposals are expected to leverage on the **code.europa.eu** repository and provide all relevant software, including necessary supporting data and documentation, via the platform if compatible with the repository's policy

Call - Call on HPC Centres of Excellence and HPC Lighthouse Codes (RIA)

HORIZON-JU-EUROHPC-2026-COE-LH-01

Overview of this call

Proposals are invited against the following Destinations and topic(s):

Topics	**Type of Action**	**Budgets (EUR million)**	**Expected EU contribution per project**	**Indicative number of projects expected**
		2025		

			(EUR million)[38]	**to be funded**
Opening: 10 Jun 2025 **Deadline(s): 20 Jan 2026**				
HORIZON-JU-EUROHPC-2026-COE-LH-01-01: Community Centres of Excellence	**HORIZON-JU-RIA**		**2.00 to 4.00**	**10**
HORIZON-JU-EUROHPC-2026-COE-LH-01-02: Transversal Centres of Excellence	**HORIZON-JU-RIA**		**1.00 to 2.50**	**4**
HORIZON-JU-EUROHPC-2026-COE-LH-01-03: Lighthouse Codes for HPC Applications	**HORIZON-JU-RIA**		**1.00 to 1.50**	**8**
Overall indicative EU budget		**60.00**		

General conditions relating to this call

European HPC user and developer communities are world leaders in HPC application use and development in several domains. However, major developments in HPC hardware, system architecture and complex use cases, including data- and AI driven applications, are underway. This calls for action at European level in HPC applications, to sustain leadership and competitiveness, develop additional capabilities and establish an effective innovation value chain using the rapidly expanding European HPC infrastructure.

In order to allow a balanced coverage between topics, the following minimum amounts of JU contribution will be allocated to proposals eligible for funding:

- HORIZON-JU-EUROHPC-2026-COE-LH-01-01: minimum EU contribution of EUR 30 million;
- HORIZON-JU-EUROHPC-2026-COE-LH-01-02: minimum EU contribution of EUR 6 million.
- HORIZON-JU-EUROHPC-2026-COE-LH-01-03: minimum EU contribution of EUR 8 million.

Proposals are invited against the following topic(s):

HORIZON-JU-EUROHPC-2026-COE-LH-01-01: Community Centres of Excellence

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 4.00 million for a duration of 36 months would allow these outcomes to be addressed appropriately.

[38] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Indicative budget	The total indicative budget for the topic is EUR 60.00 million.[39]
Type of Action	HORIZON JU Research and Innovation Actions
Admissibility conditions	The page limit of the application is 70 pages.
Eligibility conditions	In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, or security, namely considering that • The Centres of Excellence (Community and Transversal) and Lighthouse codes will cover advances of targeted HPC applications towards highly scalable, optimised flagship codes and exascale performance, which are highly sensitive from a security and digital autonomy perspective, as they are part of Europe's critical European HPC infrastructure and ecosystem whereby their integrity, resilience and security have to be duly safeguarded from cyber-attacks and other security threats, and given their key role in the functioning of EU's data infrastructures and, given the potential sensitivity of the data processed (including for instance drug discovery testing and/or nuclear research simulations); • The actions implemented by the Centres of Excellence (Community and Transversal) and Lighthouse Codes might address real time critical applications during emergency situations using dedicated supercomputing resources (meant to, for example, save lives by promptly forecasting and mitigating the impacts triggered by natural disasters) the EU needs to avoid a situation of technological dependency on a non-EU source for close-to-market critical technologies; Participation is limited to legal entities established in eligible countries described in Annex B of the Horizon Europe Work Programme General Annexes.
Legal and financial set-up of the Grant Agreements	Beneficiaries will be subject to the following additional obligations regarding open science practices: • Coordinated provision of software, algorithms and relevant information to use and validate applications/tools without undue delay to the wider European HPC user community, in particular at all participating supercomputing centres, and in collaboration with linked actions. Grants awarded under this topic will have to submit the following additional deliverable(s): • data management plan (to be submitted at the beginning, at mid-term and towards the end of the project); • communication plan (to be submitted 6 months after the beginning of the grant together with the D&E plan); • plan for the dissemination and exploitation of results (to be submitted 6 months after the beginning of the grant, and towards the end of the project);

39 This budget is shared with topic HORIZON-JU-EUROHPC-2026-COE-LH-01-02, HORIZON-JU-EUROHPC-2026-COE-LH-01-03

	Beneficiaries will be subject to the following additional dissemination obligations: - Dissemination of training activities in collaboration with linked grants and relevant Coordination and Support Actions as a coordinated training programme. As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to 50% of the eligible costs.
Other conditions	The requested resources should be commensurate with the number of application codes and the scope of work planned for each, ensuring appropriate alignment between resources and effort. It is expected that proposals for Community CoEs include substantial development work on a collection of clearly identified application codes, ensuring that this collection meaningfully addresses the diverse needs of the target user community. Furthermore, each of the codes demonstrates European dimension and broad HPC user community beyond the consortium members. A maximum of one grant will be awarded that involves a specific activity within the scope of a particular HPC application. For example, development work for one specific software will be funded in a maximum of one grant among all topics of this call.
Evaluation and award procedure	To ensure a balanced portfolio covering different domains and technical challenges, grants will be awarded not only in the order of ranking but also to proposals covering domains and technical challenges not represented in higher ranked proposals in the order of ranking and provided that the applications attain all thresholds. In case of several proposals with significant overlap in technical or scientific domain, scope, consortium composition or targeted community, only the higher ranked proposal will be retained for funding.

Expected Outcome: Community CoEs must demonstrate scientific and technical excellence while ensuring impact at the wider European HPC community including the European industry and/or academia. Proposals should carry out a well-chosen subset (not necessarily all) of the following actions:

- Identify Targeted Applications & User Communities. Clearly define the software codes to be developed, enhanced or optimised, their ownership/licensing schema, and the impact on European HPC users, ensuring a broad and diverse innovation ecosystem. Describe the European user communities of the targeted applications, the current and predicted use on EuroHPC infrastructure/AI Factories as well as the impact of the planned developments on the European users.
- Deliver Highly scalable, optimized codes for Exascale or post-exascale/ advanced AI. CoEs should address frontier technical HPC/AI challenges, including load balancing, resilience, heterogeneity, and engage with AI-driven developments, ensuring scientific applications are fit-for-purpose in the AI and post-exascale era. CoEs should ensure co-design with HPC hardware and software developers and providers.
- Include activities to improve the energy efficiency of applications, algorithms, methods, libraries, and/or tools.
- Training & Capacity Building. Contribute to the overall training and skills activities, jointly with AI Factories, HPC National Competence Centres to address the skills gap and enable cross-sector AI-HPC adoption.

- Maximize Impact through Collaboration. Proposals should– where relevant and appropriate - establish strong links with:
    1. transversal CoEs, Lighthouse Codes;
    2. the Support Centre for HPC-powered AI Applications, ensuring mutual benefit between HPC code developers and real-world users;
    3. national and EU-funded projects, fostering technology transfer and best practices at the European level.
- Connect the Community CoE to national scientific communities inviting them to get involved in the activities developed and use their services.

Scope: Community Centres of Excellence (CoEs) are advancing the transition towards more performant and scalable codes, up to exascale and post-exascale including advanced AI capabilities by developing or scaling up existing parallel codes, resulting into effective applications to solve scientific, industrial or societal challenges and addressing the needs of the user communities, advancing high-performance computing (HPC) & AI applications that operate at the frontier of technology, and providing cutting-edge capabilities for the European HPC user community.

These Community CoEs will play a strategic role in pushing applications code to the next level, where possible up to exascale and post-exascale level including advanced AI capabilities. Proposals must demonstrate the key position of their application codes in their communities, describe their current status of development (e.g., performance, scalability, portability, etc.), and convincingly present their strategy and path for improvement towards their targeted next level. They should also describe how the related gain translates into a positive impact in their community. These CoEs will work closely with other HPC stakeholders e.g. relevant high-performance computing (HPC), scientific, and industrial communities to (i) enhance application performance and exploit advanced computing capabilities, (ii) develop and scale up existing application codes towards the next level up, reaching exascale performance, (iii) deliver tangible benefits for scientific and industrial challenges, (iv) provide user-focused and inclusive support, enabling new and underrepresented communities to leverage HPC/AI infrastructures effectively, (v) deliver training activities on the actions developed within the scope of the CoEs, (vi) ensure multidisciplinary collaboration where relevant in order to integrate expertise in application domains, HPC systems, software, and algorithms.

This call builds upon and complements HORIZON-EUROHPC-JU-2023-COE-03-01 and HORIZON-EUROHPC-JU-2023-COE-01-01 and should associate where relevant with the following actions: HORIZON-JU-EUROHPC-2026-COE-LH-01-02 and HORIZON-JU-EUROHPC-2026-COE-LH-01-03.

The call is expected to support:

- The development of HPC-ready applications with clearly defined objectives and a clear roadmap for bringing the targeted applications to the next level of maturity and scalability.
- A user-driven approach, connecting CoEs with developers, HPC users, industrial and scientific communities.
- Ensuring coordinated efforts with EuroHPC, Artificial Intelligence (AI) Factories, and national HPC programs.

Community CoEs should clearly define the targeted application(s), user communities, and performance needs, while presenting a detailed development plan with key performance indicators (KPIs), milestones, and deliverables and show European added value.

All Community CoEs should be driven by user needs and specifically target European users beyond the CoE consortium to create wider impact. CoEs should be inherently committed to co-design activities (e. g. in collaboration with any relevant transversal CoE) to ensure that future HPC architectures are well suited for the applications and their users (both from academia and industry), providing a high performance and scalable application base.

CoEs should federate existing resources around Europe, exploiting available competences, and ensuring multidisciplinary (combining application domain and HPC system, software and algorithm expertise) and synergies with national/regional programmes.

CoEs should further enlarge and expand these capabilities all over Europe, in particular by including user communities from EU widening countries and countries associated to Horizon Europe that are members of the EuroHPC Joint Undertaking currently developing and advancing their HPC infrastructure and ecosystem.

Proposals should be able to articulate clearly the scientific grand challenges which will be addressed by the applications and justify the advanced HPC performance needs.

Proposals should also develop synergies with preceding and existing CoEs where relevant. Should the proposed work target an area or domain already covered by former or existing CoEs, proposals must clearly elaborate on how their proposal further expands beyond previous work (e.g., new codes, codes upgraded/enhanced or ported to exascale/post-exascale/AI-optimized domains, new user communities, etc.), and avoid any kind of work duplication/overlap.

HORIZON-JU-EUROHPC-2026-COE-LH-01-02: Transversal Centres of Excellence

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 2.50 million for a duration of 36 months would allow these outcomes to be addressed appropriately.
Indicative budget	The total indicative budget for the topic is EUR 60.00 million.[40]
Type of Action	HORIZON JU Research and Innovation Actions
Admissibility conditions	The page limit of the application is 70 pages.
Eligibility conditions	In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, or security, namely considering that • The Centres of Excellence (Community and Transversal) and Lighthouse codes will cover advances of targeted HPC applications towards highly scalable, optimised flagship codes and exascale performance, which are highly sensitive from a security and digital autonomy perspective, as they are part of Europe's critical European HPC infrastructure and ecosystem whereby their integrity, resilience and security have to be duly safeguarded from cyber-attacks and other security threats, and given their key role in the functioning of EU's data infrastructures and, given the potential sensitivity of the data processed (including for instance drug discovery testing and/or nuclear research simulations); • The actions implemented by the Centres of Excellence (Community and Transversal) and Lighthouse Codes might address real time critical applications during emergency situations using dedicated supercomputing resources (meant to, for example, save

40 This budget is shared with topic HORIZON-JU-EUROHPC-2026-COE-LH-01-01, HORIZON-JU-EUROHPC-2026-COE-LH-01-03

	lives by promptly forecasting and mitigating the impacts triggered by natural disasters) the EU needs to avoid a situation of technological dependency on a non-EU source for close-to-market critical technologies; Participation is limited to legal entities established in eligible countries described in Annex B of the Horizon Europe Work Programme General Annexes.
Legal and financial set-up of the Grant Agreements	Beneficiaries will be subject to the following additional obligations regarding open science practices: • Coordinated provision of software, algorithms and relevant information to use and validate applications/tools without undue delay to the wider European HPC user community and in collaboration with linked actions. Grants award under this topic will have to submit the following deliverable(s): • data management plan (to be submitted at the beginning, at mid-term and towards the end of the project); • communication plan (to be submitted 6 months after the beginning of the grant together with the D&E plan); • plan for the dissemination and exploitation of results (to be submitted 6 months after the beginning of the grant, and towards the end of the project); Beneficiaries will be subject to the following additional dissemination obligations: - Dissemination of training activities in collaboration with linked grants and relevant Coordination and Support Actions as a coordinated training programme. As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to 50% of the eligible costs.
Evaluation and award procedure	To ensure a balanced portfolio covering different domains and technical challenges, grants will be awarded not only in the order of ranking but also to proposals covering domains and technical challenges not represented in higher ranked proposals in the order of ranking and provided that the applications attain all thresholds. In case of several proposals with significant overlap in technical or scientific domain, scope, consortium composition or targeted community, only the higher ranked proposal will be retained for funding.

Expected Outcome: The Transversal CoEs will play a pivotal role in strengthening the European HPC and AI ecosystem by providing dedicated critical expertise, tools, and services to support HPC application developers and advanced users in addressing cross-cutting challenges. In particular, they should lead to the following outcomes:

- Enhanced performance and efficiency of HPC/AI applications, achieved through dedicated support to application developers, including in-depth performance assessments, tailored optimization recommendations, proof-of-concept implementations, correctness-checking, energy-efficiency studies, and continuous advisory services.

- Stronger integration of tool development with application user and developer needs, by implementing effective feedback loops focusing on advanced profiling, debugging, and performance-tuning solutions and other aspects of relevance. This integration will benefit multiple application communities, and such benefits should be clearly described and justified in the project proposals - ideally including ways to quantify the positive impact on these communities by the end of the project.
- Enhanced interoperability across the computing continuum including but not limited to interoperability cloud and HPC/AI environments, addressing key challenges such as security, data privacy, resilience, and fault tolerance, and prioritising energy-efficient software optimisation to enhance system sustainability.
- Increased and improved knowledge transfer and skills development in HPC and AI integration, through structured training programs provided by transversal CoEs. These could include workshops, hands-on tutorials, and webinars on topics such as HPC performance optimisation, AI-enhanced applications, and hybrid cloud-HPC/AI workflows, ensuring broad access to cutting-edge expertise across Europe.
- Stronger coordination and collaboration across the European HPC ecosystem, with transversal CoEs serving as key enablers of knowledge and best-practice exchange in a specific, coherent and cross-cutting technical domain. By engaging with Community CoEs, Lighthouse Codes, the Support Centre for HPC-powered AI Applications and national/EU-funded initiatives, they will foster synergies across academia, industry, and research institutions to accelerate the adoption of advanced technical solutions.
- Uptake of new tools, technologies, methods and processes by HPC application developers to support, for example, the modernisation and refactoring of codes, portability, the adoption of malleability concepts, and faster R&D cycles through rapid testing and delivery of new code to users.

Scope: Transversal Centres of Excellence (CoEs) will play a strategic role in enabling the next generation of high-performance computing (HPC) applications by providing essential expertise, tools, and support to European HPC application developers. As the demand for computational power, AI integration, and large-scale simulations continues to grow, it is critical to establish technical hubs that can bridge the gap between cutting-edge HPC infrastructure and application developers. These centres will streamline software development and deployment, optimize performance, and facilitate the adoption of best practices, standards, and emerging HPC technologies across diverse scientific and industrial domains.

Transversal Centres of Excellence will increase adoption and broader dissemination of state-of-the-art HPC software development tools, technologies, and best practices among HPC application developers. They will strengthen technical skills and expertise within the HPC application development community and will harmonize performance standards and metrics for HPC applications and systems, ensuring consistency across the European HPC ecosystem.

This action aims to establish Transversal Centres of Excellence (CoEs) that serve as technical hubs for HPC application developers. These CoEs will provide specialised technical support in areas such as application profiling, pre-/post-processing, performance optimization, application delivery, co-design, and the integration of data and AI technologies. The initiative will help to streamline and enhance the development, deployment, and optimization of HPC applications across different domains.

This call builds upon and complements HORIZON-EUROHPC-JU-2023-COE-03-01 and HORIZON-EUROHPC-JU-2023-COE-01-01 and should associate where relevant with the following actions: HORIZON-JU-EUROHPC-APP-COE-LH-02-01, and HORIZON-JU-EUROHPC-APP-COE-LH-02-03.

Objective: Proposals must address one specific, well-defined and coherent transversal technical area that supports HPC application development. The focus will be on pooling European expertise and resources to provide technical assistance and services to HPC application developers, for example in one or several of the following cross-cutting domains (this list is not exhaustive and very different topics can be proposed, explaining in each case how diverse application communities will benefit from the proposed developments):

- Application profiling and performance optimization
- Application deployment and delivery
- Application portability
- Co-design and cooperation with HPC vendors and architects
- Automated testing, validation, integration and delivery of applications and code
- Code adaptation to computing continuum (HPC cloud, etc)
- Data processing, interoperability, reusability, and standardization
- Resilience and Fault tolerance
- Security and data privacy
- Heterogeneous, energy-efficient computing and system scalability

Transversal CoEs will offer advanced training on commonly used HPC development tools and technologies, with close collaboration with the AI Factories, EuroHPC Academy and existing EuroHPC training activities. Proposals are expected to contribute substantially to the EuroHPC's training portfolio, ensuring accessibility and knowledge transfer across European HPC/AI communities.

Additionally, proposals should establish strong links with other initiatives under the EuroHPC Applications and Technologies pillar, including:

- Community CoEs
- Energy-efficient computing technologies
- Microprocessor and system software development
- Middleware solutions
- Common standards and metrics for HPC architectures Transversal CoEs will also play a crucial coordination role, bridging activities funded by EuroHPC Joint Undertaking (JU) calls, particularly between application developers and domain-specific Community CoEs.

Transversal CoEs will also play a crucial coordination role, bridging activities funded by EuroHPC Joint Undertaking (JU) calls, particularly between HPC software engineers and Lighthouse Code developers as well as domain-specific Community CoEs.

Additional requirements:

- Consortia should include a balanced composition of partners, integrating HPC specialists and domain experts with relevant technical expertise as appropriate.
- The participation of private sector entities is strongly encouraged to enhance industry collaboration and impact.
- Maximize Impact through Collaboration. Proposals should establish strong links with Community CoEs, Lighthouse Codes, and the Support Centre for HPC-powered AI Applications, ensuring mutual benefit between HPC code developers and real-world users, engage with national and EU-funded projects, fostering technology transfer and best practices at the European level, and ensure involvement in broader AI and HPC initiatives, including RISC-V, European Processor Initiative (EPI), and emerging AI Factories.

- While deviations are permissible if adequately justified, proposals should generally allocate at least 12 person months of resources for collaboration activities with other grants awarded under this call. The pre-allocated resources will be assigned to a collaboration task which will be defined after the evaluation together with EuroHPC JU and relevant other grants.

HORIZON-JU-EUROHPC-2026-COE-LH-01-03: Lighthouse Codes for HPC Applications

Specific conditions	
Expected EU contribution per project	The Commission estimates that an EU contribution of between EUR 1.00 and 1.50 million would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 60.00 million.[41]
Type of Action	HORIZON JU Research and Innovation Actions
Eligibility conditions	In order to achieve the expected outcomes, and safeguard the Union's strategic assets, interests, autonomy, or security, namely considering that • The Centres of Excellence (Community and Transversal) and Lighthouse codes will cover advances of targeted HPC applications towards highly scalable, optimised flagship codes and exascale performance, which are highly sensitive from a security and digital autonomy perspective, as they are part of Europe's critical European HPC infrastructure and ecosystem whereby their integrity, resilience and security have to be duly safeguarded from cyber-attacks and other security threats, and given their key role in the functioning of EU's data infrastructures and, given the potential sensitivity of the data processed (including for instance drug discovery testing and/or nuclear research simulations); • The actions implemented by the Centres of Excellence (Community and Transversal) and Lighthouse Codes might address real time critical applications during emergency situations using dedicated supercomputing resources (meant to, for example, save lives by promptly forecasting and mitigating the impacts triggered by natural disasters) the EU needs to avoid a situation of technological dependency on a non-EU source for close-to-market critical technologies; Participation is limited to legal entities established in eligible countries described in Annex B of the Horizon Europe Work Programme General Annexes.
Legal and financial set-up of the Grant Agreements	Beneficiaries will be subject to the following additional obligations regarding open science practices: • Coordinated provision of software, algorithms and relevant information to use and validate applications/tools without undue delay to the wider European HPC user

41 This budget is shared with topic HORIZON-JU-EUROHPC-2026-COE-LH-01-01, HORIZON-JU-EUROHPC-2026-COE-LH-01-02

	community, in particular at all participating supercomputing centres, and in collaboration with linked actions. Grants award under this topic will have to submit the following deliverable(s): • data management plan (to be submitted at the beginning, at mid-term and towards the end of the project); • communication plan (to be submitted 6 months after the beginning of the grant together with the D&E plan); • plan for the dissemination and exploitation of results (to be submitted 6 months after the beginning of the grant, and towards the end of the project); As an exception from General Annex G of the Horizon Europe Work Programme, the EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to 50% of the eligible costs.
Other conditions	The requested resources should be commensurate with the software development plan detailed in the proposal. A maximum of one grant will be awarded that involves a specific activity within the scope of a particular HPC application. For example, development work for one specific software will be funded in a maximum of one grant among all topics of this call.
Evaluation and award procedure	To ensure a balanced portfolio covering different domains and technical challenges, grants will be awarded not only in the order of ranking but also to proposals covering domains and technical challenges not represented in higher ranked proposals in the order of ranking and provided that the applications attain all thresholds. In case of several proposals with significant overlap in technical or scientific domain, scope, consortium composition or targeted community, only the higher ranked proposal will be retained for funding.

Expected Outcome: The Lighthouse Codes for HPC Applications will play a strategic role in developing globally competitive HPC application software and accelerating Europe's leadership in high-performance computing (HPC) applications. By integrating cutting-edge capabilities into production-grade software, these codes will enable scientific discovery, and drive cross-sector innovation. They will ensure long-term sustainability and scalability of Europe's HPC ecosystem.

This initiative will result in collaborations between researchers, industry, and HPC experts, promoting best practices in software development, optimization, and interoperability. By aligning with scientific grand challenges (e.g. fusion energy, development of high-capacity/low-cost batteries, AI-driven genomics-based personalized treatments or AI-driven cybersecurity), Lighthouse Codes will contribute to breakthroughs in scientific, industrial, and societal applications, strengthening Europe's technological autonomy and innovation capacity in the exascale and AI era.

Expected outcomes include:

- Successful integration of cutting-edge capabilities into production-grade software, driving innovation and enhancing Europe’s scientific excellence and industrial competitiveness.

- Enhanced scientific and engineering productivity: Consolidated and optimized Lighthouse Codes lower technical barriers, enabling faster and more accurate simulations and computations. This supports scientific discovery, advances engineering solutions, and drives cross-sector innovation.
- Well-documented, high-quality codebases with well-defined scope and functionality, passing rigorous validation and reproducibility standards.
- Stronger alignment with EU grand challenges, ensuring that Lighthouse Codes contribute to Europe's strategic priorities in science and industry.

Scope: Central objective is the strategic and focused development of globally competitive HPC codes with high impact. This includes:

- further developing existing Lighthouse Codes,
- but also consolidating, refactoring, redesigning or rewriting existing applications, which will result in a state-of-the-art Lighthouse Code during the implementation of the proposal, and making the Lighthouse Code accessible to the wider HPC user community.

"Lighthouse Code" refers to an application, a software development kit (SDK)[42], or a software library which is distributed as a single package and meets the following broad criteria:

- Established professional software development and management structures involving professional HPC software engineers, including policies to ensure quality, coherence and compliance of contributions with community standards and best practices.
- An established large or rapidly growing user community, demonstrated through appropriate KPIs (e.g., number of users/growth trend, downloads, HPC resource allocations).
- Processes for systematic documentation as part of the development process providing comprehensive documentation of functionality, ensuring usability for both users and developers, including APIs, user manuals, and developer guides.
- Commitment towards code stewardship by at least one eligible legal entity, ensuring ongoing maintenance, updates, and strategic development beyond the grant period.
- Competitive scalability in the respective domain, and availability across multiple supercomputing architectures, including heterogeneous and accelerated platforms.
- Potential for broad adoption and high-impact applications in scientific, industrial or societal domains.
- Ownership and licensing framework, allowing both open-source and proprietary codes to be included, provided that access and development rights are clearly defined and consortium members demonstrate the competence to control and further develop the code.

The software developments will establish best practices among European contributors and lead to sustainable, globally competitive software that can significantly impacts the wider HPC ecosystem.

[42] 'software development kit (SDK)' refers to a collection of related and complementary software components within a functionality domain, developed by communities that work together with the objective of making the components interoperable to create additional value. In general, the development of these components relies on a set of policies, defined and enforced by the community involved in the SDK development, to adopt best practices, avoid duplicated functionality and achieve higher quality, productivity and sustainability

This call builds upon and complements HORIZON-EUROHPC-JU-2023-COE-03-01 and HORIZON-EUROHPC-JU-2023-COE-01-01 and should associate where relevant with the following actions: HORIZON-JU-EUROHPC-APP-COE-LH-02-01 and HORIZON-JU-EUROHPC-APP-COE-LH-02-02.

Lighthouse Codes are expected to demonstrate potential collaboration with relevant Centres of Excellence (CoEs) and the EuroHPC Academy, where appropriate, to benefit from the European community building and training efforts in key HPC domains.

Proposals should specify and describe the Lighthouse Code in detail. In this regard, communities are invited to present proposals which consolidate efforts dedicated, e. g. to multiple domain science codes, into one common Lighthouse Code.

Proposals clearly identify and describe the Lighthouse Code(s) to be developed or consolidated which must either already exist or, in exceptional and well-justified cases, be a state-of-the-art reimplementation of functionality of existing code. Each proposal may include only one Lighthouse Code. If an entirely new Lighthouse Code is proposed, it must be based on existing applications with high impact, for example in science and technology, and demonstrate a credible potential to meet the Lighthouse Code criteria within the project's duration.

Proposals should focus on the development, consolidation, or expansion of a Lighthouse Code with clearly demonstrated scientific, technical, or societal impact. A robust software development plan, including a well-defined scope, timeline, and sustainability strategy, should be central to the proposal.

Proposals should focus on at least one of the following activities, with clear, measurable KPIs and a detailed software development plan including regular milestones for all development lines:

1. Code Development & Optimization: rewrite, transform or consolidate multiple codes with existing large user communities and high scientific impact into one, potentially new Lighthouse Code
2. consolidate, or integrate multiple high-impact codes to improve performance, usability, and sustainability within the HPC ecosystem.
3. Feature Enhancement: Implement new functionalities in an existing Lighthouse Code to extend its capabilities and improve usability.
4. Architecture Adaptation: Port Lighthouse Codes to new HPC architectures, including novel accelerator-based platforms.
5. Exascale/ AI Readiness: Implement post-exascale/ Advance AI capabilities, improving scalability and efficiency.

Additional requirements:

- Consortia should include a balanced composition of partners, integrating HPC specialists and domain experts with relevant expertise.
- Maximize impact through collaboration, establishing strong links with other actions supported under this call.
- Commitment towards the sustainability of the codes beyond the grant period which should be demonstrated by a letter of commitment from a participating legal entity that will provide stewardship for the Lighthouse Code.
- The participation of entities in the private sector is strongly encouraged, provided alignment with central business objectives is clearly demonstrated.
- Proposals should describe in detail how the software development process will be streamlined and managed, including all relevant IT tools e. g. for code and documentation management, test automation, quality assurance, continuous integration, continuous delivery, issue trackers, user feedback and monitoring

dashboards. Applicants are encouraged to use best practice and automated workflows where appropriate to reduce administrative overhead and improve continuous reporting effort towards EuroHPC.

- Proposals should define and describe a mechanism how the specific developments resulting from the proposed work can be identified in the code.
- While deviations are permissible if adequately justified, proposals should generally allocate at least 12 person months of resources for portfolio activities. The portfolio activities, which refer to collaboration tasks with relevant initiatives under the same call, will be defined after the evaluation and implemented through a dedicated work package or task in the final Grant Agreement.
- While deviations are permissible if adequately justified, the overall resources allocated to non-technical work, such as project management, coordination, dissemination should generally not exceed 2% of the overall personnel resources. All participants are expected to contribute substantially (at least 5% of the total personnel resources) to the technical work and take responsibility for associated tasks and deliverables.

Workflows and Services in new computing environments (RIA)

This call is cancelled

~~Proposals should work on workflows solutions and services for applications that will evolve in new environments where the convergence of AI/HPC/HPDA/Cloud/Edge create a "computing continuum", in particular in industrial environments. Examples of issues that could be addressed are new emerging usages models including urgent computing and HPC digital twins (online digital replicas) representing physical objects/processes and receiving real-time information from the physical object/process in various application areas for example engineering, logistics, production, health, etc. Workflows solutions and services for the convergence of AI/HPC/HPDA/Cloud/Edge are also part of this area as well as cloudification of HPC services provided by supercomputing centres. As part of the research topics, proposals should address (non-exhaustive) challenges related to the extreme volumes, speed and variety of data across the computing continuum.~~

~~Expected outcome:~~

- ~~Advances in research challenges and novel workflows and services for applications in the Computing Continuum.~~
- ~~New usage modes of HPC in computing continuum environments in wider and/or emerging HPC markets~~
- ~~Coordinate efforts to share workflows solutions and services for the convergence of~~
- ~~AI/HPC/HPDA/Cloud/Edge~~

~~This topic will support Research and Innovation Actions of up to EUR 5 Million of EU funding each. An EU contribution of EUR 20 Million (50% of total funding), to be committed in 2026, will be matched by a PS contribution of EUR 20 Million (50% of total funding).~~

Code reengineering in new HPC/AI environments - HPC for AI/AI for HPC (RIA)

This call is cancelled

~~The overall goal is to accelerate science-driven and engineering-driven solutions powered by the convergence and coupling of big data analysis and Artificial Intelligence (AI), and the availability of extreme computing resources in exascale and post-exascale HPC/AI environments. This calls for a radical change in code development methodologies and frameworks.~~

~~This objective addresses the reengineering and improvement of codes and solutions with new methods and algorithms where modelling, data and AI supported by extremely parallel computing are central. Examples of topics are the upgrade or reengineering of conventional mainstream HPC codes (including e.g. algorithms, numerical methods and solvers) to benefit from generative AI breakthroughs and the use of e.g. mixed precision, the adaptation and enabling of AI solutions for exa/post exascale to fully exploit the massive presence of GPUs in HPC environments, etc.~~

~~Proposals should clearly identify target codes, methods or algorithms that will be reengineered and adapted to benefit from the new HPC/AI environments.~~

~~Expected outcome:~~

- ~~Adapted and optimised applications to new HPC/AI computing environments~~
- ~~Novel solutions and transition to the converged HPC/AI post exascale era benefiting HPC for AI and AI for HPC, including the use of AI to improve "traditional" HPC solutions and methods and the optimisation of AI solutions for HPC environments~~
- ~~Addressing the wider and/or emerging HPC and AI markets taking into account the increasing presence of accelerated computing hardware in HPC installations.~~

~~Indicative Budget:~~

~~This topic will support Research and Innovation Actions of up to 5m of EU funding each.~~

~~An EU contribution of EUR 20 Million (50% of total funding), to be committed in 2026, will be matched by a PS contribution of EUR 20 Million (50% of total funding)~~

COMPETENCES AND SKILLS PILLAR

Ongoing activities:

In 2024, a call to include Competence Centres from Participating States who acceded to Digital Europe Programme was launched. The renewal of the EuroHPC Master programme was also launched in 2024. The second User Day took place in October 2024. The next User Day will take place, under Danish Presidency, on 30 September-1 October 2025.

Calls in 2025

National Competence Centres for High Performance Computing

Objectives

The objective of this call is to strengthen the European HPC ecosystem by supporting existing, or establishing up to one new, National Competence Centre (NCC) for HPC in as many EuroHPC JU Participating States as possible. NCCs will be a focal point of HPC in the respective country and will provide a wide range of HPC services and training to industry (in particular to SMEs), academia and public administrations, facilitating tailored and modular solutions for a wide variety of HPC users. The NCCs should connect relevant stakeholders to other national and European initiatives in the area of HPC to provide the best possible support for HPC to the local communities.

SMEs and start-ups will be central to the NCC's activities. Academic institutions and stakeholders may be addressed only to a limited extent and most of the resources of the NCC will be dedicated to support local SMEs, industry and public services.

Scope:

The action should set up and operate, or further develop where already existing, one NCC for HPC in each country in a maximum number of EuroHPC JU Participating States. The NCCs represent the focal point of national competences in HPC and provide leading-edge knowledge to enable the development of innovative solutions in their country, taking into account national HPC needs and requirements emanating from different user communities (industry, academia, public administrations) and application domains.

The NCCs focus on activities where local support is most effective such as local communication, training and consultation services to support the specific needs of the relevant national and local communities. They provide a flexible and modular portfolio of HPC services, taking into account the degree of maturity of the national HPC ecosystem and in close coordination and collaboration with the other NCCs to achieve the highest possible impact and the widest possible spread of knowledge. NCCs will support stakeholders from other regions and countries that need their expertise through the NCC network in a coordinated way by the complementary Coordination and Support Action.

Indicative Budget:

The available indicative topic budget is EUR 20 Million. The JU considers that proposals requesting a contribution from the JU of up to EUR 550 000 per national HPC Competence Centres matched by the Participating States with an equivalent amount, and a duration of 3 years would allow this specific challenge to be addressed appropriately.

Networking and coordination of National HPC Competence Centres

Objectives

The central objective of the action is to coordinate and support the network of National Competence Centres (NCCs) for HPC as a single focal point at European level. This Coordination and Support Action aims to maximise existing European HPC knowledge and expertise across Europe by facilitating the sharing of applications, best practices, knowledge and information, networking and training across NCCs. In order to accomplish these objectives, the selected consortium will liaise and align activities under the guidance of the Coordinator of the Networking and Coordination of AI Factories/ AI Factories project. The selected consortium will also establish effective cooperations with other European initiatives, in particular regarding projects focusing on European training and skills for HPC, e.g., the EuroHPC Academy and the European Master for HPC.

Scope

The action should coordinate and support the NCCs for HPC. In particular, it is expected that the actions establish a communication platform, facilitate dialogue, promote the objectives of the initiatives and organize events and workshops on relevant topics for NCCs. The activities should leverage the synergies and complementarity strengths of the initiatives.

It is expected that potential training solutions, successful services and tools available from the NCCs network are identified and communicated. The action should support and assist in addressing requests and/or needs of their communities, for example by service facilitation and matchmaking between the relevant European initiatives or by supporting the exchange of knowledge and best practices between NCCs

Indicative Budget:

The JU considers that proposals requesting a contribution from the EU of up to EUR 2 Million (100% funding rate) and a duration of 3 years would allow this specific challenge to be addressed appropriately.

INTERNATIONAL COOPERATION PILLAR

The EuroHPC JU Regulation gives a mandate to the EuroHPC JU to implement cooperation and collaboration with third countries advancing the work on HPC applications in domains of common interest, including facilitating access for researchers to EuroHPC JU resources and co-development of HPC applications. EuroHPC JU will align its activities with the European Commission strategy on EU Digital Partnerships in order advance cooperation on digital issues with like-minded third countries.

Ongoing Activities

- In 2022 EuroHPC JU launched the call on collaboration on HPC with Japan
- In 2023, EuroHPC JU launched a call for collaboration on HPC with India
- In 2024, EuroHPC JU launched a call on collaboration on Quantum with Japan.

Calls in 2025:

Call - EuroHPC International Cooperation

HORIZON-JU-EUROHPC-2025-INCO-01

Overview of this call[43]

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million) 2025	Expected EU contribution per project (EUR million)[44]	Indicative number of projects expected to be funded
Opening: 04 Mar 2025 Deadline(s): 04 Jun 2025				
HORIZON-JU-EUROHPC-2025-INCO-01: International Collaboration on AI Factories and HPC-AI	HORIZON-JU-CSA	1.50	0.5 to 1.50	1
Overall indicative budget		1.50		

General conditions relating to this call

[43] Trillion Parameter Consortium (TPC).

[44] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

The rapid advances in Generative Artificial Intelligence (GenAI), in particular in Large Language Models (LLMs), and the increasing challenges of effectively using exa and post-exascale HPC architectures to meet the demands of novel AI based applications are changing the whole HPC-AI ecosystem. The magnitude of such challenges is fostering an indispensable collaboration with the key stakeholders at world level that are currently gathering their efforts in major activities to tackle those challenges and prepare the future, in particular the Trillion Parameter Consortium (TPC)[14.] European initiatives, and in particular the AI Factories, must benefit from the active involvement of EU stakeholders to maintain their current and future competences in this fast-moving environment. It is therefore critical that Europe sends a clear signal of coordinated involvement with a support action so not to be just followers in this major initiative.

Proposals are invited against the following topic(s):

HORIZON-JU-EUROHPC-2025-INCO-01: International Collaboration on AI Factories and HPC-AI

Specific conditions	
Expected EU contribution per project	The JU estimates that an EU contribution of between EUR 0.5 and 1.50 million for a duration of 3 years would allow these outcomes to be addressed appropriately. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 1.50 million.
Type of Action	HORIZON JU Coordination and Support Actions
Procedure	The granting authority can fund a maximum of one project.
Eligibility and admissibility conditions	Admissibility conditions: described in Annex A and Annex E of the Horizon Europe Work Programme General Annexes. Eligible countries: described in Annex B of the Work Programme General Annexes. A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide.
Legal and financial set-up of the Grant Agreements	Grants award under this topic will have to submit the following deliverable(s): • Communication plan (to be submitted 6 months after the beginning of the grant together with the Dissemination and Engagement Plan).

Expected Outcome:

- Strengthening the current and future capacities of the EU HPC-AI ecosystem, and in particular of AI factories, by supporting the active EU participation in the international initiatives for scientific and engineering massive GenAI HPC-based solutions.
- Delivery of a high-quality plan addressing the development of massive GenAI models for science in Europe.
- Ensuring that the EU's vision, priorities and ethical standards are well reflected in the discussions, roadmaps, and other technical activities and in the governance of the Trillion Parameter Consortium (TPC)[434].
- Contribution to the development of a competitive European converged HPC-AI ecosystem.
- Aligning the EU and national initiatives and bridging the gaps between EU and international efforts in these domains, and interaction and collaboration with other similar international efforts.
- Improving the sharing of information, best practice and expertise at European and world-level to address critical scientific challenges in these domains and ensuring that this knowledge is appropriately disseminated to key EU initiatives, in particular AI Factories.

Scope: Proposals are invited for a Coordination and Support Action to actively participate in the organisational and technical activities of the Trillion Parameter Consortium (TPC)[434] to guide and prepare European HPC for the convergence of supercomputing and AI in massive GenAI models for science. Proposals should demonstrate a clear link with the TPC, aiming at creating extreme - scale state-of-the-art trustworthy and reliable generative AI models and to address and discuss the related key challenges to support the advancing of AI for science using HPC.

Main activities:

- Coordinate and establish a EU-level representation in the governance of the TPC, ensuring the EU's views in strategic decisions and contributing to EU's sovereignty.
- Support the organisation and active participation of the EU stakeholders in technical activities such as roadmaps, working groups, dedicated workgroups, etc. of the initiative.
- Analyse the relevant research and operational challenges and produce and maintain high-quality research roadmaps with recommendations for research actions at the European level related to the TPC. Engage with and disseminate the results to the relevant European stakeholders and communities related to the TPC, to EuroHPC actors such as the RIAG, INFRAG, ETP4HPC, BDVA, and to other relevant projects and initiatives such as AI Factories, DARE FPA on RISC-V hardware, EuroHPC Hosting Entities, HPC Centres of Excellence (CoEs), etc.

The action should consist of a core consortium of key European players in the related domains, and should support the participation of individuals from other scientific and industrial players and organisations in Europe that are considered necessary for the success of the goals of the proposal and related to the main activities of the TPC.

International cooperation on HPC with third countries (Latin America)

This Call is postponed to 2026

The aim is to develop a strategic partnership in HPC with one target region (Latin America) enabling closer research cooperation in HPC and HPC powered applications. This topic will support one Coordination and Support Action (CSA), and only one proposal shall be selected per target region.

Expected Outcome:

- Strengthening the HPC ecosystem in the EU and in the target region by enabling HPC stakeholders to enhance HPC applications and codes in academic and industrial cases of common interest
- Improved international cooperation of EU with the research and industrial HPC communities of the targeted region on advanced HPC application development with a roadmap for future collaboration in targeted areas.
- Promote the exchange of best practices between the European and regional HPC research communities, including the improved sharing of information and expertise to solve common societal problems with the use of advanced computing, and the exchange of HPC researchers.

Scope:

- Development of a realistic HPC research cooperation roadmap with clearly identified application areas of common interest.
- Identify key HPC application areas and hardware/system requirements in the target regions of common interest with the EU
- Identify relevant national, regional and international funding schemes of HPC in the target region
- Organise meetings, thematic workshops and summer schools in areas of common interest, identifying best practices, information sharing mechanisms, exchange of HPC researchers mechanisms, etc.

Indicative Budget:

An EU contribution of EUR 3 Million (100% of total funding) will be allocated for the support action.

Call - Support to the International HPC Summer School

HORIZON-EUROHPC-JU-2025-IHPCSS-02

Overview of this call

Proposals are invited against the following Destinations and topic(s):

Topics	Type of Action	Budgets (EUR million)	Expected EU contribution	Indicative number of

		2025	per project (EUR million)[45]	projects expected to be funded
Opening: 01 Jul 2025 Deadline(s): 02 Oct 2025				
HORIZON-EUROHPC-JU-2025-IHPCSS-02: Support to the International HPC Summer School	HORIZON-JU-CSA	1.00	0.50 to 1.00	1
Overall indicative budget		1.00		

General conditions relating to this call

Proposals are invited against the following topic(s):

HORIZON-EUROHPC-JU-2025-IHPCSS-02: Support to the International HPC Summer School

Specific conditions	
Expected EU contribution per project	The EuroHPC JU estimates that an EU contribution of between EUR 0.50 and 1.00 million would allow these outcomes to be addressed appropriately. The expected duration of this action is 4 years. Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.
Indicative budget	The total indicative budget for the topic is EUR 1.00 million.
Type of Action	HORIZON JU Coordination and Support Actions
Procedure	The granting authority can fund a maximum of one project.
General Conditions:	
Admissibility Conditions:	The conditions are described in the General Annex A of the Work Programme.
Eligibility Conditions:	The conditions are described in the General Annex B of the Work Programme. A number of non-EU/non-Associated Countries that are not automatically eligible for funding have made specific provisions for making funding available for their participants in Horizon Europe projects. See the information in the Horizon Europe Programme Guide.

[45] Nonetheless, this does not preclude submission and selection of a proposal requesting different amounts.

Financial and operational capacity and exclusion:	The criteria are described in the General Annex C of the Work Programme.
Award criteria:	The criteria are described in of the General Annex D of the Work Programme.
Documents:	The documents are described in General Annex E of the Work Programme.
Procedure:	The procedure are described in General Annex F of the Work Programme.
Legal and financial set-up of the Grant Agreements:	The rules are described in General Annex G of the Work Programme. Grants award under this topic will have to submit the following deliverable(s): Communication plan (to be submitted 6 months after the beginning of the grant together with the Dissemination and Engagement Plan). The EU-funding rate for eligible costs in grants awarded by the JU for this topic will be up to 100% of the eligible costs. Beneficiaries may provide financial support to third parties. The support to third parties. The maximum amount to be granted to each third party is EUR 5 000.
Legal and financial set-up of the Grant Agreements	

Expected Outcome:

- Sustained European participation of European early-career scientists and contributions by European tutors in the International HPC Summer School (IHPCSS) series.
- Active representation of the European HPC communities in the governance, committees and working groups of the initiative on behalf of EuroHPC JU.
- Common framework with international partners for organisation of the IHPCSS including shared planning documents defining, for example, guidelines, scope, best practices, governance and curriculum development.
- Effective financial support mechanisms covering travel and accommodation costs for the participation of early career researchers established in EuroHPC JU Participating States.
- Expansion of the European HPC community through international networking opportunities, mentorship programs and exposure to cutting-edge HPC technologies
- Geographically balanced cohort participating in the IHPCSS, with selection criteria supporting a proportional representation from all EuroHPC JU Participating States, tracked through KPIs and annual reports.

Objective:

The primary objective is European support of the organisation and implementation and of the International HPC Summer School (IHPCSS)[46]. This includes financial support for the annual participation of up to 40 early career researchers in HPC from EuroHPC Participating States in the IHPCSS. Building on prior experience, the initiative aims to deliver high-quality, multidisciplinary training in high-performance computing and quantum technologies to graduate students pursuing a PhD and early career postdoctoral researchers. Through co-organisation with leading international partners in HPC, the action will ensure a world-class training programme, delivered by leading HPC specialists, and a balanced mix of theoretical and practical sessions. The IHPCSS also seeks to foster international collaboration, promote diversity and inclusion, and enhance the global visibility of European HPC expertise as promoted by EuroHPC JU. The action will implement structured evaluation mechanisms to continuously improve the programme and explore synergies with other global HPC training initiatives.

Scope:

The International HPC Summer School on Challenges in Computational Sciences (IHPCSS) is an annual global training event launched in 2010. It brings together top graduate students and postdoctoral researchers from all regions of the world to receive advanced training in high-performance computing (HPC) across different disciplines. Over the years, the school has grown in scale and international participation and currently involves partners from Europe, the US, Japan, Canada, Australia, the UK, and South Africa. Its core objective is to equip participants with cutting-edge HPC knowledge, foster international collaboration, and support career development through mentoring and networking with leading experts from major HPC centres.

Plan and organise at least four annual International HPC Summer Schools (IHPCSS) in the years 2026-2029 in collaboration with international partners. Proposals should clearly describe all activities implemented by the consortium and the associated resources, including:

- Select hosting locations and manage logistical arrangements together with international partners for each edition of the summer school.
- Develop and disseminate open calls for applications for European participation, ensuring broad outreach across Europe.
- Evaluate applications and select European participants in coordination with the EuroHPC JU, with a focus on a geographical intake and diversity.
- Design and coordinate the training programme, including scientific, technical, mentoring, and networking components.
- Implement mechanisms to identify and select European HPC tutors and mentors for programme delivery and support in coordination with the EuroHPC JU.
- Provide financial support for travel, accommodation, and subsistence for the selected European participants and contributors.
- Coordinate on-site activities and ensure smooth event execution during the summer schools.

[46] https://ihpcss.org/

- Evaluate programme outcomes and gather feedback to inform future improvements.
- Promote collaboration and inclusivity, engaging with underrepresented groups and explore synergies with other training initiatives.
- The selection of students for participation in the IHPCSS should be based on an annually open call for applications.

Proposals should clearly demonstrate prior experience in organising similar events, as well as a proven track record of successful collaboration with the relevant international partners. Proposals should clearly demonstrate that all partners in the consortium have a significant and justified role, including appropriate deliverables covering the specific contributions of each partner and in proportion to their indicative resources. The JU considers that a contribution from the JU of up to EUR 1 million and a duration of 4 years would allow this specific challenge to be addressed appropriately.

Selection of third parties for financial support: Award criteria and evaluation procedure

The consortium is expected to describe the procedure and the criteria used to ensure appropriate organisations and projects will be selected, in agreement with the provisions of the HORIZON Europe programme. The calls must have a clear European dimension.

When launching calls for proposals for the award of financial support, the consortium members may use their own procedure provided this procedure complies with the principles of proportionality, sound financial management, equal treatment and non-discrimination.

The process should also aim at reducing administrative burden for third parties, while at the same time ensuring sound financial management. In particular, the application forms and procedures should be tailor-made and appropriate to the technical and managerial capacities of the targeted applicants and scope of the projects. Calls for proposals must remain open for at least two months.

Beneficiaries must ensure transparency with adequate publication of calls for proposals and prevent conflicts of interest throughout the entire award procedure. [47] They will have to clearly demonstrate this in their application and report on it throughout the project.

The consortium must set specific objectives, guidelines and acceptance criteria before payment for each supported third-party scholarship Gand ensure appropriate monitoring, quality checks and reporting with qualitative and quantitative KPIs.

The outcome of the call must be published on the participants' websites, including information on the number of received applications, awarded grants, gender and geographical distribution.

[47] The EuroHPC JU reserves the right to monitor and participate in the selection and allocation process of the IHPCSS, including access to all applications, committee and panel meetings, and other related documents.

The participation in the IHPCSS with financial support through this action is limited to applicants with their primary place of residence, employment and citizenship in a country which is a Participating State of the EuroHPC JU and not yet represented in the IHPCSS at the time when the respective call for FSTP closes.

Overall, a minimum of EUR 350 000 of the requested funds should be allocated to financial support of third parties. Financial support to one application must not exceed a total amount of EUR 5 000.

ADMINISTRATION

Communication and stakeholder engagement

In 2025, the EuroHPC will continue disseminating the results of EU funded HPC activities implemented by the JU.

- **Online Dissemination of EuroHPC JU Activities and Opportunities**

In 2025, the JU will continue upgrading its online presence thanks to an improved website, becoming the single gateway to find information on EuroHPC JU activities, calls, opportunities and request access EuroHPC supercomputers. It will also add features to support EuroHPC public and private members to provide funding information.

- **Organisation of workshops to support and promote operational EuroHPC JU activities**

The JU will organise a number of workshops in order to engage with stakeholders in the HPC and Quantum communities in order to promote operational activities.

The JU will host regular monthly online meetings of the EuroHPC Hosting Entities. Up to two in person meetings may take place and be hosted, with support from the JU, in a Hosting Entity.

In addition, the JU will fund travel and an accommodation allowance (one night per meeting per expert) for up to two in person RIAG and INFRAG meetings in 2025 in Luxembourg, Brussels and/or during the annual EuroHPC Summit or the annual User Day meeting.

- **Organisation of events and meetings in the European Parliament**

In 2025, the EuroHPC JU will organise events in the European Parliament aimed at introducing its mission, achievements, and future opportunities to the newly elected Members of the European Parliament (MEPs). With the beginning of the new legislative term, this timing is crucial for raising awareness and fostering support for EuroHPC JU's initiatives, as the MEPs will be shaping EU policy for the next five years. Some of these events will be co-organised with other EU Joint Undertakings, further demonstrating the collaborative efforts of various sectors working towards shared European goals.

- **EuroHPC Summit 2025**

The EuroHPC Summit 2025 will take place in Poland on 18-20 March 2025, during the Polish EU Presidency. The organisation of this event will begin in 2024 and will base itself on the best practice and experience of EuroHPC Summit 2024. An estimated budget of EUR 700,000 will be allocated from DEP operational activities.

The event will gather key European HPC stakeholders, from providers to scientific and industrial users, to policy makers. As in 2024, a particular attention will be given to the students of the EUMaster4HPC and to the R&I projects of the JU.

The Summit will be an important moment to showcase the latest achievements and opportunities in the European supercomputing ecosystem, and to discuss and reflect on the current and future challenges in HPC, quantum computing and AI. The event will provide also a great opportunity for attendees to network and connect with the European HPC, quantum and AI communities.

- **EuroHPC Summit 2026**

The EuroHPC Summit 2026 will be organised, during the Cypriot EU Presidency. A budget of EUR 700,000 will be allocated from DEP operational activities, to be committed already in 2025.

- **User Day 2025**

Following the successful User Day event organised in 2023 and 2024, User Day 2025 will be organised on 30/09/25 and 01/10/25 in Denmark in order to disseminate results of projects that have had access to EuroHPC JU systems. A budget of EUR 200,000 will be allocated from DEP operational activities.

- **Other Conferences in 2025**

  - **ISC High Performance 2025**

The EuroHPC JU will participate again in the event ISC 2025 as exhibitor. It will also support the ISC organisers to promote TOP 500 list communication activities. In 2025, the event will take place on 10-13 June 2025 in Hamburg, Germany. ISC is the largest forum in Europe for high performance computing, high performance data analytics and AI/machine learning and brings together vendors, public institutions, and startups. It is also one of the two moments in the year where the TOP 500 and Top Green 500 ranking lists to benchmark HPC systems are communicated to the HPC community.

The event is a great opportunity for the EuroHPC JU to showcase its opportunities, its supercomputers and R&I projects. ISC 2025 is also critical for the JU to consolidate its public image while increasing its network and its European user's base. A budget of EUR 200,000 is allocated from the Administrative budget.

  - **Supercomputing Conference (SC25)**

The JU aims to promote its activities and achievements at SC25, the largest annual international HPC fora. SC25 will take place in Saint-Louis, United States in November 2025. A budget of EUR 150,000 is allocated from the Administrative budget.

Other Communication activities

In addition, the EuroHPC JU will also ensure the following activities:

- Regular in-person meetings between key EuroHPC stakeholders (GB, RIAG, INFRAG, User Forum Coordination Group (UFCG), User Forum, EuroHPC Users, the Hosting Entities, R&I partners) to ensure efficient and coordinated collaboration, develop synergies and reach potential new EuroHPC users
- Inauguration of new EuroHPC supercomputers and Quantum Computers
- Inauguration of 'AI Factories'
- Interactive publications of JU reports such as the Annual Activity Report, the User Day Report, to improve the attractiveness of the documents.

Legal and Internal Control

The JU is dependent on excellent legal support in order to do its work. It will procure, where necessary, external legal counsel to support it in implementing its operational activities. Furthermore, Internal Control activities remain a priority.

Strategy and plans for the organisational management and internal control systems

The Internal Control Principles as adopted by the EuroHPC JU Governing Board remain applicable for the Joint Undertaking. The description of specific controls and the related monitoring indicators have been adapted in the

last years where necessary to the JU's work environment. The continuous self-assessment by the management has been performed in 2024 and will continue in 2025, focussing on the new tasks, processes and related risks.

In the frame of the JU organisational continuous development approach, and profiting of the recent JU re-organisation, the quality management was improved by implementing results from internal control assessments and a staff survey performed in 2024. The objective of the quality management is to ensure efficiency in the JU activities and a well-functioning internal control system, enabling adequate JU objectives monitoring and achievement.

Financial procedures

The financial procedures and the workflows in place follow the financial rules, the general control framework applicable in the Commission and the H2020 & Horizon Europe rules and guidance.

The EuroHPC JU shall fully comply with the requirements of the recast Regulation (EU, Euratom) 2024/2509 on the financial rules applicable to the general budget of the Union entering into force on 23 September 2024.

Monitoring arrangements, including through the Union representation in the Governing Board, as well as reporting arrangements, will ensure that the JU can meet the accountability requirements both to the College and to the Budgetary Authority.

With regard to ICT tools applied to support its financial procedures, since its autonomy in 2020, the JU has used ABAC Workflow. In 2025, the JU is transitioning towards the new accounting and financial EC tool SUMMA, which should replace ABAC as from 1 January 2026.

In grant management, reporting and validation of costs for H2020 and Horizon Europe grants are done via the EC IT tools (SyGMa and COMPASS). Experts reports and validation of costs are supported by the EC IT tools (EMI/EPS and COMPASS). For the management of business trips, the JU uses the EC corporate tool MIPS, functionally connected to ABAC.

Ex-ante and ex-post controls

Ex-ante controls:

Ex-ante controls are essential to prevent errors and irregularities before the authorisation of operations, to mitigate the risks of non-achievement of the objective, and they avoid the need for ex-post corrective actions. An ex-ante control can take the form of checking grant agreements, initiating, checking and verifying invoices and cost claims, carrying out desk reviews (performed by EuroHPC JU project, finance and legal officers); mid-term reviews carried out by external experts and ad-hoc technical reviews (when deemed necessary).

During 2025, the Administration and Finance Unit and the operational units will continue to work closely together in their day-to-day activities of initiation, verification and payments of invoices and cost claims, creation of commitments, recovery orders, validation of financial and technical reports and following-up on other financial and administrative aspects of the projects. Ex-ante controls will follow a risk-based monitoring approach, which will contribute to further reducing the risk of failing projects and/or loss of funding in the final stage of the EuroHPC JU programme.

These activities will be conducted in a timely manner that will be monitored through the defined set of KPIs, in particular, the time to pay, the budget implementation and work programme execution.

Ex-post controls:

The Ex-post audit (EPA) process represents a significant element of the Internal Control System of the EuroHPC JU. Ex-post controls are defined as the controls executed to verify financial and operational aspects of finalised

budgetary transactions in accordance with Article 22 of the JU Financial Rules. The main objectives of the ex-post audits performed on EuroHPC JU participants are:

- To ensure the legality and regularity of the validation of cost claims performed by the EuroHPC JU's management;
- To provide an adequate indication on the effectiveness of the related ex-ante controls;
- To provide the basis for corrective and recovery activities, if necessary

For EuroHPC JU projects, the audits take place in accordance with the H2020 ex-post audit strategy. For EuroHPC JU projects, an R&I HE (risk-based) audit strategy has been developed, under the umbrella of the corporate R&I HE Control strategy. In 2024, the first EuroHPC JU audits have been launched by the Common Audit Service. The related audit results, expected to be available during the year 2025, will contribute to the Executive Director declaration of assurance.

The control objective of the JU is to ensure, that the residual error rate, which represents the remaining level of error in payments made after corrective measures, does not exceed 2% of the total expense incurred until the end of the programmes implemented by EuroHPC JU.

In 2025, focus will be put on the following:

- In cooperation with CAS, launch of new H2020 and Horizon Europe audits (based on analytical risk-profile review of the main beneficiaries and the JU's random sampling methodology.
- In cooperation with CAS, and in line with CAS Working Arrangements, ensure monitoring of timely completion of the audits.
- In cooperation with the CAS, implement the results of the ex-post audits on its beneficiaries.
- Provide adequate reporting through the budget discharge process.

As regards with the Horizon Europe (HE) programme, a new version of the Control Strategy for Horizon Europe was adopted in September 2023. The HE Control Strategy is characterised by a risk-based approach and details how the HE controls system will maintain a balance between economy, effectiveness and efficiency in the achievement of the HE programme goals.

Antifraud Strategy

The EuroHPC JU is a stakeholder of the H2020 and HE programmes and as such covered by the sector specific global Antifraud Strategy (AFS) of the Commission for the entire area of research. The Common Anti-Fraud Strategy in the Research & Innovation Family (RAFS) has been updated and endorsed in 2024.

In line with guidance provided by the European Commission (DG R&I and OLAF), the EuroHPC JU had established its specific Antifraud Strategy, which is reassessed periodically following a dedicated fraud risk assessment. The EuroHPC JU will update the assessment of fraud risks in the context of the programme implementation, but also in areas other than research and will identify its specific action plan.

As part of the HE Control Strategy, the Commission is establishing guidelines for risk based ex-ante controls in grant management, which include specific guidance and measures for preventing and detecting fraud and irregularities, applicable also for the EuroHPC JU. The related IT tools, for instance, for detecting plagiarism and double funding in H2020 and HE projects continue to be used by the EuroHPC JU.

For the prevention and detection of potential conflicts of interest, the EuroHPC JU continues to apply the multiple already existing processes concerning e.g. the Members of the EuroHPC JU's Governing Board, experts of evaluation procedures, panels for procurement and recruitments.

An overview of the EuroHPC JU Antifraud Strategy and related documents, including the guidance for whistle blowers, is provided on the EuroHPC JU website with direct links to OLAF. The section will be updated with new information pertaining to the HE Control Strategy, where necessary.

Audits

European Court of Auditors (ECA)

As regards European Court of Auditors (ECA) audits, in 2025 the EuroHPC JU will continue to :

- Liaise with the independent auditor to audit EuroHPC JU accounts for 2024 as required by the Financial Rules of the EuroHPC JU;
- Follow up and implement any recommendation made in the previous ECA reports on the EuroHPC JU annual accounts;
- Provide the necessary information and support for ECA audit on 2024 and 2025 accounts;
- Assist and support ECA in their new horizontal audit for the JUs for 2025 (topic is still to be announced);
- Support the ECA team in their field or remote missions for EuroHPC JU projects selected (on a sample basis) for an ex-post financial review, including follow-up with EuroHPC JU beneficiaries and with the CAS.

Internal audit service (IAS) of the Commission

Internal audits are carried out by the Internal Audit Service (IAS) of the European Commission in liaison with Internal Control and Audit Manager. For all internal audit related issues, the EuroHPC JU relies on the assurance provided by the Internal Audit Service of the Commission and will no longer conduct internal audits.

The focus in 2025 will be to:

- Ensure that the agreed action plans regarding the past audits are properly and timely implemented by the Joint Undertaking and provide assistance to the IAS in the follow up procedure.
- Provide input and assistance to the IAS in conducting new or ongoing audits like the audit on grants and procurement management, which started in 2024.

IT and Office activities

EuroHPC JU will continue to benefit from the shared IT services, provided on the basis of the Framework Contract signed between the Joint Undertakings and the framework contractor. The JU will also cooperate with the network of JUs in sharing expertise between IT JU professionals in the context of the back-office arrangement, mainly in the following areas: Inter-JU IT governance, Management of ICT tools, services and contracts EC applications, tools and services, EC FWCs Other tools and services (TBC), and Security and compliance management.

Following the entry into force of the Cybersecurity Regulation, laying down measures for a high common level of cybersecurity at the institutions, bodies, offices and agencies of the Union, which entered into force on 7 January 2024, the JU will take measures in collaboration with other JUs, to comply with the requirements imposed by the regulation.

The JU will also work towards optimising the office space to make sure it caters for the needs of a fully staffed JU.

Finance, audit and budgetary discharge

The 2025 budget structure remains unchanged, compared to the existing structure previously approved by the Governing Board, except for the creation of a new Title 4.

During 2025, ex-post financial audits of grant beneficiaries will continue to be organised, along the guidelines of the various programmes the JU is implementing.

BUDGET 2025

1. Revenue

The 2025 budget presented below includes revenues allocated under Horizon 2020 and the Multi-Annual Programmes 2021-2027 which are Digital Europe Programme, Horizon Europe and Connected Europe Facility.

The revenue commitment appropriations include new budget credits for 2025, reactivated credits and EUR 375 million in contributions from Participating States. The total amount is EUR 1,183 Million.

In this 2025 budget, the UK contribution to the JU for the Horizon Europe activities is already included (EUR 4 Million).

In December 2025, the Commission requested that EuroHPC JU receives additional 95 Million Euros (60 Million from CEF, 15 Million from Digital Europe Programme and 20 Million from Horizon for actions linked to the future amended EuroHPC Regulation COM (2025) 414 final). This has been reflected in the tables below.

Table 1 Revenue Commitment Appropriations

REVENUE (EUR)	Executed Budget 2023 (C1+ C2 credits)	Current Budget 2024 (C1+ C2 credits)	2025	2025 Budget Amendment No. 4		
			Last Approved Budget (C1 + C2 credits)	C1 Credits	C2 Credits	Proposed Budget (C1 + C2 credits)
1. Fees and Charges						
2. EU Contribution with EFTA included	623,398,655	277,516,230	712,913,408	95,000,000	-	807,913,408
of which Regulation (EU) 2021/1173 Administrative (Title 1 and Title 2)	3,447,160	8,092,878	10,075,067			10,075,067
of which old Regulation (EU) 2018/1488 Administrative (Title 1 and Title 2)	2,279,982	1,280,000	-			-
of which Regulation (EU) 2021/1173 Operations (Title 3)	617,652,201	268,129,663	702,652,510	95,000,000		797,652,510
of which old Regulation (EU) 2018/1488 Operations (Title 3)	19,312	13,688	185,831			185,831
3. Third Country Contribution	-	-	-	-	-	-
4. Other Contributions	270,850,000	30,245,228	375,309,162	-	-	375,309,162
4.1 Participating States	270,850,000	30,000,000	375,309,162	-	-	375,309,162
Contribution to the procurement MN5, Leonardo & Lumi	-	-	-			-
PT contribution to procurement of petascale	-	-	-			-
Contribution to the call of the high-end (exascale) supercomputers	270,850,000		-			-
Contribution to the call of the quantum/upgrade computers - RFF Funds			18,309,162			18,309,162
Contribution to the call of the quantum computers		30,000,000	-			-
Contribution to the call of the AI-optimised or upgraded supercomputer			357,000,000			357,000,000
4.2 Private Members	-	-	-			-
4.3 Miscellaneous Revenues	-	245,228	-	-	-	-
of which Administrative (Title 1 and Title 2)	-	235,000	-			-
of which Regulation (EU) 2021/1173 Operations (Title 3)	-		-			-
of which Contribution Agreements (Title 4) R0	PM	PM	R0	R0	R0	R0
of which old Regulation (EU) 2018/1488 Operations (Title 3)		10,228				-
Total REVENUE	894,248,655	307,761,458	1,088,222,570	95,000,000	-	1,183,222,570

Note: Reflecting the EU commitment appropriations for the actions linked to the future amended EuroHPC Regulation COM (2025) 414 Final

Table 2 Revenue Payment Appropriations

REVENUE (EUR)	Executed Budget 2023 (C1+ C2 credits)	Current Budget 2024 (C1+ C2 credits)	2025	2025 Budget Amendment No. 4		
			Last Approved Budget (C1 + C2 credits)	C1 Credits	C2 Credits	Total Amended Budget (C1 + C2 Credits)
1. Fees and Charges						
2. EU Contribution with EFTA included	157,429,603	566,961,110	372,298,675	-	-	372,298,675
of which Regulation (EU) 2021/1173 Administrative (Title 1 and Title 2)	3,447,160	8,092,878	10,082,549			10,082,549
of which old Regulation (EU) 2018/1488 Administrative (Title 1 and Title 2)	1,965,743	2,035,108	-			-
of which Regulation (EU) 2021/1173 Operations (Title 3)	60,262,383	456,344,323	323,666,819			323,666,819
of which old Regulation (EU) 2018/1488 Operations (Title 3)	91,754,318	100,488,802	38,549,307			38,549,307
3. Third Country Contribution		-	-	-	-	-
4. Other Contributions	48,407,346	152,385,387	106,101,737	-	-	106,101,737
4.1 Participating States	48,407,346	152,140,159	106,101,737	-	-	106,101,737
Contribution to the procurement MN5, Leonardo & Lumi	9,529,627	79,176,821	5,660,438			5,660,438
PT contribution to procurement of petascale	2,240,734	1,791,701	-			-
Contribution to the call of the high-end (exascale) supercomputers	36,636,985	37,130,136	37,130,136			37,130,136
Contribution to the call of the quantum/upgrade computers - RFF Funds		1,170,000	27,779,162			27,779,162
Contribution to the call of the quantum computers		32,871,500	25,332,000			25,332,000
Contribution to the call of the AI-optimised or upgraded supercomputer			10,200,000			10,200,000
4.2 Private Members	-		-			-
4.3 Miscellaneous Revenues	-	245,228	-	-	-	-
of which Administrative (Title 1 and Title 2)	-	235,000	-			-
of which Regulation (EU) 2021/1173 Operations (Title 3)	-		-			-
of which Contribution Agreements (Title 4) R0	PM	PM	R0	R0	R0	R0
of which old Regulation (EU) 2018/1488 Operations (Title 3)	-	10,228				-
Total REVENUE	205,836,949	719,346,498	478,400,411	-	-	478,400,411

2. Expenditure

The overall administrative budget for 2025 remains aligned with the maximum ceiling foreseen under the JU regulation of EUR 92 Million for the entire 2021-2027 current Multi-Annual Financial Framework.

Table 3 Expenditure Commitment Appropriations

EXPENDITURES (EUR)	Executed Budget 2023 (C1+C2 credits)	Current Budget 2024 (C1+ C2 credits)	2025	2025 Budget Amendment No. 4		
			Last Approved Budget (C1 +C2 credits)	C1 Credits	C2 Credits	Proposed Budget (C1 + C2 credits)
Title 1. Staff Expenditure	**4,278,053**	**6,069,752**	**7,321,744**	-	-	**7,321,744**
11 Salaries & Allowances	**3,728,086**	**5,253,704**	**6,518,307**	-	-	**6,518,307**
1100 - Temporary Agents	2,305,544	3,692,857	4,028,307			4,028,307
1110 - Contractual Agents	1,422,541	1,419,432	2,050,000			2,050,000
1120 - Interim, Trainees & SNEs		141,415	440,000			440,000
12 Expenditure relating to recruitment	**25,718**	**20,574**	**11,500**			**11,500**
13 Missions and travel expenses	**201,695**	**362,000**	**350,000**			**350,000**
14 Socio-medical and training	**322,554**	**237,273**	**261,637**	-	-	**261,637**
1400 - CAS & EU School transports		87,440	100,633			100,633
1410 - Trainings		89,075	99,740			99,740
1420 - Social measures for Staff		60,758	61,265			61,265
1500 - HR administrative services		**196,200**	**180,300**			**180,300**
Title 2. Building, Equipment and Operating Costs	**1,449,089**	**3,435,127**	**2,653,323**	-	-	**2,653,323**
20 Buildings and associated costs	**93,901**	**70,000**	**121,250**			**121,250**
21 Information Technology	**333,344**	**526,351**	**598,611**			**598,611**
22 Movable property	**2,549**	**32,192**	**14,720**			**14,720**
23 Current administrative expenditure	**120,051**	**155,540**	**164,660**			**164,660**
24 External consultancy & auditing	**5,201**	**382,906**	**97,544**			**97,544**
25 Internal Meetings	**71,122**	**74,825**	**70,000**			**70,000**
26 Legal services	**306,986**	**424,782**	**209,542**			**209,542**
27 Comm, Information & Events	**90,250**	**232,096**	**256,933**			**256,933**
28 Experts and associated costs	**425,684**	**1,536,434**	**1,120,064**			**1,120,064**
Total ADMIN (Tilte 1 and 2)	**5,727,142**	**9,504,879**	**9,975,067**	-	-	**9,975,067**

EXPENDITURES (EUR)	Executed Budget 2023 (C1+ C2 credits)	Current Budget 2024 (C1+ C2 credits)	2025	2025 Budget Amendment No. 4		
			Last Approved Budget (C1 + C2 credits)	C1 Credits	C2 Credits	Proposed Budget (C1 + C2 credits)
Total ADMIN (Tilte 1 and 2)	**5,727,142**	**9,504,879**	**9,975,067**	-	-	**9,975,067**
Title 3. Operational Expenditure						
30 Grants, HPC Operations, R&I Activities	**225,019,312**	**210,104,866**	**272,987,290**	-	-	**272,987,290**
Regulation (EU) 2018/1488 Calls	**19,312**	**126,917**	**285,831**	-	-	**285,831**
EuroHPC-2019-1	19,312	126,917	285,831			285,831
EuroHPC-2019-2	-	-	-			-
EuroHPC-2019-3	-	-	-			-
EuroHPC-2020 -1	-	-	-			-
EuroHPC-2020 -2	-	-	-			-
EuroHPC-2020 -3	-	-	-			-
Opex Grants	-	-	-			-
Regulation (EU) 2021/1173 Calls	**225,000,000**	**209,977,949**	**272,701,459**	-	-	**272,701,459**
c. Federation Pillar		-	-			-
d. Technologies Pillar	185,000,000	88,677,949	8,030,000			**8,030,000**
e. Applications Pillar	30,000,000	36,300,000	20,000,000			**20,000,000**
f. Compentences & Skills Pillar		15,000,000	-			-
g. International Cooperation Pillar	10,000,000	10,000,000	5,500,000			**5,500,000**
h. AI pillar		60,000,000	239,171,459			**239,171,459**
31 HPC Infrastructure Activities	**663,502,201**	**88,151,714**	**805,260,214**	**95,000,000**	-	**900,260,214**
Regulation (EU) 2018/1488	-	-	-	-	-	-
LUMI - PreExscale		-	-			-
LEONARDO - PreExscale		-	-			-
MNS5 - PreExscale		-	-			-
Deucalion - Petascale		-	-			-
Regulation (EU) 2021/1173	**663,502,201**	**88,151,714**	**805,260,214**	**95,000,000**	-	**900,260,214**
AI-optimised or upgraded EuroHPC supercomputers (TCO)			786,081,052			786,081,052
High-end (Exascale) supercomputers (TCO)	541,700,000	-	-			-
Mid-range supercompters (TCO)	64,597,000	-	-			-
Hyperconnectivity for HPC Resources call & Federation Call	-	-	-			-
Upgrading EuroHPC supercomputers (TCO)	-	-	18,309,162			18,309,162
Quantum computers	20,000,000		-			-
Access and allocation of EuroHPC computing resources and services	120,000	1,800,000	-			-
Industrial HPC supercomputer	12,260,601		-			-
EuroHPC Summits	719,304	700,000	700,000			700,000
User Forum Events	60,800	-	170,000			170,000
Actions linked to the future amended EuroHPC Regulation COM (2025) 414 Final				95,000,000		95,000,000
De-prioritised calls from previous years	24,044,496	85,651,714	-			-
Total OPERATIONAL (Title 3)	**888,521,513**	**298,256,580**	**1,078,247,503**	**95,000,000**	-	**1,173,247,503**
Total EXPENDITURE	**894,248,655**	**307,761,458**	**1,088,222,570**	**95,000,000**	-	**1,183,222,570**
Title 4: Contribution agreements with the European Commission	-	-	-	-	-	-
4010 – Operational activities under contribution agreements	PM	PM	PM	R0	R0	R0
4110 – Administrative support to operational agreements	PM	PM	PM	R0	R0	R0
Total Title 4	-	-	-	-	-	-

Note: Reflecting the EU commitment appropriations for the actions linked to the future amended EuroHPC Regulation COM (2025) 414 Final

Table 4 Expenditure Payment Appropriations

EXPENDITURES (EUR)	Executed Budget 2023 (C1+ C2 credits)	Current Budget 2024 (C1+C2 credits)	2025			2025 Budget Amendment No. 4		
			Last Approved Budget (C1 + C2 credits)	Internal transfer by ED	C4 Credits	C1 Credits	C2 Credits	Proposed Budget (C1 + C2 credits)
Title 1. Staff Expenditure	**4,055,875**	**6,319,540**	**7,254,144**	-	-	-	-	**7,254,144**
11 Salaries & Allowances	**3,664,102**	**5,284,839**	**6,412,718**			-	-	**6,412,718**
1100 - Temporary Agents	2,305,544	3,692,857	4,023,207					4,023,207
1110 - Contractual Agents	1,358,558	1,450,567	2,050,000					2,050,000
1120 - Interim, Trainees & SNEs		141,415	339,511					339,511
12 Expenditure relating to recruitment	**16,646**	**20,574**	**20,517**					**20,517**
13 Missions and travel expenses	**180,581**	**413,159**	**350,000**					**350,000**
14 Socio-medical and training	**194,546**	**237,273**	**272,745**			-	-	**272,745**
1400 - CAS & EU School transports		87,440	106,943					106,943
1410 - Trainings		89,075	115,069					115,069
1420 - Social measures for Staff		60,758	50,733					50,733
15 - HR administrative services		**363,694**	**198,164**					**198,164**
Title 2. Building, Equipment and Operating Costs	**1,357,028**	**3,940,446**	**2,828,404**	-	-	-	-	**2,828,404**
20 Buildings and associated costs	**83,851**	**81,055**	**147,623**					**147,623**
21 Information Technology	**380,922**	**549,252**	**601,375**					**601,375**
22 Movable property	**2,549**	**32,192**	**14,720**					**14,720**
23 Current administrative expenditure	**109,675**	**196,098**	**363,639**					**363,639**
24 External consultancy & auditing	**5,919**	**388,182**	**342,490**					**342,490**
25 Internal Meetings	**53,988**	**95,279**	**79,099**					**79,099**
26 Legal services	**192,004**	**619,117**	**47,622**					**47,622**
27 Comm, Information & Events	**35,000**	**226,096**	**276,242**					**276,242**
28 Experts and associated costs	**493,119**	**1,753,174**	**955,597**					**955,597**
Total ADMIN (Title 1 and 2)	**5,412,903**	**10,259,987**	**10,082,549**	-	-	-	-	**10,082,549**

EXPENDITURES (EUR)	Executed Budget 2023 (C1+ C2 credits)	Current Budget 2024 (C1+C2 credits)	2025			2025 Budget Amendment No. 4		
			Last Approved Budget (C1 + C2 credits)	Internal transfer by ED	C4 Credits	C1 Credits	C2 Credits	Proposed Budget (C1 + C2 credits)
Total ADMIN (Tilte 1 and 2)	**5,412,903**	**10,259,987**	**10,082,549**	-	-	-	-	**10,082,549**
Title 3. Operational Expenditure								
30 Grants, HPC Operations, R&I Activities	**29,706,292**	**353,986,587**	**208,851,764**	-	-	-	-	**208,851,764**
Regulation (EU) 2018/1488 Calls	**19,908,134**	**55,669,252**	**34,240,975**	-	-	-	-	**34,240,975**
EuroHPC-2019-1	5,015,453	5,941,249	2,550,438					2,550,438
EuroHPC-2019-2		3,993,504	-					-
EuroHPC-2019-3		515,000	- 10,400,151					- 10,400,151
EuroHPC-2020-1	3,129,855	9,239,771	14,416,390					14,416,390
EuroHPC-2020-2	4,164,937	9,033,956	5,300,053					5,300,053
EuroHPC-2020-3		10,419,282	-					-
Opex Grants	7,597,889	16,526,489	22,374,245					22,374,245
Regulation (EU) 2021/1173 Calls	**9,798,157**	**298,317,335**	**174,610,789**	-	-	-	-	**174,610,789**
c. Federation Pillar		4,000,000	1,001,553					1,001,553
d. Technology Pillar		171,028,014	32,544,892					32,544,892
e. Applications Pillar	8,798,273	58,500,673	11,806,512					11,806,512
f. Compentences & Skills Pillar	999,884	48,788,648	6,860,274					6,860,274
g. International Cooperation Pillar		16,000,000	3,999,618					3,999,618
h. AI Pillar			118,397,940					118,397,940
31 HPC Infrastructure Activities	**170,717,754**	**355,099,924**	**259,466,098**	-	-	-	-	**259,466,098**
Regulation (EU) 2018/1488	**83,616,544**	**125,901,300**	**9,968,770**	-	-	-	-	**9,968,770**
LUMI - PreExscale	68,510,638	4,433,829	8,125,010					8,125,010
LEONARDO - PreExscale	11,067,434	17,487,903	1,843,760					1,843,760
MN5 - PreExscale Supercomputer	1,797,739	102,187,868	-					-
Deucalion & Meluxina - Petascale	2,240,734	1,791,701	-					-
Regulation (EU) 2021/1173	**87,101,210**	**229,198,624**	**249,497,328**	-	-	-	-	**249,497,328**
AI-optimised or upgraded EuroHPC supercomputers (TCO)			35,219,136					35,219,136
High-end (Exascale) supercomputers (TCO)	86,636,985	133,219,302	137,279,430					137,279,430
Mid-range supercompters (TCO)		-	3,922,601					3,922,601
Hyperconnectivity for HPC Resources call & Federation Call		10,775,084	2,000,000					2,000,000
Upgrading EuroHPC supercomputers (TCO)		4,153,875	19,173,837					19,173,837
Quantum computers		55,641,500	45,150,006					45,150,006
Access and allocation of EuroHPC computing resources and services		1,000,000	336,900					336,900
Industrial HPC supercomputer		3,400,000	-					-
EuroHPC Summits	464,225	700,000	716,523					716,523
User Forum Events			109,285					109,285
EuroCC2			5,068,230					5,068,230
Castiel 2			521,381					521,381
De-prioritised calls from previous years		20,308,863	-					-
Total OPERATIONAL (Title III)	**200,424,046**	**709,086,511**	**468,317,862**	-	-	-	-	**468,317,862**
Total EXPENDITURE	**205,836,949**	**719,346,498**	**478,400,411**	-	-	-	-	**478,400,411**
Title 4: Contribution agreements with the European Commission	-	-	-	-	-	-	-	-
4010 – Operational activities under contribution agreements	PM	PM	PM	R0	R0	R0	R0	R0
4110 – Administrative support to operational agreements	PM	PM	PM	R0	R0	R0	R0	R0
Total Title 4	-	-	-	-	-	-	-	-

Tables 5a and 5b Cash Flow Operational Budget – Title III – EuroHPC grants (Chapter 30)

Table 5a – Cashflow overview Chapter 30 under DEP, HE and CEF

Item	Type of payment*	Funding Programme	C2 Credits (EUR)	Total C1 + C2 Credits (EUR)
c. Federation Pillar			1,001,553	1,001,553
101139786 - EPICURE	PP/IP	DEP	1,001,553	1,001,553
d. Technology Pillar			32,544,892	32,544,892
101202459 - DARE SGA 1	PP/IP	HE	27,273,351	27,273,351
101177590 - SEANERGYS		HE	5,271,541	5,271,541
e. Applications Pillar			11,806,512	11,806,512
101118139 - INNO4SCALE	PP/IP	HE	500,000	500,000
101093441 - SPACE		HE	697,419	697,419
101092621 - EXCELLERAT P2		HE	545,980	545,980
101093169 - MULTIXSCALE		HE	721,620	721,620
101093261 - PLASMA-PEPSC		HE	1,030,428	1,030,428
101093374 - MAX		HE	771,184	771,184
101093393 - CEEC		HE	1,082,180	1,082,180
101093441 - SPACE		HE	781,621	781,621
101143931- POP3		HE	299,845	299,845
101194491 - QUEX		HE	2,649,907	2,649,907
101194322 - QEC4QEA		HE	2,615,884	2,615,884
Late interest payments PA available		HE	50,443	50,443
Late interest payments PA available		HE	60,000	60,000
f. Compentences & Skills Pillar			6,860,274	6,860,274
101136267 - HPC SPECTRA	PP/IP	DEP	572,920	572,920
101136896 - HPCTRAIN		DEP	2,500,000	2,500,000
101196394 - EVITA		DEP	2,999,962	2,999,962
101191697 - EUROCC4SEE		DEP	779,667	779,667
Late interest payments PA available		DEP	7,724	7,724
g. International Cooperation Pillar			3,999,618	3,999,618
101196247 - GANANA	PP/IP	HE	3,999,618	3,999,618
h. AI Pillar			118,397,940	118,397,940
101239031 - LUMI-IQ - experimental platform	PP/IP	HE	10,000,000	10,000,000
101250607-JARVIS - experimental platform		HE	5,999,974	5,999,974
101234208 - LAIF		HE	14,438,229	14,438,229
101234399 - BSC AI		HE	16,800,000	16,800,000
101234027 - HAMMERHAI		HE	4,733,483	4,733,483
101234366 - L-AIF		HE	5,600,000	5,600,000
101234269 - PHAROS		HE	12,000,000	12,000,000
101234224 - IT4LIA		HE	12,000,000	12,000,000
101234349 - MIMER		HE	7,833,900	7,833,900
101250682 - JAIF		HE	9,998,754	9,998,754
101250730 - PIAST AIF		HE	5,000,000	5,000,000
101253078 - AI:AT		HE	6,000,000	6,000,000
101250707 - BRAIN PP		HE	7,993,600	7,993,600
Regulation (EU) 2021/1173 Total PA			174,610,789	174,610,789

* FP - Final Payments, IP - Interim Payments, PP - Pre-financing

Table 5b – Cashflow overview Chapter 30 (Grants) under Horizon2020

Item	Type of payment*	C1 Credits (EUR)	C2 Credits (EUR)	Total C1 + C2 Credits (EUR)
ADMIRE			375,915	**375,915**
DEEP-SEA			575,843	**575,843**
DComEX			135,938	**135,938**
eProcessor			199,999	**199,999**
EXAFOAM			51,904	**51,904**
LIGATE			260,986	**260,986**
MICROCARD			277,705	**277,705**
TEXTAROSSA			205,138	**205,138**
TIME-X			137,438	**137,438**
EuroHPC-2019-1		**0**	**2,220,867**	**2,220,867**
Late interest payments PA available		62,709	199,319	**262,028**
Total late interest		**62,709**	**199,319**	**262,028**
LUMI - OPEX	**IP/FP**	6,970,030		**6,970,030**
LEONARDO - OPEX			5,004,064	**5,004,064**
MN5 - OPEX				**0**
Opex Grants		**6,970,030**	**5,004,064**	**11,974,094**
Eupex_EuroHPC-2020-01a	**IP/FP**		6,180,935	**6,180,935**
The European Pilot_EuroHPC-2020-01a		3,667,208	3,667,208	**7,334,416**
HPCQS_EuroHPC-2020-01b			901,039	**901,039**
H2020-JTI-EuroHPC-2020-01		**3,667,208**	**10,749,182**	**14,416,390**
EPI EuroHPC-2020-02	**IP/FP**	5,300,053		**5,300,053**
H2020-JTI-EuroHPC-2020-02		**5,300,053**	**0**	**5,300,053**
H2020-JTI-EuroHPC-2020-03		**0**	**0**	**0**
Regulation (EU) 2018/1488 Total PA (H2020)		**16,000,000**	**18,173,431**	**34,173,431**

* FP - Final Payments, IP - Interim Payments, PP - Pre-financing

Tables 5c and 5d Cash Flow Operational Budget – Title III – EuroHPC Infrastructure activities (Chapter 31)

Table 5c – Cashflow overview Chapter 31 under DEP, HE and CEF

Item	Type of payment *	Funding	3120 -C1 Credits (EUR)		C2 Credits (EUR)	
			EU	PS ***	EU	PS
b. Infrastructure Pillar			0	18,309,162	111,688,888	37,130,136
High-end / Exascale supercomputers			0	0	100,149,294	37,130,136
Jupiter - CAPEX	PP/IP	DEP			37,130,136	37,130,136
Jupiter - OPEX	PP/IP	DEP			31,650,000	
Jules Verne - OPEX	PP/IP	DEP			31,369,158	
Midrange supercomputers			0	0	3,922,601	0
Deadalus Greece - OPEX	PP/IP	DEP			1,851,581	
Arrhenius Sweden -OPEX	PP/IP	DEP			2,071,020	
Upgrading EuroHPC supercomputers			0	18,309,162	864,675	0
Upgrade Leonardo - CAPEX	PP/IP	DEP		18,309,162		
Upgrade Leonardo - OPEX	PP/IP	DEP			819,000	
Upgrade Discoverer+ - OPEX	PP/IP	DEP			45,675	
Other Activities			0	0	6,752,319	0
ACCESS IT PLATFORM PROJECT	PP/IP	DEP			336,900	
EUROHPC SUMMIT 2025	PP/IP	DEP			668,547	
EUROHPC USER DAY 2025	PP/IP	DEP			109,285	
EuroCC 2	PP/IP	DEP			5,016,206	
Castiel 2	PP/IP	DEP			521,381	
Other Activities	PP/IP	DEP			47,976	
Late interest payments PA available	PP/IP	DEP			52,024	
h. AI Pillar			0	10,200,000	25,019,136	-
HammerHAI - OPEX	PP/IP	DEP			2,683,536	
HammerHAI - CAPEX	PP/IP	DEP		4,000,000		
LUMI AIF - OPEX	PP/IP	DEP			22,335,600	
PIAST AIF - CAPEX	PP/IP	DEP		6,200,000		
c. Federation Pillar			0	0	2,000,000	-
Federation Procurement	PP/IP	CEF2			2,000,000	
Quantum computers			0	33,218,900	10,348,006	1,583,100
EUROHPC-2022-CEI-QC-01 - CAPEX	PP/IP	DEP				
EuroQCS Poland	PP/IP	DEP		4,989,500	2,993,700	
LUMI-Q Czech Republic	PP/IP	DEP		458,400	14,500	1,583,100
EuroQCS France	PP/IP	DEP		3,301,000	1,980,600	
Euro-Q-EXA Germany	PP/IP	DEP		15,000,000		
EuroQCS Italy	PP/IP	DEP		6,495,000	150,000	
EuroQCS Spain	PP/IP	DEP		2,975,000		
101159808 - EUROQHPC-I	PP/IP	DEP			3,884,207	
EUROHPC-2022-CEI-QC-01 - OPEX	PP/IP	DEP				
EuroQCS Poland	PP/IP	DEP			477,000	
LUMI-Q Czech Republic	PP/IP	DEP			265,064	
EuroQCS France	PP/IP	DEP			214,715	
EuroQCS Spain	PP/IP	DEP			368,220	
Regulation (EU) 2021/1173 Total PA			-	61,728,062	149,056,030	38,713,236

* FP - Final Payments, IP - Interim Payments, PP - Pre-financing

** Joint Procurement: Participation States contributions are managed by NFA, not entered in EuroHPC budget

*** Participating States contributions entered in EuroHPC Budget

Table 5d – Cashflow overview Chapter 31 under Horizon2020

Item	Type of payment*	C1 Credits (EUR)		C2 Credits (EUR)	
		EU	PS	EU	PS
LUMI - PreExscale	IP		2,183,617	3,386,452	2,554,941
LEONARDO - PreExscale	IP		921,880	921,880	
Regulation (EU) 2018/1488 Total PA		0	3,105,497	4,308,332	2,554,941

* FP - Final Payments, IP - Interim Payments, PP - Pre-financing

3. Budget structure and details

a) Title 1: Staff Expenditure

Chapter 11 – Salaries and Allowances

This chapter covers the expenditure for salaries, social security, pension contributions and other related allowances of staff. It covers the remuneration cost of establishment plan posts (temporary staff) and external personnel (contract staff, Seconded National Experts, interim agents and trainees), in accordance with the Staff Regulations.

Chapter 12 – Expenditure relating to recruitment

This chapter covers the expenditure regarding the recruitment process of new staff and the associated administrative costs.

Chapter 13 – Mission and travel expenses

This chapter covers travel agency fees and the reimbursements of costs of staff having to go on mission / travel for business. It covers travel expenses, daily subsistence allowances and ancillary or exceptional expenditure incurred by staff, whilst on mission, in the interest of the service. As part of its duties the JU staff will have to travel to various conferences, meetings and workshops related to the activities of the Joint Undertaking and to the actions funded.

Chapter 14 – Socio-medical expenditure and professional development

This chapter covers the JU contribution to the costs of the Comité des Activités Sociales, (e.g. the "crèche", the "garderie/centre d'études", the school bus), the medical service, the policy linked to financial assistance to disabled persons, the complementary health insurance, contribution of the home office (as per European Commission guidelines), and other related activities. It also covers the cost for professional development, training programmes and HR related events.

Chapter 15 – HR administrative services

This chapter covers costs of all SLAs and working arrangements with other EU bodies for HR matters, together with specialised external HR legal costs, when required.

b) Title 2: Building, Equipment and Operating Costs

Chapter 20 – Building and associated costs

This Chapter covers costs related to the infrastructure including e.g. office overheads and insurance, cleaning and maintenance, security and surveillance (where not covered by the SLA with DG HR) and others. The office premises are provided by the JU hosting country.

Chapter 21 – Information Technology

This Chapter covers costs related to the purchase of computer equipment, video conference equipment, the cost of software and also software package maintenance, user support, and others. It includes the procurement and maintenance of programme packages and software licenses necessary for the effective operation of the JU, the expenditure on services contracts for analysis, programming and technical assistance necessary for the JU, the cost of external services contracts to manage and maintain the data and systems, training and other support activities.

Chapter 22 – Movable property and associated costs

This Chapter covers the necessary resources to cover the costs of the organisation of the office e.g. office furniture needs.

Chapter 23 – Current administrative expenditure

This Chapter covers the costs of miscellaneous services related to the agreements signed with other Commission offices/services e.g. the CdT (translations) DG BUDG (ABAC, SUMMA & treasury), BOA for Accounting Services, S.G. (HAN), EFSA (EUAN SSO), and others.

It also covers of office supplies, stationery, badges, office material and other consumables necessary for the operation of the office. It also includes all correspondence, postage, delivery services costs and telecommunication costs (fixed, mobile telephony).

Chapter 24 – External administrative consultancy and auditing

This chapter covers the costs for external audit, external consultancies linked to administrative matters & outsourced support.

Chapter 25 – Internal meetings

This Chapter covers any expenditure linked to formal and internal events and meetings. It covers necessary catering costs and any additional costs regarding the organisation.

Chapter 26 – Legal services

This Chapter covers the costs for legal assistance, data protection and other legal obligations.

Chapter 27 – Communication, Information & Events

This Chapter covers the costs regarding Communication activities, events organization, dissemination and publication activities in connection with operational activities. It will also cover the costs of internal communication expenses.

Chapter 28 – Experts and associated costs

This Chapter covers the fees for the work done by experts, travel expenses and daily allowances if applicable. It also includes the reimbursement of expenses (travel and accommodation) for experts invited by the Euro HPC to meetings/events. (e.g. INFRAG/RIAG members and other experts).

c) Title 3: Operational Expenditure

The main purpose of the Joint Undertaking is the indirect implementation of EU budget in the field of High-Performance Computing. Detailed description of the operational activities undertaken in 2021 are presented in the Work Programme below.

Chapter 30 – Grants, R&I Activities

This appropriation related to all expenses linked to the EuroHPC JU R&I activities.

Table 5a above sets out contributions made to HPC R&I activities established under Regulation 2018/1488 and Regulation 2021/1173.

Chapter 31 – HPC Infrastructure Activities

This appropriation relates to the ongoing procurement in exascale, the mid-range systems, the quantum systems, upgrades, AI factories and the industrial supercomputers. Item 3140 includes large communication actions supporting the operations of the JU.

Supercomputer maintenance is also foreseen to be paid annually from 2022.

d) Title 4: Contribution agreements with the European Commission

The main purpose of this Title 4 is to allow the Joint Undertaking to implement contribution agreements with the European Commission in order to manage non-core tasks of the JU but activities which complement the JU's mandate. Budgetary credits will be external assigned revenue (R0s).

Chapter 40, item 4010 – Operational activities under contribution agreements

Chapter 41, item 4110 – Administrative support to operational agreements

HUMAN RESOURCES

In 2025, the JU should be fully staffed (with only standard turnover rates), and the last pending selection procedures should be finalised.

In 2024, the JU finalised its HR strategy, focusing on 7 pillars (talent selection, professional growth, collaboration, efficiency, leadership development, employee wellbeing and safe & respectful workplace. The HR Strategy included an action plan, which will continue to be implemented in 2025.

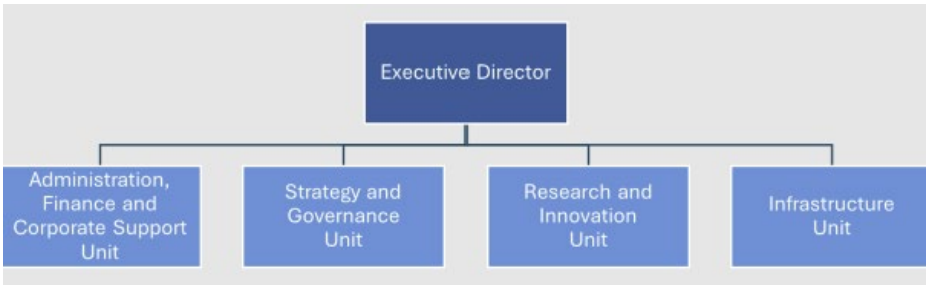
Following the Staff Engagement Survey carried out in 2024, follow-up actions will be discussed and carried out during 2025.

Internal communication will be further strengthened in the area of Human Resources, in particular by means of continuous development of the intranet pages and dedicated info sessions.

The JU will continue to participate in the working groups in the context of the Shared Back-Office Arrangement (BOA) in the area of HR, as well as other relevant working groups at the level of EUAN (EU Agencies network) or via other platforms.

Official organigramme of the JU

The organigramme below presents the current organisational structure of the JU, up to the Head of Unit level**.**



Priorities for the 2025 recruitments

All remaining vacant posts should be filled in the course of 2025.

Human resources planning for the period of 2021-2027

	2021	2022	2023	2024	2025	2026	2027
Establishment plan posts Temporary Agents (TA)	4	22	27	27	27	27	27
Contract Agents (CA)	11	25	27	27	28*	28*	28*
Seconded National Experts (SNE)	1	0	0	0	0	0	0
Total Staff	**16**	**47**	**54**	**54**	**55***	**55***	**55***

The increase of the budget delegated to the JUs, related to the participation of third countries in Horizon Europe, which translates into an increase of 1 additional FTE allocated to EuroHPC JU until the end of the current MFF.

Breakdown of Temporary Staff by grade in 2024 and 2025

Temporary Agents (TA) by grade	2024 TA posts	Filled-in posts as of 31/12/2024	2025 TA posts
AD 16			
AD 15			1
AD 14	1	1	
AD 13			
AD 12	1	1	1
AD 11	1	1	1
AD 10	1	0	1
AD 9	2	2	4
AD 8	10	6*	6
AD 7	4	8	7
AD 6	5	3	4
AD 5			
Total (ADs)	**25**	**22**	**25**
AST 4	2	2	2
Total (ASTs)	**2**	**2**	**2**
Total TA	**27**	**24**	**27**

* depending on the final outcome of the 2024 reclassification exercise

Breakdown of external staff by Function Group in 2024 and 2025

The JU remains within the planned maximum full-time equivalents (FTEs) in terms of contract agents, as foreseen in the Legislative Financial Statement (LFS) - 27, with the addition of 1 FTE allocated to EuroHPC JU until the end of the current MFF, in relation to the increase of the budget delegated to the JUs in the context of the participation of third countries in Horizon Europe, thus 28 FTEs in total. Moreover, the last remaining contract agent group II position is being phased out in 2025.

Contract Agents (CA) Staff	**2024 approved FTEs**	**Filled-in posts as of 31/12/2024**	**2025 approved FTEs**
Function Group IV	22	10	24
Function Group III	4	5	4
Function Group II	1	1	0
Total CA staff	**27**	**16**	**28**

ANNEX: WORK PROGRAMME 2024 - CALLS TO LAUNCH IN 2025 AND 2026

Action		Funding Rate	EU	Total	Status
Enhancing competitive European microprocessor technology for HPC	HE	EU 50% PS 50%	48.6 Million	97.3 Million	~~2025~~ **Postponed to 2026**
~~**Enabling Universal Access and Integration of Quantum Resources**~~	~~HE~~	~~EU 50%~~ ~~PS 50%~~	~~10 Million~~	~~20 Million~~	~~2025~~ **Call taken over by Quantum Challenge**
HPC/QC Middleware technologies	HE	EU 50% PS 50%	20 Million	40 Million	2025 **Postponed to 2026**
Quantum application prizes	HE	EU 100%	300,000	300,000	**2026**
Development of new benchmarks for HPC, Quantum Computing, and AI	HE	EU50% PS 50%	2.5 Million	5 Million	2025 **Confirmed**
~~**HPC for AI Software Ecosystem**~~	~~HE~~	~~EU50%~~ ~~PS 50%~~	~~8 Million~~	~~16 Million~~	~~2025~~ **Cancelled**
~~**Centres of Excellence**~~	~~HE~~	~~EU50%~~ ~~PS 50%~~	~~10 Million~~	~~20 Million~~	~~2025~~ **Call taken over by Centres of Excellence call**
~~**HPC Applications**~~	~~HE~~	~~EU50%~~ ~~PS 50%~~	~~10 Million~~	~~20 Million~~	~~2025~~ **Call taken over by Centres of Excellence call**
~~**Continuous integration and deployment platform (CI/CD)**~~	~~DEP~~	~~EU50%~~ ~~PS 50%~~	~~5 Million~~	~~10 Million~~	~~2025~~ **Cancelled**