

European High Performance Computing Joint Undertaking

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The Committee on Industry, Research and Energy adopted the report by Maria da Graça CARVALHO (EPP, PT) on the proposal for a Council regulation on establishing the European High Performance Computing Joint Undertaking.

As a reminder, the proposed new regulation aims to establish the European High Performance Computing Joint Undertaking (EuroHPC JU), with a budget of EUR 8 billion for the period 2021-2033. This report builds on this proposal and includes a set of amendments aimed at ensuring that this joint undertaking will fulfil its greater goal of serving EU citizens, businesses (including SMEs), research institutions and administrations, while remaining aligned with the EU's main development and sustainability goals.

Overall objectives

The report develops the overall objectives of the Joint Undertaking to include, *inter alia*, the following:

- to federate the hyper-connected supercomputing and data infrastructure, through high-quality network infrastructures in all Member States, and interconnect it with the **European data spaces**, in particular with the European Health Data Space;
- to further develop and support a highly competitive, social, sustainable, energy-efficient and innovative, interconnected, interoperable and secure supercomputing and data ecosystem in Europe contributing to the scientific and technological leadership and the standing strategic autonomy of the Union in the digital transition, while reducing dependence on foreign technology;
- to promote, facilitate and widen the use of supercomputing services in all sectors and to contribute to the development of advanced digital skills, competences and knowledge that European science, society, economy, environment and industry need to achieve autonomy and global leadership, with emphasis on enhancing women and girls participation in STEM through involvement and employment and reducing the gender gap in the digital sector.

The Joint Undertaking should also:

- implement its mission and objectives in a **clear, simple and flexible way** in order to increase attractiveness towards industry, **SMEs** and all relevant stakeholders. To ensure access to key decisions, Members recommended the creation of a **user forum** to advise the steering committee and advisory groups;
- minimise any risk involved in handling, storing and **processing of personal data** in the supercomputing infrastructures and shall comply with the General Data Protection Regulation and other relevant Union legislation;
- ensure that High Performance Computers are exclusively accessible to entities that comply with the same rules and that its resources are open to scientists from all Participating States;
- contribute to safeguarding the interests of the EU when procuring supercomputers and supporting the development of world-class High Performance Computing technologies, systems and applications;

- enable a **co-design approach** for the acquisition of world-class supercomputers, while safeguarding the security of the supply chain of procured technologies and systems and ensure the highest standards of **cybersecurity** applicable to supercomputers.

EU's financial contribution

The report stated that the EU's financial contribution should be used for **capability building** across the whole Union, including the acquisition, upgrades of only supercomputers owned by the EuroHPC Joint Undertaking and operation of High Performance Computers, quantum computers or quantum simulators, the federation of the High Performance Computing and quantum computing service and data infrastructure and the widening of its use, and the development of advanced skills and training, accessible also to citizens living in geographically isolated and disadvantaged areas and taking in due account the need to improve the gender equality.

Synergies and complementarities with other EU funds

Financial contributions under programmes co-financed by the Recovery and Resilience Facility, ERDF, the ESF+, the EMFAF and the EAFRD should also be considered as a contribution of the participating State to EuroHPC, provided that the relevant provisions of the Common Provisions Regulation for 2021-2027 and the fund-specific regulations are complied with.

Environmentally responsible practices

Members insisted that all initiatives and activities should be in line with the **European Green Deal**. The Joint Undertaking should place particular emphasis on the principle of energy efficiency, stimulate constant technological advancements to improve power-efficiency in both new and existing system designs, and actively research, develop and test novel energy-efficient approaches including in particular fully renewables-based approaches that improve the GHG emission and environmental footprint of supercomputers.

The report also suggested the implementation of an **energy management plan** with a strategy to increase the energy efficiency of facilities and access to renewable energy through renewable energy purchase agreements.

Awareness raising

To contribute to reducing the skills gap across the EU, the Joint Undertaking should engage in awareness-raising campaigns and promote education and dissemination activities, involving academic, scientific and knowledge networks, social and economic partners, the media, business and SME organisations and other stakeholders, while preventing all kinds of biases, especially gender and racial biases from being introduced in the algorithms, products or conclusions resulting from its work.