

# AI Update: Europe Officially Joins the Race for the Next Generation of Supercomputers

Article By:

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On 28 September 2018 the EU reinforced its commitment to the development and deployment of high-performance computing by adopting a [Regulation](#) establishing the European High Performance Computing Joint Undertaking (“EuroHPC Joint Undertaking”). This entity is set to coordinate and pool resources to create a pan-European state-of-the-art supercomputing infrastructure.

## Aims of the EuroHPC Joint Undertaking

The Regulation addresses the lagging standard of high performance computing in Europe. There are concerns that the needs of both scientists and industry are not being met by the computation time available in the EU, and that parties are looking elsewhere for solutions. This creates a number of problems – for private parties these may relate to privacy and data protection; the EU stands to lose out on technological know-how, innovation, competitiveness and leadership in industry.

Given this, the EuroHPC Joint Undertaking has two main aims:

1. The purchase and deployment of at least two world-class pre-exascale supercomputers (capable of up to a quintillion calculations per second) within the EU, alongside at least two further petascale supercomputers (capable of a quadrillion calculations per second). These would be made available to scientific and industrial users in both the private and public fields.
2. To develop a supercomputing ecosystem that is available to a large number of users in both the private and public sectors, including small and medium-sized enterprises.

## A Public-Private Collaboration

The EuroHPC Joint Undertaking is to be structured as a public-private partnership and will provide a legal, contractual and organisational framework to its members (including the European Commission (representing the EU), participating countries, representatives from the two private partners (the European Technology Platform for High Performance Computing and the Big Data Value associations)).

## Project Funding and Timescales

The total budget for the project will be in the region of EUR 1 billion. Half will be provided by the Commission – using funds from the Horizon 2020 and the Connecting Europe Facility programme – with the other half coming from participating countries through both financial and in-kind contributions. Private partners will also provide in-kind contributions.

To equip the EU with pre-exascale and petascale infrastructure by 2020 and develop the requisite technology and applications for reaching exascale competence by 2022-2023, EuroHPC is expected to start operations by early-2019. It is hoped that by 2022-2023 Europe's high performance computing framework infrastructure will rank in the top three globally.

## **Conclusion**

Big changes are on the horizon for high performance computing in EU. They are intended and expected to have a significant impact on research in many sectors, including climate change, renewable energy, artificial intelligence and pharmaceuticals. As countries including Japan, China, India and the USA vie to win the “race to exascale”, this initiative demonstrates the Commission's intent to keep the EU in the race.

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National Law Review, Volume VIII, Number 295

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