STATE OF THE UNION
2020

EuroHPC:
## The European Joint Undertaking on High-Performance Computing

EuroHPC
Joint Undertaking

Launched in 2018, the EuroHPC Joint Undertaking aims at making Europe a world leader in high performance computing and quantum computing.

In September 2020 the Commission set out a new ambitious mission to lead on supercomputing with a proposed regulation that includes a significantly higher budget of **€8 billion.**

EuroHPC brings together 32 participating countries, and 2 private partners

- HPC JU Headquarters
- HPC JU Supercomputer hosting sites
- Other HPC JU participating countries
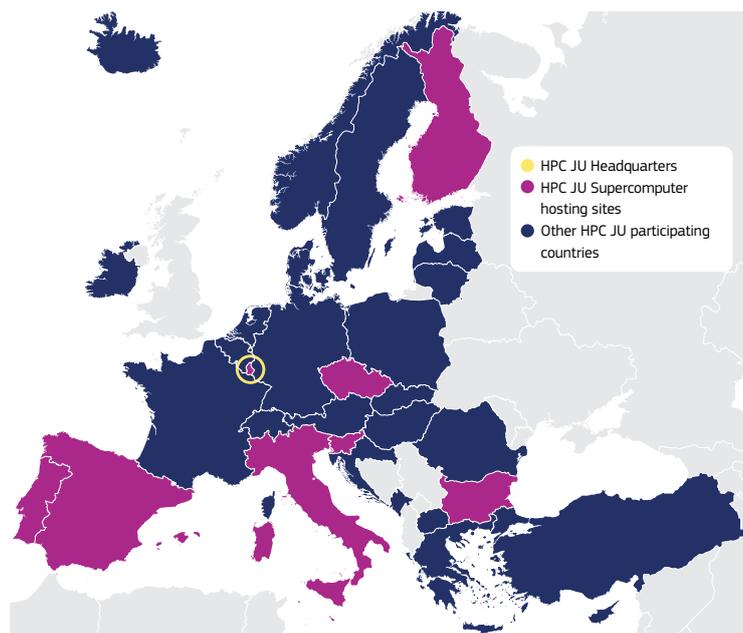
With the current EU budget of over €1 billion for 2019-2020, the EuroHPC Joint Undertaking is:

acquiring and deploying 8 new top supercomputers, worth €830 million, benefiting all users, including the public sector, industry and SMEs, no matter where in Europe they are located;

3 of these supercomputers will be in the world's top 5, and the other 5 will be in the world's top 50.

supporting a research and innovation agenda, worth €370 million, to develop supercomputing hardware and software, applications and skills.

SUPERCOMPUTERS IN ACTION

Supercomputers, also known as high-performance computing, are **advanced systems** capable of **dealing with complex matters in health, energy, engineering, climate research** and many more. It will also soon be possible to build computers that combine quantum and classical computing, able to **perform even greater numbers of operations in parallel.**

Supercomputers are a strategic asset for our society to:

Monitor and mitigate
the effects of climate change, for example with the
Destination Earth initiative

Search for new treatments e.g. a potential treatment for the coronavirus, better understand neurological disorders, and develop new medicines

Design safer and greener cars and aircraft, reduce development time, minimise costs, and optimise decision processes in manufacturing

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High-performance computing

- **supports the digitisation of industry and innovation in automotive, aerospace, manufacturing, chemicals, energy and health.**

- **is key to boosting innovation, and scientific breakthroughs. For example, the Nobel Prizes for Physics 2017 were awarded for detecting gravitational waves with help of supercomputers.**

A new proposed regulation on EuroHPC

With the EuroHPC regulation the Commission proposes a **significantly higher budget** of €8 billion until 2033, to:

expand and deploy in the EU **a world-class supercomputing and data infrastructure,** also in view of having 3 supercomputers in the world's top 5;

make the supercomputing and quantum computing resources **accessible to all users across Europe,** including SMEs, and provide them with **training on necessary skills;**

scale up supercomputing technology to irrigate the entire digital strategy, from **big data** analytics and **artificial intelligence**, to **cloud technologies** and **cybersecurity;**

provide **secure cloud-based services** for the European public data space, as presented in the 2020 European Data Strategy;

develop and deploy **a quantum computing infra-structure** to solve complex problems.

Useful links: High-performance computing EuroHPC Joint Undertaking