



Press release 7.6.2019

ONE OF THE MOST COMPETITIVE SUPERCOMPUTERS IN THE WORLD TO BE PLACED IN KAJAANI, FINLAND

CSC datacenter in Kajaani will host a pan-European high-performance supercomputer. The machine will be about ten times more powerful than the most powerful supercomputer currently in Europe. The decision was made by the EuroHPC Joint Undertaking, a high performance computing (HPC) initiative supported by the European countries and the European Union. This decision will provide highly competitive HPC resources for Europe's scientific, industrial and public users. In addition, it will provide a framework for Europe to strengthen its position as one of the pioneers of the data-driven economy.

"I am very proud to announce that today we have delivered on our promise to work together with the countries which are part of the EuroHPC Joint Undertaking and jointly deploy in the EU an integrated world-class supercomputing and data infrastructure. These top performing systems that we will be deploying will provide Europe with the high-quality capacities it needs to keep pace with its global competitors. They will help our scientists to tackle research questions highly relevant for our society in fields as diverse as climate change, personalised medicine, brain functioning, cosmology and many more, and accelerate innovation in areas vital for the competitiveness of our economy such as manufacturing, engineering or designing new materials and new drugs", says Roberto Viola, Director General of DG CONNECT (Directorate General of Communication, Networks, Content and Technology) at the European Commission.

A LARGE COLLABORATIVE EUROPEAN CONSORTIUM

The LUMI (Large Unified Modern Infrastructure) consortium was formed for the EuroHPC application process. The countries involved are Finland, Belgium, Czech Republic, Denmark, Norway, Poland, Sweden and Switzerland. Discussions with Estonia and the Netherlands about joining the consortium are taking place. The consortium provides a high-quality, cost-efficient and environmentally sustainable HPC ecosystem based on true European collaboration. The members also provide a high level of competence from computing and training to data management.

"EuroHPC continues the European collaboration on high-performance computing, from which European researchers have already benefited from over the years. The investment will make CSC's datacenter one of the world's largest players in the field of high-performance computing", says Kimmo Koski, Managing Director, CSC.

EUROPE AS A PROVIDER OF WORLD CLASS COMPUTING AND DATA SERVICES

The supercomputing and data infrastructure at CSC's datacenter in Kajaani will help position Europe as one of the world leaders in supercomputing, enabling European researchers to access world-class computing resources. Computing power is required in leading-edge research in a wide range of disciplines, such as climate, pharmaceutical and cancer research as well as artificial intelligence. The state-of-the-art computing resources will also lay grounds to carry out research in areas, which have previously been out of reach, increasing the possibilities for scientific breakthroughs with immense societal impact, such as understanding climate change. The new data management and HPC infrastructure will lay grounds for innovation and new data-based business opportunities in areas such as platform economy and the development of artificial intelligence.

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ECO-EFFICIENT DATACENTER ECOSYSTEM IN KAJAANI

CSC's datacenter in Kajaani has an abundant supply of low-price and environmentally friendly hydropower. The benefits of the location also include warm water cooling, which enables waste heat to be utilized in the district heating network of Kajaani, further reducing costs and CO2 footprint.

The CSC Kajaani datacenter is highly scalable for large hardware installations and extensions or other potential infrastructure, making it ideal for building a sustainable datacenter ecosystem. The reliable and fast data communications networks of the datacenter are also designed for HPC. In addition, the area has a unique focus on data analytics thanks to the Kajaani University of Applied Sciences and numerous ICT companies.

TECHNICAL DETAILS AND TIMELINE

Name	LUMI (Large Unified Modern Infrastructure). Lumi means snow in Finnish.
Theoretical peak performance	Planned to be more than 200 petaflop/s with Linpack performance exceeding 150 petaflop/s.
Storage	Over 60 petabytes with a sizeable flash layer providing more than 1 terabytes of bandwidth.
Used technologies	The supercomputer achieves its high performance with a large number of nodes with accelerators (GPUs). In addition the system is complemented by a CPU only partition, IaaS cloud services and a large object storage solution.
Budget	The budget for the EuroHPC JU in 2019–2020 is approximately 1.4 billion Euros, which includes public investments from the EU and participating states as well as investments from private partners. The total budget of the EuroHPC pre-exascale system in CSC's datacenter in Kajaani is 207.1 million Euros.
Timeline	Machine room construction: June 2019 – June 2020 System procurement: July 2019 – System installations: Q4/2020 Operations: Q4/2020-Q4/2026

MORE INFORMATION

Press conference: Scandic Simonkenttä, Helsinki. Meeting room Mansku. 7.6.2019 at 11:45 CEST.

More information and pictures for media: <https://datacenter.csc.fi>

Follow LUMI on social media: #lumieurohpc #eurohpckajaani

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