

Atos powers Europe's fastest supercomputer at Jülich in Germany, the most energy-efficient system in the TOP100

With 44.1 petaflops JUWELS is officially the fastest supercomputing system in Europe

Paris, November 17, 2020 – Atos, a global leader in digital transformation, today announces that the supercomputing system at Forschungszentrum Jülich, named JUWELS, based on Atos' innovative [BullSequana XH2000 platform](#), is today officially the **fastest supercomputing system in Europe** with a sustained peak performance of 44.1 HPL petaflops. It ranks #7 on the TOP500 and #5 on HPCG rankings. It is the **most energy-efficient supercomputing system in the TOP100** and ranks #3 on the Green500.

Highest energy-efficiency

Today JUWELS is the most energy-efficient supercomputer in its class worldwide, ranking in first place for energy-efficiency on the TOP100 list, thanks to Atos' patented DLC (Direct Liquid Cooling) solution, which minimizes global energy consumption by using warm water up to 40°C. JUWELS ranks alongside 30 other Atos supercomputers on this November's Green500, underlining Atos' commitment to support its clients in their decarbonization objectives.

Faster & Smarter – prepared for exascale

Atos worked with Jülich and German HPC-software specialist ParTec to extend its existing JUWELS supercomputer system with a highly scalable booster module. Now operational, this module massively expands the application limits of HPC simulations, enabling JUWELS to handle much more demanding computing tasks and data analysis from science and industry than has previously been possible in Europe. It also makes JUWELS the strongest platform in Europe for the use of artificial intelligence (AI).

"We believe JUWELS is a milestone towards the European exascale computer, scheduled to be launched in 2023." explains **Prof. Thomas Lippert, Head of the Jülich Supercomputing Centre**. *"Now with our fully developed modular JUWELS*

system, our scientists are able to take a big step forward in many areas, while researchers and engineers from industry can stay ahead of the competition."

*"This year at SC'20 we're highlighting how Atos is enabling Faster Smarter and Greener simulation and the JUWELS supercomputing system is a prime example of all three of these. It has been fantastic to work with Jülich and its partners to deliver this enhanced performance and power to drive unparalleled research and innovation in Europe" said **Agnès Boudot, Senior Vice President, Head of HPC & Quantum at Atos***

*"Our A100 Tensor Core GPUs featured in this booster module are based on our NVIDIA Ampere architecture, a groundbreaking engineering achievement that delivers a massive performance improvement over the previous generation for AI training and inference." said **Ian Buck, General Manager and Vice President of Accelerated Computing at Nvidia** "This data center-scale platform with accelerated computing and Mellanox HDR InfiniBand networking empowers researchers at Julich to hit the ground running for the development and deployment of accelerated data analytics, HPC, and AI to tackle the challenges of the exascale AI era."*

JUWELS will be used in research related to the climate, the environment, sustainable energy management and the properties of materials or brain research. The [booster module is based on Atos' BullSequana X2415 blade](#) which features NVIDIA A100 Tensor Core GPUs, NVIDIA Mellanox HDR 200Gb/s InfiniBand high-performance network, and AMD central processing units. For more details, please go to: <https://www.fz-juelich.de/SharedDocs/Pressemitteilungen/UK/EN/2020/2020-11-16-juwels-booster.html>

Atos now has 31 supercomputers in the TOP500, with a combined peak performance of 251 petaflops, this is an increase of 79% in petaflops from the TOP500 listing in June.

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Technical Details

The supercomputing system at JUWELS is made up of:

- 38x BullSequana XH2000 racks from Atos
- 3700 Nvidia A100-40 GPUs
- AMD Zen-2 Rome CPUs
- HDR 200Gb/s InfiniBand
- ParTec Software (ParaStation Modulo)

About Atos

Atos is a global leader in digital transformation with over 110,000 employees in 73 countries and annual revenue of over € 11 billion. European number one in Cloud, Cybersecurity and High-Performance Computing, the Group provides end-to-end Orchestrated Hybrid Cloud, Big Data,

Business Applications and Digital Workplace solutions. The group is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and operates under the brands Atos, Atos Syntel, and Unify. Atos is a SE (Societas Europaea), listed on the CAC40 Paris stock index.

The purpose of Atos is to help design the future of the information technology space. Its expertise and services support the development of knowledge, education as well as multicultural and pluralistic approaches to research that contribute to scientific and technological excellence. Across the world, the group enables its customers, employees and collaborators, and members of societies at large to live, work and develop sustainably and confidently in the information technology space.

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