

Atos boosts supercomputing performance at German Climate Computing Centre (DKRZ) by 5 with new BullSequana

Paris, France, June 22 2020 – Atos, a global leader in digital transformation, has signed a new five-year contract with the [German Climate Computing Centre \(DKRZ\)](#) to supply a supercomputer based on its latest [BullSequana XH2000 technology](#) to increase DKRZ's computing power by 5, compared to the currently operating high-performance computer "Mistral" [which was provided by Atos](#) in 2015. The new systems will be available at the DKRZ from mid-2021.

BullSequana to accelerate and deliver more precise forecasting

Just as a new, more powerful telescope provides more detailed images from space, a more powerful supercomputer allows for more detailed simulations and thus deeper insights into climate events. This significant increase in computing power will enable researchers at DKRZ to use regionally more detailed climate and earth system models in future, to include more processes in calculations, to simulate longer time periods, or to more accurately capture natural climate variability using ensemble calculations and thus reduce uncertainties. This is accompanied by a strong increase in the data that is calculated and then stored and evaluated. The BullSequana is an efficient computing and data management solution, essential for climate modelling and the resulting data volumes, to promote environmental research and deliver more reliable, detailed results.

Prof. Thomas Ludwig, CEO at DKRZ says: *"Our high-performance computer is the heart around which our services for science are grouped. We're really happy to be working with Atos again. With the new system, our users will be able to gain new insights into the climate system and deliver even more detailed results. This concerns basic research, but also more applied fields of research such as improved current climate projections. This way, we help gain fundamental insights for climate change adaptation."*

Damien Déclat, Group VP, Head of HPC, AI & Quantum Business Operations at Atos, explains: *"With our strong expertise and experience we have been able to*

successfully design the DKRZ solution integrating it efficiently with the BullSequana XH2000 system's best-of-breed components to optimize DKRZ's production workloads. We look forward to continuing this joint effort to anticipate the next phases as well as to adapt applications and requirements to the next processor generation and other accelerating components."

Atos is a specialist in the provision of leading technologies for some of the world's leading centers in the Weather Forecasting and Climate community, such as the [European Centre for Medium-Range Weather Forecasts](#) and the French Meteorological Service [Météo-France](#) and has worked closely together to optimize applications, explore and anticipate new technologies, and look for increased efficiency and reduced TCOs.

Technical specifications

The Atos solution is based on its BullSequana XH2000 supercomputer and will be one of the first equipped with the next generation of AMD EPYC x86 processors. The interconnect uses NVIDIA Mellanox InfiniBand HDR 200G technology and the data storage solution relies on DDN equipment. The final system will consist of around 3,000 computing nodes with a total peak performance of 16 PetaFlops, 800 Terabytes main memory and a 120 Petabytes storage system.

Financing

The new system is worth 32.5 million euros, which is being provided by the Helmholtz Association of German Research Centres, the Max Planck Society and the Free and Hanseatic City of Hamburg.

About DKRZ

The German Climate Computing Center (Deutsches Klimarechenzentrum, DKRZ) is a central service center for German climate and earth system research. Its high performance computers, data storage and services form the central research infrastructure for simulation-based climate science in Germany.

Apart from providing computing power, data storage capacity and technical support for models and simulations in climate research, DKRZ offers its scientific users an extensive portfolio of tailor-made services. It maintains and develops application software relevant to climate research and supports its users in matters of data processing. Finally, DKRZ also participates in national and international joint projects and cooperations with the aim of improving the infrastructure for climate modeling.

DKRZ was founded on November 11, 1987 and took up its services on January 1, 1988. It is a non-profit and non-commercial limited company with four shareholders:

- The Max Planck Society
- The Freie und Hansestadt Hamburg, represented by the University of Hamburg
- The Alfred Wegener Institute - Helmholtz Centre for Polar and Marine Research
- and the Helmholtz Zentrum Geesthacht - Centre for Materials and Coastal Research (HZG)

Moreover, DKRZ is sponsored by the Federal Ministry of Education and Research and the The Helmholtz Association of German Research Centres.

DKRZ provides its resources (computing time, hard-drive storage and archive capacity, consultancy and visualizations) free of charge. Any scientists conducting research in the field of climate and earth system science in Germany, and requiring HPC resources for their work may apply for resources at DKRZ.

DKRZ engages about 80 employees, mainly with a background in natural and/or computer sciences and is divided into three scientific departments

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About Atos

Atos is a global leader in digital transformation with 110,000 employees in 73 countries and annual revenue of € 12 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 space. Its expertise and services support the development of knowledge, education and research in a multicultural approach and contribute to the development of scientific and technological excellence. Across the world, the Group enables its customers and employees, and members of societies at large to live, work and develop sustainably, in a safe and secure information space.

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