

An Eviden led consortium to build Europe's first exascale supercomputer

Baptized JUPITER, this supercomputer marks a turning point in Europe's path towards scientific excellence and industrial sovereignty.

Paris, France – October 4, 2023 – A French-German consortium composed of [Eviden](#), the [Atos Group](#) business leading in advanced computing and ParTec, the German modular supercomputing company, today announce a **contract** with EuroHPC to provide **the very first Exascale supercomputer in Europe**, to be operated by the Jülich Supercomputing Centre (Germany) for an overall project cost of 500 million euros.

Using next generation GPUs and CPUs from NVIDIA and SiPearl, the consortium will manufacture the first European system able to surpass the threshold of one trillion calculations per second, a key milestone to ensure **Europe's scientific excellence and industrial independence**. By achieving an outstanding level of computing power while decreasing the energy consumption, the system will enable new breakthroughs in critical domains while fostering innovation for the entire European scientific community.

JUPITER is designed to tackle **the most demanding simulations and compute intensive AI applications in science and industry**. Applications will include training large foundation models for generative AI, simulations for developing advanced materials, creating digital twins of the human heart or brain for medical purposes, validating quantum computers, and high-resolution simulations of climate that encompass the entire Earth system.

Based on Eviden's BullSequana XH3000 direct liquid cooled architecture, JUPITER will have **three times the computing capability of Europe's current most powerful supercomputer**, and will provide the equivalent power of 10 million modern desktop computers. The overall system will require the space of about 4 tennis courts and will use over **260km of high-performance cabling**, allowing it to move over 2,000 Tb per second, the equivalent of 11,800 full copies of Wikipedia every second.

It will be composed of two partitions, a highly scalable GPU accelerated Booster Module and a general-purpose Cluster Module with high memory bandwidth processors. The Booster Module will utilize next-generation NVIDIA data center technology and the Cluster Module will be based on SiPearl Rhea1, the first HPC-dedicated European processor on the market.

More details and specifics about the system will be announced in November at this year's SC23 conference.

Emmanuel Le Roux, Group SVP, Global Head of HPC, AI & Quantum at Eviden, Atos Group said *"Providing the first Exascale supercomputer in Europe, based on our BullSequana XH3000, is a moment of true pride for our teams. For as long as we have been providing computing technologies, we have been supporting European countries in their journey to economic and industrial sovereignty. The European scientific community will now benefit from a remarkable 'made in Europe' machine to tackle scientific challenges and stimulate innovation."*

Bernhard Frohwitter, CEO of ParTec AG said *"The dynamic Modular System Architecture (dMSA) approach developed under the lead of the Jülich Supercomputing Centre and ParTec with the participation of several European partners and patented by ParTec is a novel system design in high-performance computing and makes a crucial contribution to providing the required speed and efficiency for sophisticated AI algorithms. The contract awarded to ParTec AG and its long-standing partner Eviden not only underlines the competitiveness and performance of German and European suppliers in building supercomputers, it is also a decisive step towards Europe's technological sovereignty."*

Ian Buck, Vice President of Hyperscale and HPC at NVIDIA said *"NVIDIA is collaborating with Eviden and with the EuroHPC JU and the European scientific community on JUPITER to provide researchers with the state-of-the-art AI and HPC resources they need to power the next wave of breakthroughs in areas such as climate and weather, material science, drug discovery, industrial engineering, and quantum computing technologies. By bringing the power of NVIDIA's accelerated computing to the first exascale supercomputer in Europe, we are helping chart new paths of research and scientific discovery not just in Europe, but the world."*

Philippe Notton, CEO and Founder of SiPearl, said *"We are thrilled that Rhea1, our energy-efficient HPC-dedicated microprocessor, will fuel part of Europe's first Exascale supercomputer. This validates EuroHPC's vision in creating the European Processor Initiative consortium, which incubated SiPearl. We look forward to working with Jülich, Eviden and ParTec in bringing the groundbreaking Jupiter system to life. Together, we will contribute to European technological sovereignty while dramatically reducing the carbon footprint of supercomputing and Artificial Intelligence."*

About Eviden¹

[Eviden](#) is a next-gen technology leader in data-driven, trusted and sustainable digital transformation with a strong portfolio of patented technologies. With worldwide leading positions in advanced computing, security, AI, cloud and digital platforms, it provides deep expertise for all industries in more than 47 countries. Bringing together 55,000 world-class talents, Eviden expands the

¹ Eviden business is operated through the following brands: Alia Consulting, AppCentrica, ATHEA, Atos Syntel, Bull, Cloudamize, Cloudreach, Cryptovision, DataSentics, digital.security, Eagle Creek, EcoAct, Edifixio, Energy4U, Engage ESM, Evidian, Forensik, IDEAL GRP, IDnomic, In Fidem, Ipsotek, Maven Wave, Miner & Kasch, Motiv, Nimbix, Processia, Profit4SF, science+computing, SEC Consult, Visual BI, Worldgrid, X-Perion, zData

possibilities of data and technology across the digital continuum, now and for generations to come. Eviden is an Atos Group company with an annual revenue of c. € 5 billion.

About Atos

Atos is a global leader in digital transformation with 107,000 employees and annual revenue of c. € 11 billion. European number one in cybersecurity, cloud and high-performance computing, the Group provides tailored end-to-end solutions for all industries in 69 countries. A pioneer in decarbonization services and products, Atos is committed to a secure and decarbonized digital for its clients. Atos is a SE (Societas Europaea), and listed on Euronext Paris.

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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