JUPITER

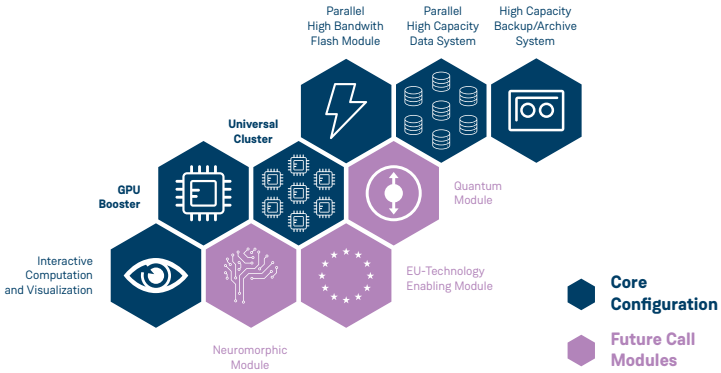
MODULAR EXASCALE SUPERCOMPUTER IN JÜLICH FOR EUROPE

The acquisition and operation of the EuroHPC supercomputer is funded jointly by the EuroHPC Joint Undertaking, through the European Union's Digital Europe programme, as well as by Germany.

Dynamic Modular Supercomputing Architecture

JUPITER will consist of several modules which are optimized for different tasks:

- Booster: providing highest performance and energy efficiency via NVIDIA's accelerated computing platform, 1 ExaFLOP/s Linpack performance
- Cluster: targeting universal applicability through the SiPearl Rhea1 processor offering high Byte-per-Flop ratio
- Flash module: a NVMe based high-bandwidth low latency SCRATCH storage based on IBM Storage Scale 6000
- Parallel Data System: a high capacity HDD based storage for research data based on IBM Storage Scale 6000
- Backup / Archive: a long term storage with largest capacity based on magnetic tapes
- JUPITER will be provided by the ParTec-Eviden supercomputer consortium and will be based on Eviden's BullSequana XH3000 hardware platform using the JUPITER Management Stack (Eviden SMC xScale, ParaStation Modulo and JSC xOPS)



What will JUPITER be used for and by whom?

- Supercomputers contribute to the solution of significant scientific and societal challenges, e.g. climate change, coping with pandemics, sustainable energy production, development of new materials, analysis of large amounts of data, intensive use of artificial intelligence.
- Researchers from Germany and all over Europe will be able to apply for computing time. An independent panel of experts will select the best projects (peer review). For these, the use of JUPITER will then be free of charge.
- Already during installation, scientists will get access to JUPITER through JUREAP - the JUPITER Research and Early Access Programm.

How much energy will JUPITER consume?

- On average, approx. 15 megawatts from green electricity - the exact value will only be determined in the course of operation.
- The cooling will use about 34 °C hot water, so that no additional energy will be needed for the production of cooling water.
- The resulting waste heat will be used to heat buildings, further uses are planned.

How much will JUPITER cost?

- Total cost: €500 million for purchase and operation.
- Contributions: EuroHPC Joint Undertaking: €250 million, Germany/Federal Government: €125 million, State of NRW: €125 million.

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