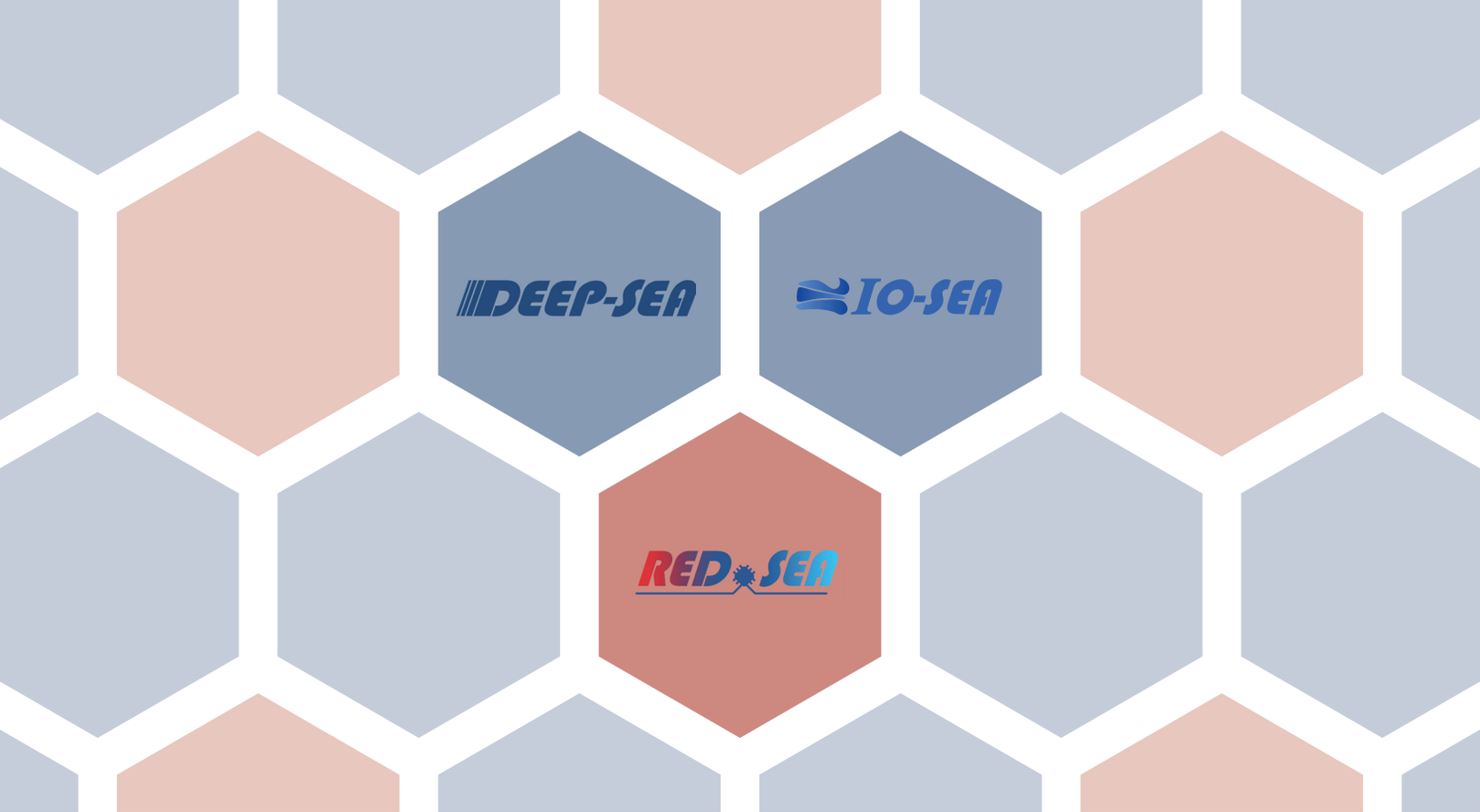

SEA Projects

The EuroHPC projects DEEP-SEA, IO-SEA and RED-SEA joined forces to develop complementary European technologies to build future heterogeneous Exascale supercomputers.

The SEA projects aim to realise the shared vision of a modular supercomputer architecture jointly pursued by the Jülich Supercomputing Centre (JSC), CEA (the French Alternative Energies and Atomic Energy Commission), Atos and ParTec. The four core partners brought together project consortia with world-leading expertise from academia and industry to help make highly versatile and energy-efficient European Exascale systems a reality.

The SEA projects have received funding from the European High-Performance Computing Joint Undertaking (JU) under grant agreements 955606, 95811, and, 955776 and support from France, the Czech Republic, Germany, Spain, Ireland, Sweden, Switzerland, Italy, Greece and the United Kingdom.

EuroHPC Joint Undertaking

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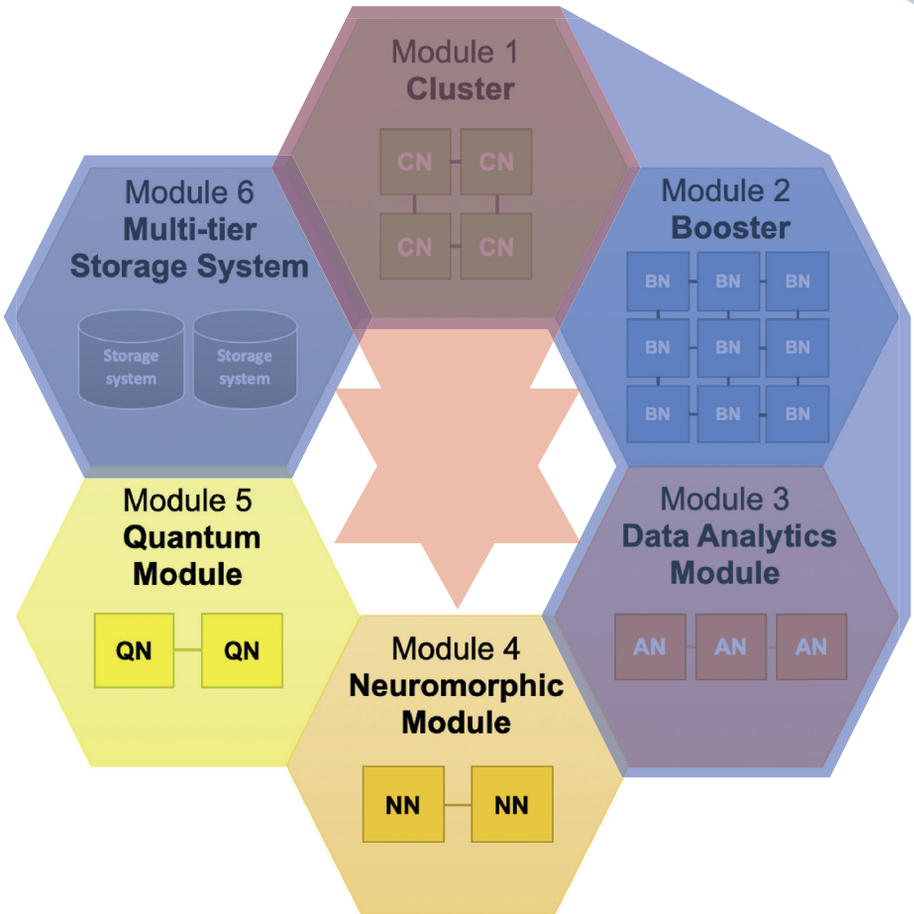

IO Software stack for Exascale

IO-SEA will provide a novel data management and storage platform for Exascale computing based on hierarchical storage management (HSM) and on-demand provisioning of storage services. The platform will efficiently make use of storage tiers spanning solid-state NVMe and NVRAM devices at the top all the way down to tape-based technologies.

> iosea-project.eu

Network solutions for Exascale systems

RED-SEA will build upon the European interconnect BXI (BullSequana eXascale Interconnect), together with standard and mature technology (Ethernet) and previous EU-funded initiatives to provide a competitive and efficient network solution for the Exascale era and beyond. This involves developing both key hardware IPs and the software environment.

> redsea-project.eu

Software stack for Exascale heterogeneity

DEEP-SEA is building upon proven software packages to create an open-source environment which will optimally support heterogeneous and modular supercomputers, guided by co-design with applications from seven high-impact scientific fields. The goal is to also allow code optimisation across existing and future architectures and systems.

> deep-projects.eu

The Modular Supercomputing Architecture

The SEA projects build upon the results of past and current European projects. They will particularly align their efforts with hardware-focused projects such as the European Processor Initiative in order to contribute to the development of a complete and sustainable European High Performance Computing (HPC) ecosystem for the Exascale architecture.