



Academic Research

Speeding up scientific breakthroughs

Donostia International Physics Center

DIPC enables world-leading research excellence in the Basque Country with its new Hyperion supercomputer featuring Lenovo technology.

Lenovo

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Who is Donostia International Physics Center?

Donostia International Physics Center (DIPC) is a research center in the Basque Country that aims to bring scientific insight to global societal challenges. It specializes in cutting-edge research in physics and related disciplines. DIPC is funded and governed by a combination of public and private institutions, including the Basque Government, University of the Basque Country UPV/EHU, Gipuzkoa Provincial Council, San Sebastian City Council, Kutxa Fundazioa, Fundación EDP, Telefónica, and CAF.



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The Challenge

DIPC attracts top experts from around the world, who come to the center to use its resources and collaborate with other leaders in their fields. To maintain its appeal, the center invests in powerful computing infrastructure to help researchers and visiting scientists tackle complex questions.

Due to the excellent performance of DIPC's supercomputing center, the Department of Education of the Basque Government asked DIPC to open up access to a wider community and provide scientific computation services to the full network of Basque research institutions. In parallel, the Department of Education committed to provide funding to enlarge and improve the existing infrastructure, to meet the increased demand for computational resources. Thanks to this funding, partially channeled through the Strategic Program IKUR, DIPC had the opportunity to purchase additional state-of-the-art solutions to meet the 24/7 requirements of its user community.



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“Our existing Atlas supercomputer has served us well, but we didn’t have enough cores to meet demand. To maintain our reputation as a beacon for innovation in the Basque Country, we wanted to deliver as much high-performance computing [HPC] power as possible to our users.”

Dr. Txomin Romero Asturiano

Supercomputing Center Director,
Donostia International Physics Center

Hyperion blazes into life

Following a public tender process, DIPC selected Lenovo ThinkSystem technology to be part of its new supercomputer: Hyperion.

Alongside Lenovo partner Omega Peripherals, the Lenovo team put forward a winning proposal that offered the highest total compute capacity for the center's budget.

The solution comprises 60 Lenovo ThinkSystem SR360 V2 nodes with 256 Gb memory each, Intel Xeon Gold 6342 24C processors with a total of 2,880 cores, 16 Lenovo ThinkSystem SR650 V2 scratch storage nodes, 11 Infiniband 200 Gbps switches, and 11 Ethernet 100 Gbps switches.

Hardware

Lenovo ThinkSystem SR630 V2
Lenovo ThinkSystem SR650 V2

Services

Lenovo Warranty Upgrade Service



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“Lenovo gave us more computing nodes than any other vendor participating in the tender. They also provided a highly energy-efficient solution in a small footprint, which were high priorities for us as space at the center is at a premium.”

Dr. Txomin Romero Asturiano

Supercomputing Center Director,
Donostia International Physics Center

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Results

Hyperion is far out-performing DIPC's existing supercomputer Atlas, with jobs running three times faster on average. Thanks to the large number of high-performance Lenovo compute and storage nodes, researchers and visiting scientists can run more ambitious simulations, execute more jobs in parallel, and get results sooner.

The DIPC Supercomputing Center can now easily meet demand for HPC resources round-the-clock, empowering researchers with the resources they need to make the next scientific breakthrough.



3x faster performance than DIPC's existing supercomputer



Bolsters DIPC's reputation as a top international research destination



Offers 15% more cores than the competition, enabling high returns on public funding

Shedding new light

Through Hyperion, DIPC is strengthening its international appeal, helping to put the Basque Country on the map as a destination for cutting-edge research. So far, Hyperion is supporting research into the formation of the universe and evolution of stars, material sciences, and gene therapy, among other topics, holding the potential to answer some of the universe's most intriguing questions.

Dr. Txomin Romero Asturiano, Supercomputing Center Director at DIPC, explains: "We're delighted to say that Hyperion is performing even better than we expected. With help from Lenovo, we're serving the world's brightest and best minds with the computational resources they need to solve the toughest problems in existence."



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“As our users’ research gets more complex, so do the simulations they run, so we need to keep stepping up the power of our supercomputing resources. Thanks to Lenovo, Hyperion is going over and above current demand, powering research initiatives that are pushing the boundaries of existing knowledge.”

Dr. Txomin Romero Asturiano

Supercomputing Center Director,
Donostia International Physics Center

Why **Lenovo**?

The joint proposal from Lenovo and Lenovo partner Omega Peripherals won the public tender process because it offered more compute capacity than competitors.

Dr. Txomin Romero Asturiano adds: “For this project, Lenovo helped us achieve the greatest returns on the grant money that funded Hyperion.”



How can research centers speed innovation?

DIPC brings world-leading research excellence to the Basque Country with Hyperion, a supercomputer featuring Lenovo technology.

[Explore Lenovo HPC Solutions](#)