

Red Española de Supercomputación

September 2026

Barcelona Supercomputing Center
Centro Nacional de Supercomputación

INFRAESTRUCTURAS CIENTÍFICAS Y TÉCNICAS SINGULARES

EuroCC SPAIN

Red Española de Supercomputación

Hosting Consortium

"The acquisition and operation of the EuroHPC supercomputer is funded jointly by the EuroHPC Joint Undertaking, through the European Union's Connecting Europe Facility and the Horizon 2020 research and innovation programme, as well as the Participating States Spain, Portugal, and Turkey"

The Spanish Supercomputing Network

What is RES?

- Member of the Spanish Unique Scientific and Technical Infrastructure network (**ICTS**)

ICTS
INFRAESTRUCTURAS CIENTÍFICAS Y TÉCNICAS SINGULARES

- Composed by **18 institutions**:

20
HPC systems

9
data centers

RES institutions and distribution



The Spanish Supercomputing Network

RES in numbers

340
PFlop/s

180
PBytes

RedIris
High-speed network

2
Competitive calls/year

~22% through RES

2026 statistics

CPU resources

582
received projects
(*totally or partially accepted*)

435k EFlop
requested
(82% *awarded*)

GPU resources

300
received projects
(*totally or partially accepted*)

5.5M EFlop
requested
(38% *awarded*)

QUANTUM resources

43
received projects
(*totally or partially accepted*)

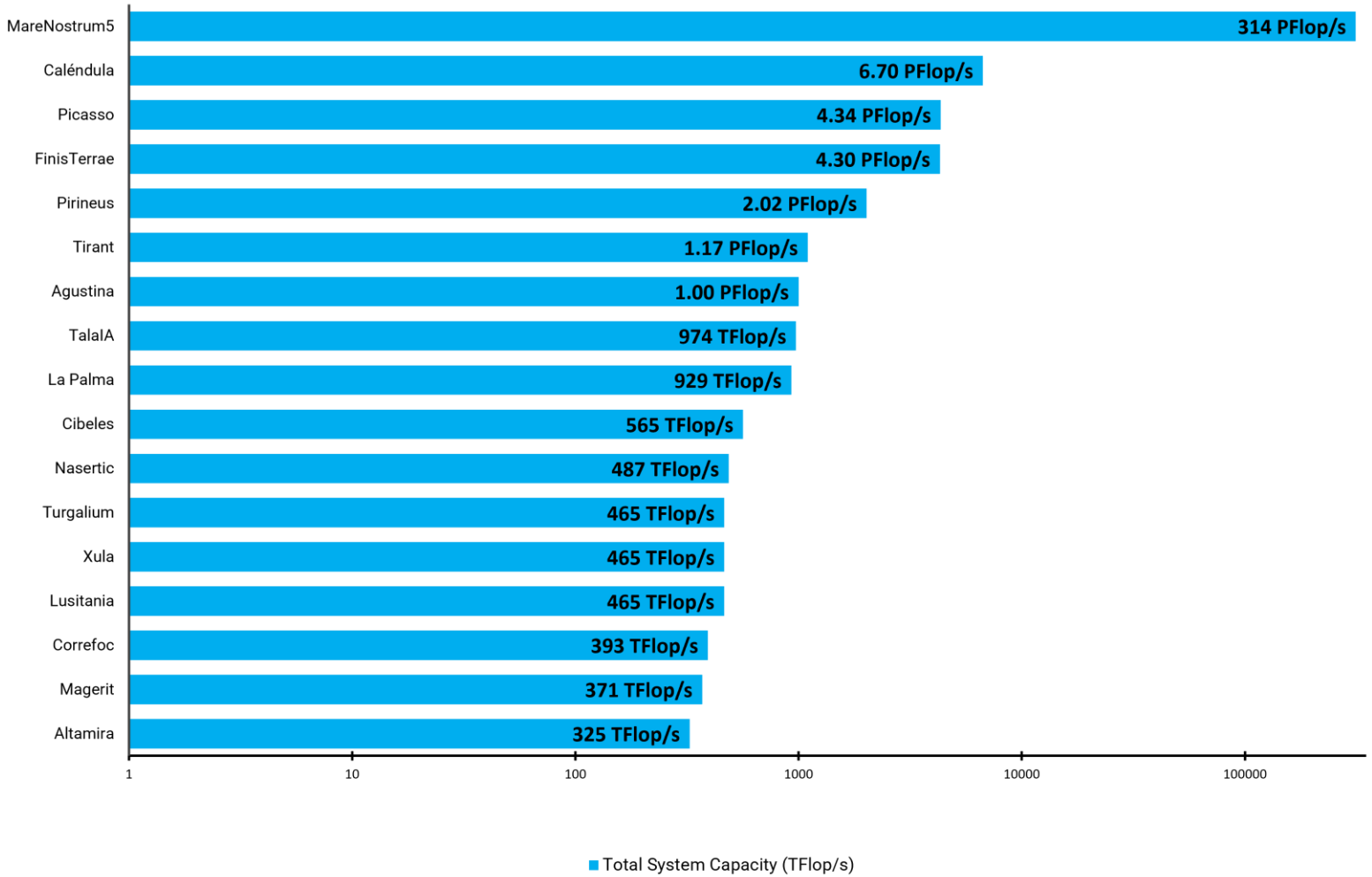
8.963 h
requested
(38% *awarded*)

HPC RESources

HPC — Supercomputing

- **340 PFlop/s of combined node capacity**
- **Both CPU and CPU+GPU systems**
- **Specialised support in every RES node**



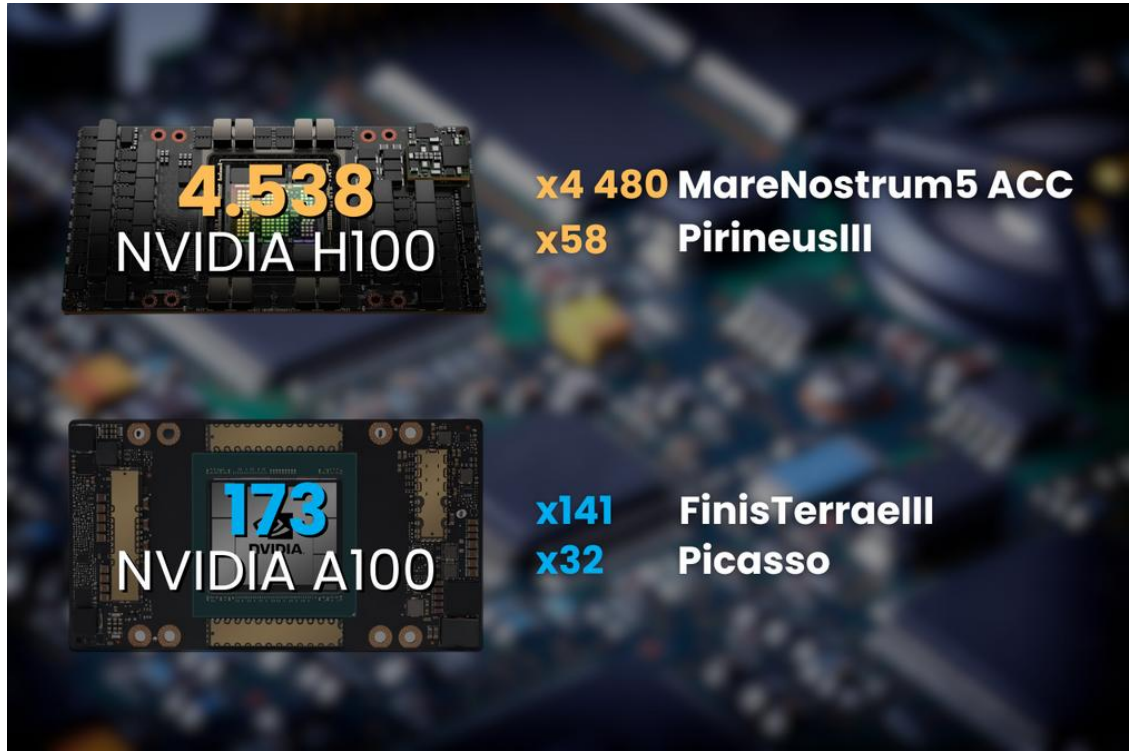


GPU-centric RESources

HPC - Supercomputing

- **4 nodes with GPU resources**
- **Specialized software for AI projects:** TensorFlow, PyTorch, CUDA, pandas...
- **Training and technical support**





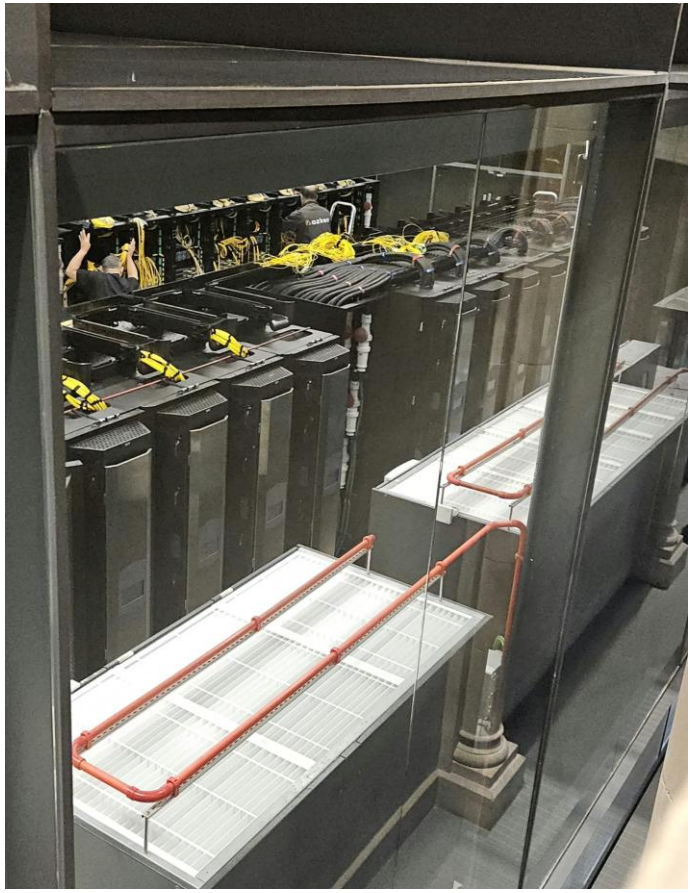
AI-centric RESources

AI – Artificial Intelligence

MareNostrum5 AI Upgrade

- **1.920 AI-oriented GPUs**

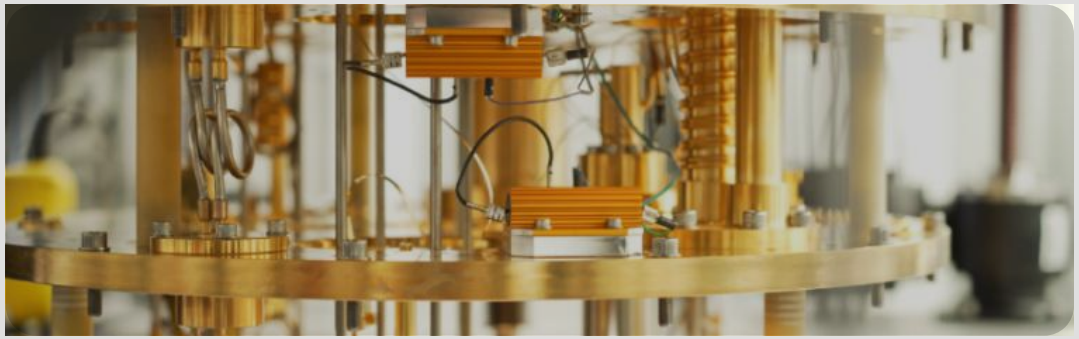
- **NVIDIA NVL4, Grace Blackwell**
  - 186 GB RAM
  - 6.000 tokens/s
- **NVIDIA NVL72, Grace Blackwell Ultra**
  - 288 GB RAM
  - 12.000 tokens/s



Quantum RESources

QC — Quantum Computing

- **4 Quantum Chips**
  - 3 digital
  - 1 analog
- **3 CPU Quantum emulators**
- **Experimental technology**
- **Dedicated access guide**



4 quantum chips

- **3 at MareNostrum-ONA**
  - 2 digital (20 &35 qubits)
  - 1 analog (10 qubits)
- **1 at FinisTerrae-QMIO-QPU** (32 qubits)

3 quantum emulators

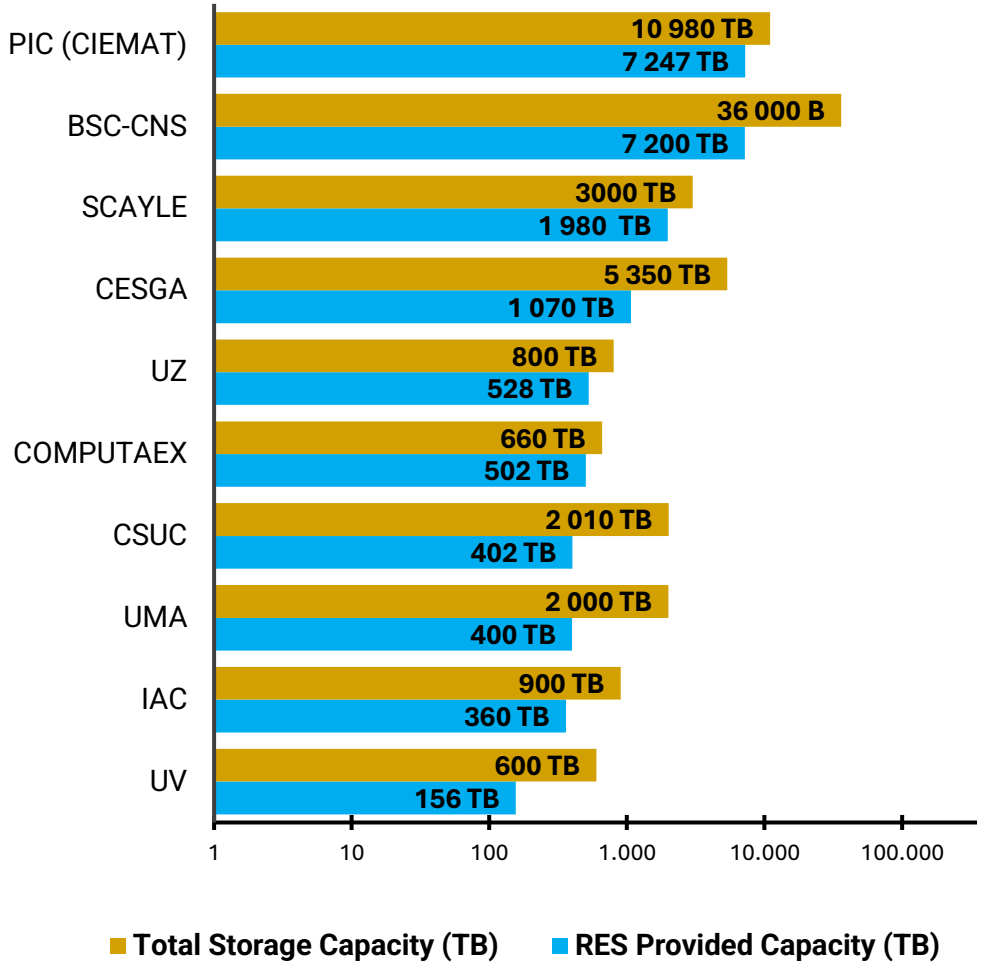
- **MareNostrum-ONA**
- **Finisterrae-QMIO**
- **Caléndula**

DATA RESources

DATA – Data Management and Exploitation

- **183PB of combined node capacity**
  41 PB available for RES users
- **Files, objects, tape and VMs**
- **Reduced HPC resources for data processing**
- **Minimum 200 TB of data in 3 years**





(NEW) Innovation resources

AI – Artificial Intelligence

Advanced expert support for different levels of technology readiness

Ready to use software and data space

Extensive training programme

Access to AI-centric resources (MN5-AI upgrade)

BSC AI Factory

CESGA
GALICIA SUPERCOMPUTING CENTER

Accessing RES resources

HPC, AI & QUANTUM 6-months activities

HPC & AI fast access

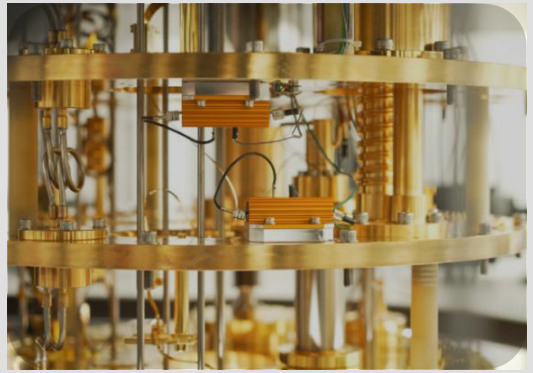
Always open
No deadline

HPC, AI & QUANTUM activities

2 yearly calls
Deadlines in March and September







DATA yearly activities

DATA activities

1 yearly call
Deadline in November



News in the Access Protocol

Call period	Submission deadline	Activity Start
HPC/AI & QUANTUM activities 1st period	September	December 1st
HPC/AI & QUANTUM activities 2nd period	March	June 1st
Fast-track access	Always open call	
DATA exploitation activities	February	April 1st



Remember that it's required to acknowledge RES in publications!

Somos Investigadoras 2026

+4100
students

+60
schools

9 Autonomous Communities
visited during 3 months

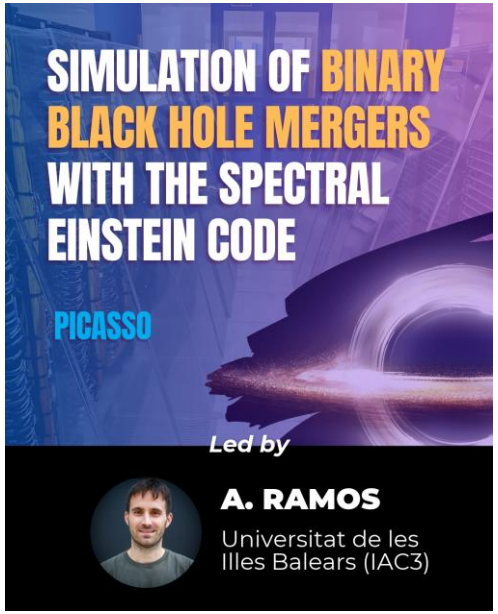


Success Stories 2026









30 stories

68 researchers

Acces and support beyond RES

Small	Medium	Large	Extreme

Acces and support beyond RES

	Preparatory activities	Production activities
Typical HPC Access	**Benchmark Access** Code scalability tests for EuroHPC **Development Access** Code development & optimization	**Extreme Scale Access** High-impact, high-gain research **Regular Access** Large research projects
AI Factory Access	**Playground Access** Limited resources for entry-level users	**Large Scale Access** Large projects and AI models **Fast-lane Access** Users with prior HPC experience

Networking, training and knowledge sharing

Annual RES Users' Conference

21-22nd October 2026

Madrid



Scientific Seminars

HPCCOMB
SPANISH HPC COMBUSTION WORKSHOP

PUMPS+AI 2025
ACM Europe Summer School

Institut de Ciències del Mar

cecam
Centre Européen de Calcul Atomique et Moléculaire

Tecnhical training workshops

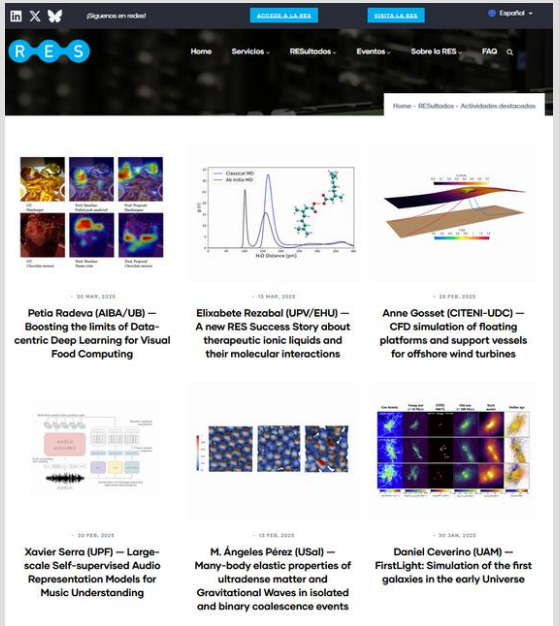




Follow us and stay tuned!

Website

More info at: www.res.es



Social Media – LinkedIn, X & BlueSky

RES - Red Española de Supercomputación

@res-icts.bsky.social

@RES_HPC



