RED ESPAÑOLA DE SUPERCOMPUTACIÓN

Infraestructuras Científicas y Técnicas Singulares

RES News and Updates in the RES. Access to available resources in RES, PRACE and EuroHPC

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Centro Nacional de Supercomputación

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R E S
RED ESPAÑOLA DE
SUPERCOMPUTACIÓN


BSC
Barcelona
Supercomputing
Center
Centro Nacional de Supercomputación


CESGA
Centro de Supercomputación de Galicia


SCAYLE
SUPERCOMPUTACIÓN
CASTILLA Y LEÓN


CÉNITS


INSTITUTO DE ASTROFISICA DE CANARIAS
IAC


UC
UNIVERSIDAD
DE CANTABRIA


CSUC
Consorci de
Serveis Universitaris
de Catalunya


bifi
Instituto Universitario de Investigación
Biocomputación y Física
de Sistemas Complejos
Universidad Zaragoza


UAM
UNIVERSIDAD AUTONOMA
DE MADRID


VNIVERSITAT
DE VALÈNCIA


UNIVERSITAS MALACITANA
UNIVERSIDAD DE MÁLAGA

RED ESPAÑOLA DE SUPERCOMPUTACIÓN

- Spanish national reference for HPC, providing HPC services to the international scientific community
- Networking of HPC users
- Education and training in HPC for new and expert users
- Internationalization: EU strategy and international projects
- Dissemination of HPC towards society and SME
- Emerging Scientific Big Data Network

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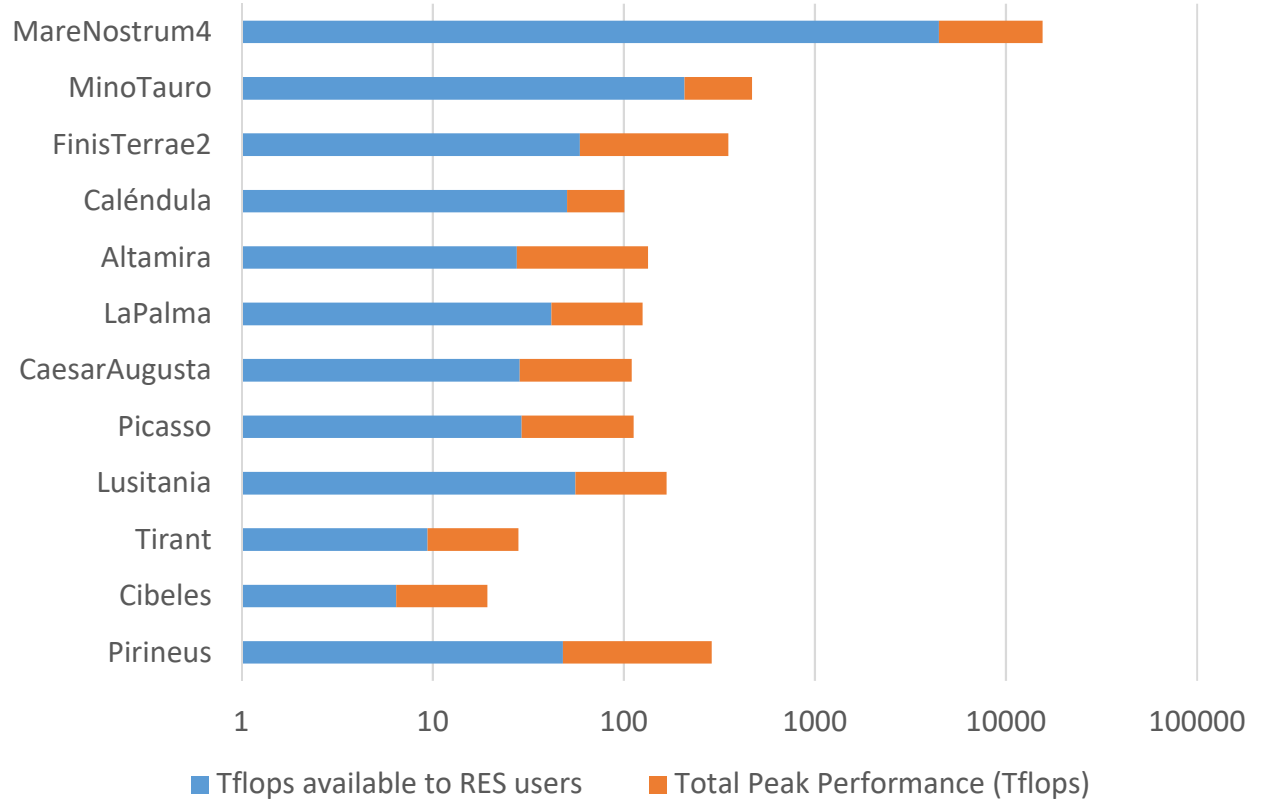
RES: HPC Services for Spain

RES is made up of **12 interconnected supercomputers**.





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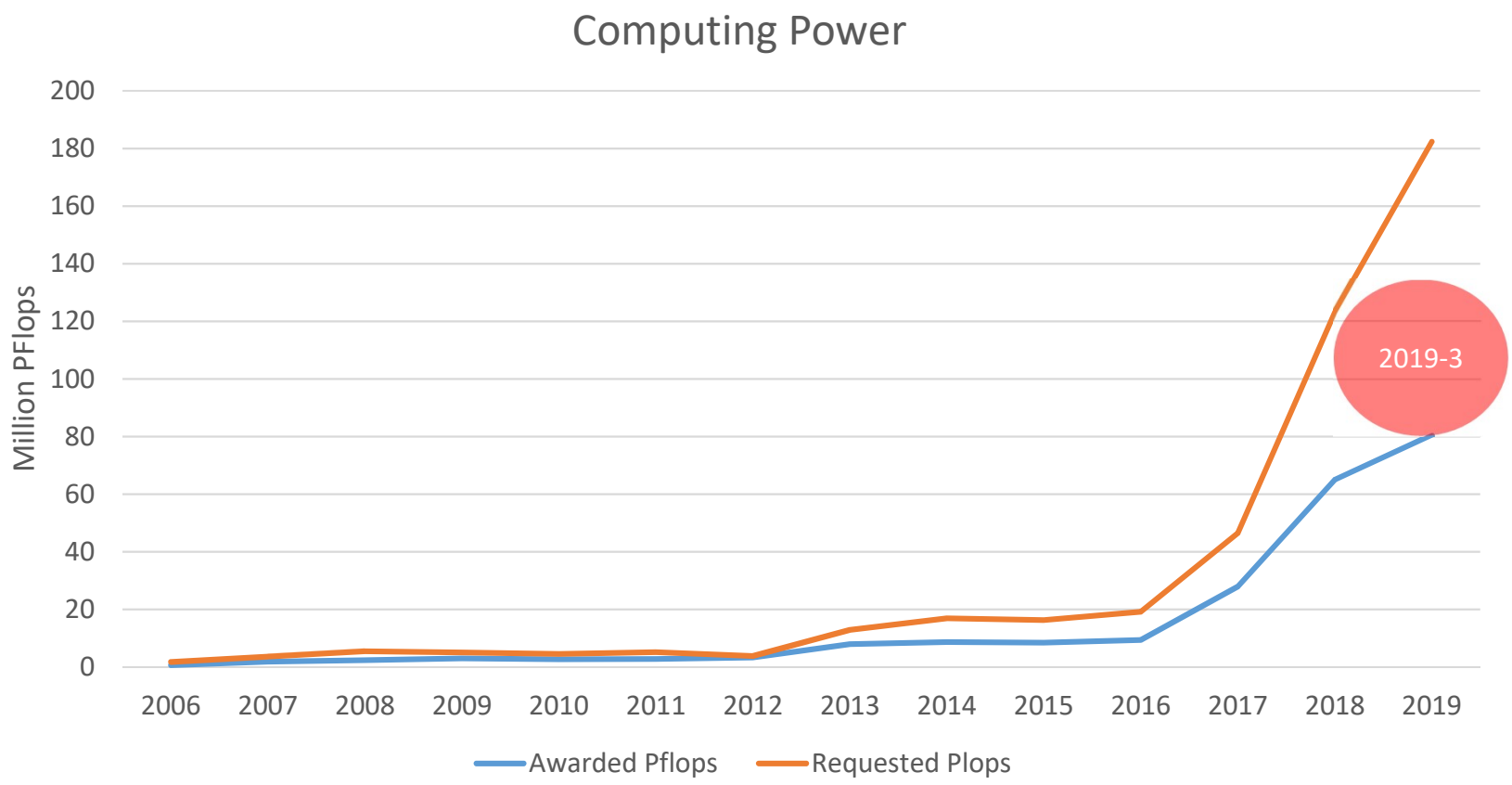
Resources granted



Since 2006, the computing power offered increased continuously.
The demand of resources always exceeds the computing time available.

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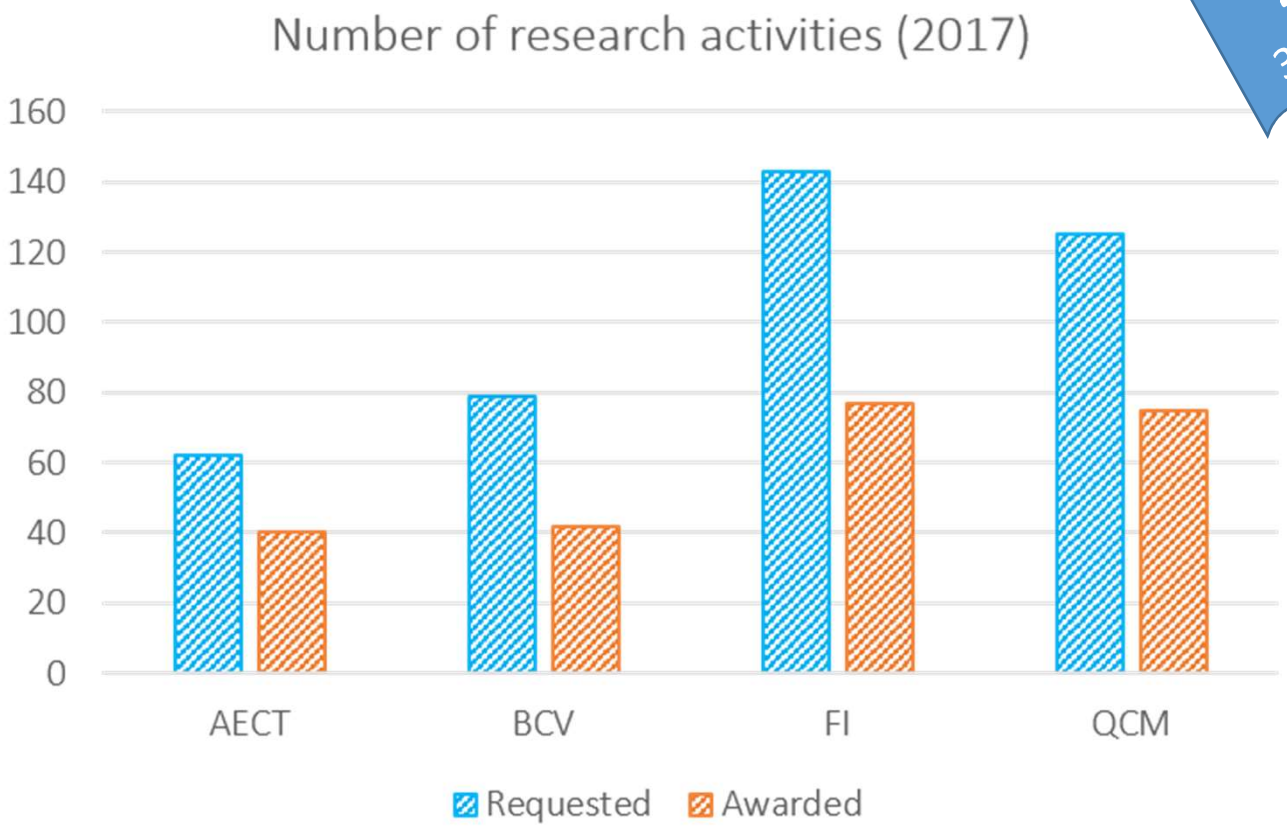
In 2017, the RES provided more than 120 million computing hours to 235 research activities

2018: 316,7 M HC



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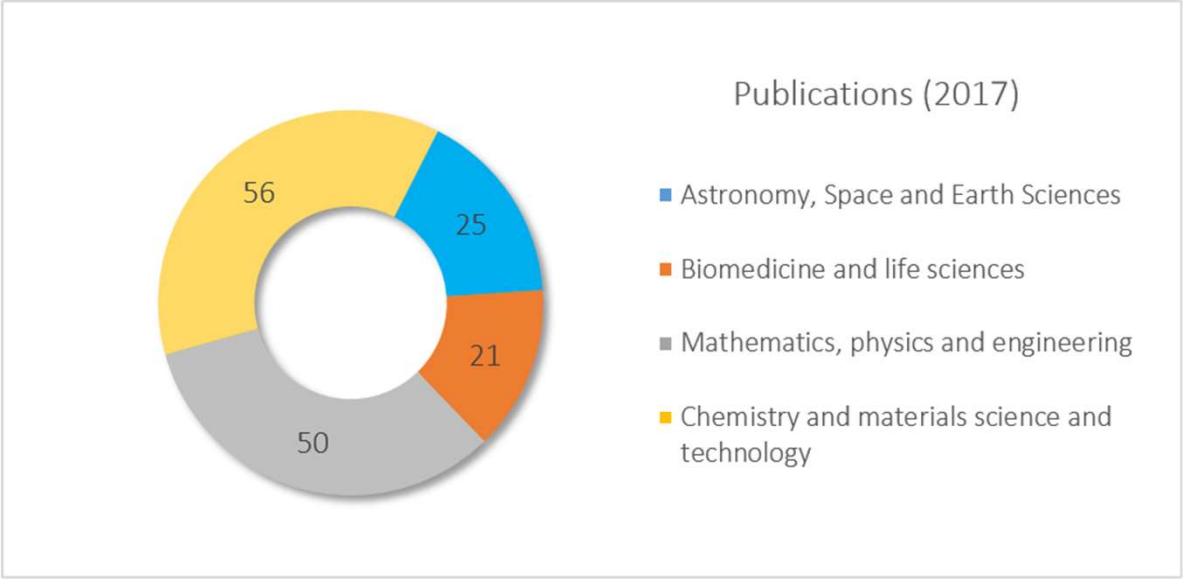
RES users have published 152 articles in scientific journals in 2017



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Redefinition of scientific areas

- Astronomy, Space and Earth Sciences (AECT)
- Physics (FI)
- Mathematics and Engineering (MI)
- Life and Health Sciences (BCV)
- Solid State Chemistry (QS)
- Chemistry of Biological Systems (QSB)

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Changes in Access Protocol
Novel HPC Users

- Previous basic criteria
  - *The scientific credentials of the applicant research group (10%).*
  - *Experience and training in high performance computing (10%).*
- New Criteria
  - *The scientific credentials of the applicant research group (20%).*
- You are a novel user for one year only

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Changes in Access Protocol
Pre-reserve allocation

- Activity submitted to RES for evaluation
  - Up to 60 million hours per activity to be used in 2 years
  - To be used after one year of award
- Project submitted to EC call, can include guaranteed hours in the proposal
  - If project is awarded by EC, the hours are reserved automatically
  - If the project is not awarded, the hours get back to the pool of the normal call.

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Changes in Access Protocol
Industrial access for Open R&D

- Open R&D projects for industry
- Limited for those activities under public funding
- Requires publications and availability, in open repositories, of data used for simulation and results achieved (same conditions as for universities and public research centers)

RES events: networking opportunities

Scientific seminars

The RES promotes scientific seminars which address supercomputing technology applications in specific scientific areas. These events are mainly organized by RES users and are open to the entire research community.

- ✓ 5 scientific seminars every year
- ✓ More than 500 attendees

Agenda 2019: www.res.es/en/events

RES events: technical training

These workshops are organized by the RES nodes and aim at providing the knowledge and skills needed to use and manage the supercomputing facilities.

- **Check the agenda in RES website:**
  https://www.res.es/en/events?event_type=technical_training

- **PATC courses in BSC** (PRACE Advanced Training Center):
  https://www.bsc.es/education/training/patc-courses

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New services, New nodes: DATA

- Objective
  - Provide services for Data: storage, curation, analysis, preservation …
  - From 3 to 5 years, under peer review of DMP
- Where are we?
  - EOI for nodes participation
  - In short, call for RES data nodes. Enlargement of RES services and nodes
- When services are to be expected?
  - Expect a call for data projects on June 2020

Distributed Supercomputing Infrastructure

26 members, including

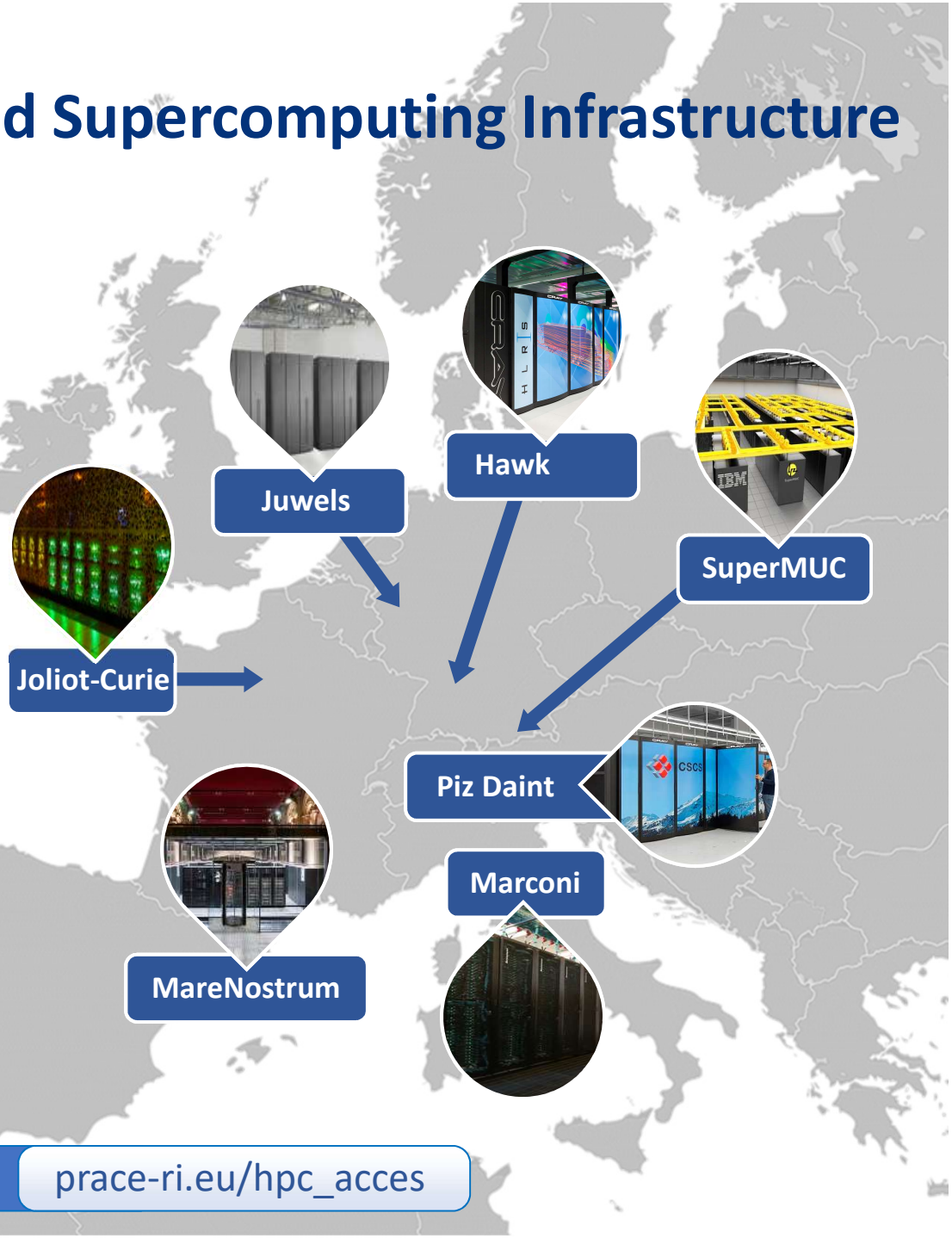
5 Hosting Members

(Switzerland, France, Germany, Italy and Spain)

687 scientific projects **enabled**

110 PFlops/s of peak performance on **7 world-class systems**

>12.000 people trained by **6 PRACE Advanced Training Centers** and others events



Access prace-ri.eu/hpc_acces

PRACE HPC Access

- **Call for Proposals for Project Access**:

  - 12, 24 or 36-month projects
  - Minimum request: “30 million core hours”

- **Call for Proposals for PRACE Preparatory Access**:

  - From 2 to 12 month projects

http://www.prace-ri.eu/

Infrastructure on High Performance Computing

Pan-European Research

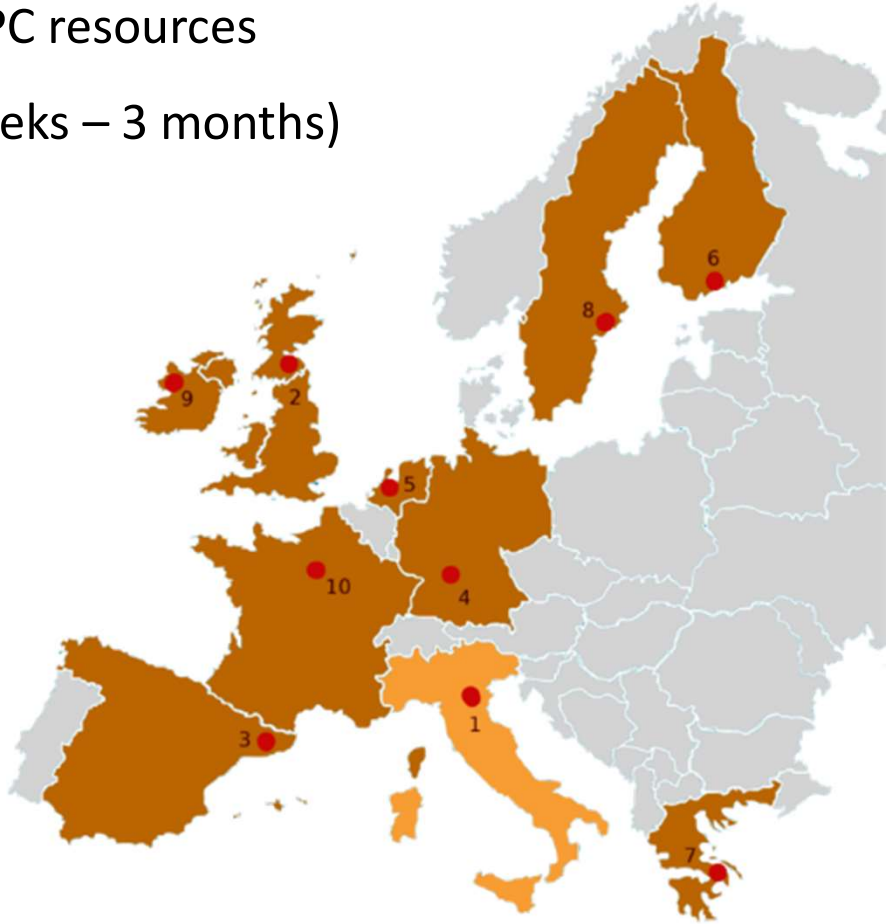
HPC Europa 3

Funded by the EC: 2017 - 2021

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

- ✓ Mobility grants for researchers using HPC resources
- ✓ Short stays to visit scientific hosts (3 weeks – 3 months)
- ✓ Funds for travel and living allowance
- ✓ Access to European HPC facilities



http://www.hpc-europa.eu/

EuroHPC
Joint Undertaking

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EuroHPC
Leading the way in the European Supercomputing

The EuroHPC Joint Undertaking is a 1 billion Euro joint initiative between the EU and European countries to develop a World Class Supercomputing Ecosystem in Europe.

EuroHPC

State of play

Next Steps

Benefits of Supercomputing

EuroHPC

EuroHPC will permit the EU and participating countries to coordinate their efforts and share resources with the objective of deploying in Europe a world-class supercomputing infrastructure and a competitive innovation ecosystem in supercomputing technologies, applications and skills.

EURO HPC Strategy

Hosting sites for precursor to exascale machines

Hosting site	Coordinating country	Partners
Barcelona Supercomputing Centre, Barcelona, Spain	Spain	Croatia, Portugal, Turkey
CINECA, Bologna, Italy	Italy	Slovenia
CSC – IT Centre for Science, Kajaani, Finland	Finland	Belgium, Czechia, Denmark, Norway, Poland, Sweden, Switzerland

European Commission - Press release

Digital Single Market: Europe announces eight sites to host world-class supercomputers

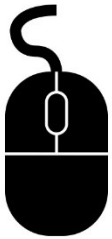
Luxembourg, 7 June 2019

Eight sites for supercomputing centres have been selected across the EU to host the first European supercomputers. They will support Europe's researchers, industry and businesses in developing new applications in a wide range of areas, from designing medicines and new materials to fighting climate change.

In a major step towards making Europe a top supercomputing region globally, the European High-Performance Computing Joint Undertaking - EuroHPC has selected 8 sites for supercomputing centres located in 8 different Member States to host the new high-performance computing machines. The hosting sites will be located in Sofia (Bulgaria), Ostrava (Czechia), Kajaani (Finland), Bologna (Italy), Bissen (Luxembourg), Minho (Portugal), Maribor (Slovenia), and Barcelona (Spain). They will support the development of major applications in domains such as personalised medicine, drug and material design, bio-engineering, weather forecasting, and climate change. In total, 19 of the 28 countries participating in the Joint Undertaking will be part of the consortia operating the centres. Together with EU funds, it represents a total budget of € 840 million. The exact funding arrangements for the new supercomputers will be reflected in hosting agreements that will be signed soon.

Contact us!

Visit our website: www.res.es



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EXCELENCIA
SEVERO
OCHOA

Thank you!


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Infraestructuras
Científicas y Técnicas
Singulares