



# PRACE@CINECA

## Italian contribution to PRACE

Guarrasi Massimiliano

*m.guarrasi@cineca.it*

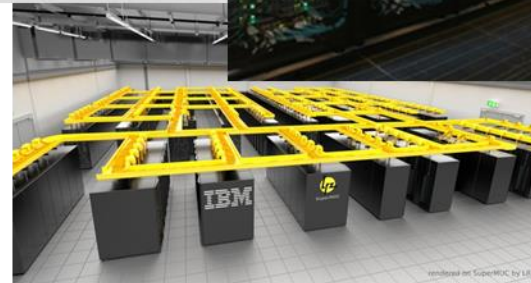


## PRACE in few words...

- ▶ The mission of PRACE (Partnership for Advanced Computing in Europe) is to enable high-impact scientific discovery and engineering research and development across all disciplines to enhance European competitiveness for the benefit of society. PRACE seeks to realize this mission by offering world class computing and data management resources and services through a peer review process.
- ▶ PRACE is established as an international not-for-profit association (aisbl) with its seat in Brussels. It has 25 member countries whose representative organisations create a pan-European supercomputing infrastructure, providing access to computing and data management resources and services for large-scale scientific and engineering applications at the highest performance level.
- ▶ The computer systems and their operations accessible through PRACE are provided by 5 PRACE members (BSC representing Spain, CINECA representing Italy, CSCS representing Switzerland, GCS representing Germany and GENCI representing France).

# PRACE current HPC Infrastructure

- ▶ MARCONI @ CINECA (Italy)
  - ▶ + 20 PF (BWD + KNL + SKL)
- ▶ Mare Nostrum 4 @ BSC (Spain)
  - ▶ 11 PF (SKL)
- ▶ Piz Daint @ CSCS (Switzerland)
  - ▶ 25 PF (SKL + P100)
- ▶ Joliot Curie @ GENCI (France)
- ▶ Hazel Hen @ HLRS (Germany)
  - ▶ 7 PF (HWL + BDW)
- ▶ SupeMUC @ LRZ (Germany)
  - ▶ 3,1 + 3.5 PF (Sandy Bridge + HWL)
- ▶ JUWELS @ JSC (Germany)
  - ▶ ????? (SKL)



## PRACE: How to Apply

### ▶ Preparatory Access:

- ▶ Type A
  - ▶ *For Benchmarking*
  - ▶ *Technical evaluation only*
- ▶ Type B
  - ▶ *For benchmarking and improvements*
  - ▶ *Technical evaluation only*
- ▶ Type C
  - ▶ *Increase the performance for Tier-0*
  - ▶ *Technical and Scientific evaluation*
  - ▶ *Up to 6 PM from an expert can be required*
- ▶ Type D
  - ▶ *Tier-1 For Tier-0*
  - ▶ *Technical and Scientific evaluation*
  - ▶ *Up to 6 PM from an expert can be required*

### ▶ DECI:

- ▶ Tier-1 resources

### ▶ **Project Access:**

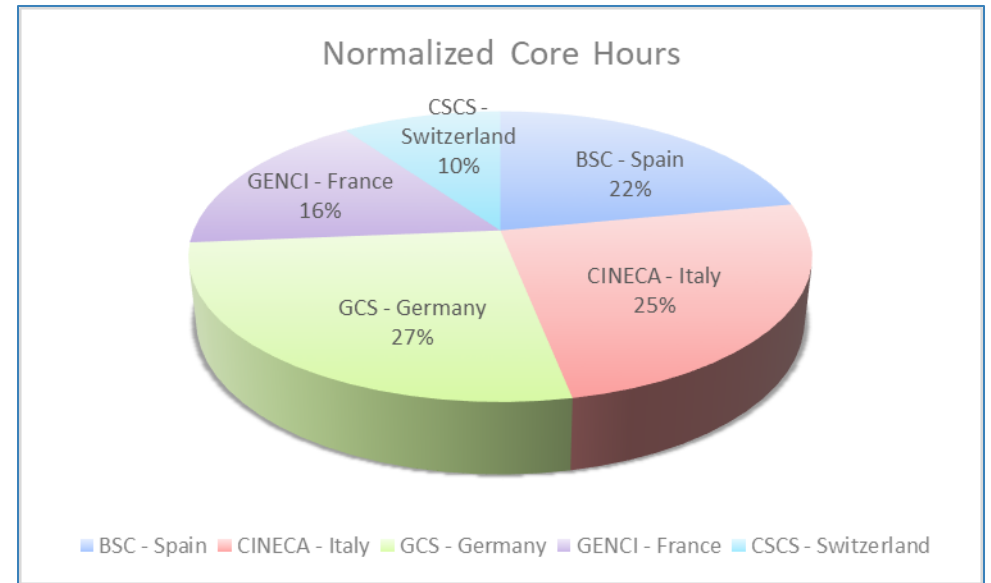
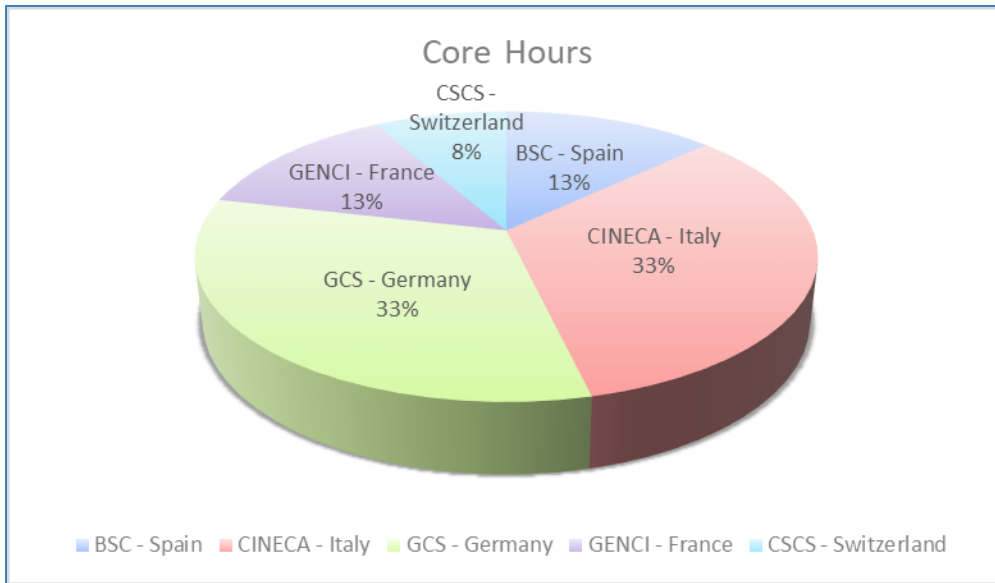
- ▶ **Typical size: 30M – 100M of core hours/year**
- ▶ **Duration:**
  - ▶ *1 year allocation*
  - ▶ *Up to 3 years (under annual revision)*
- ▶ **2 calls per year**
- ▶ **Free of charge**
- ▶ **Peer review process**
  - ▶ *Technical and scientific evaluation*
- ▶ **Online submission**
- ▶ **For any question/issue please send an email to [m.guarrasi@ Cineca.it](mailto:m.guarrasi@ Cineca.it)**



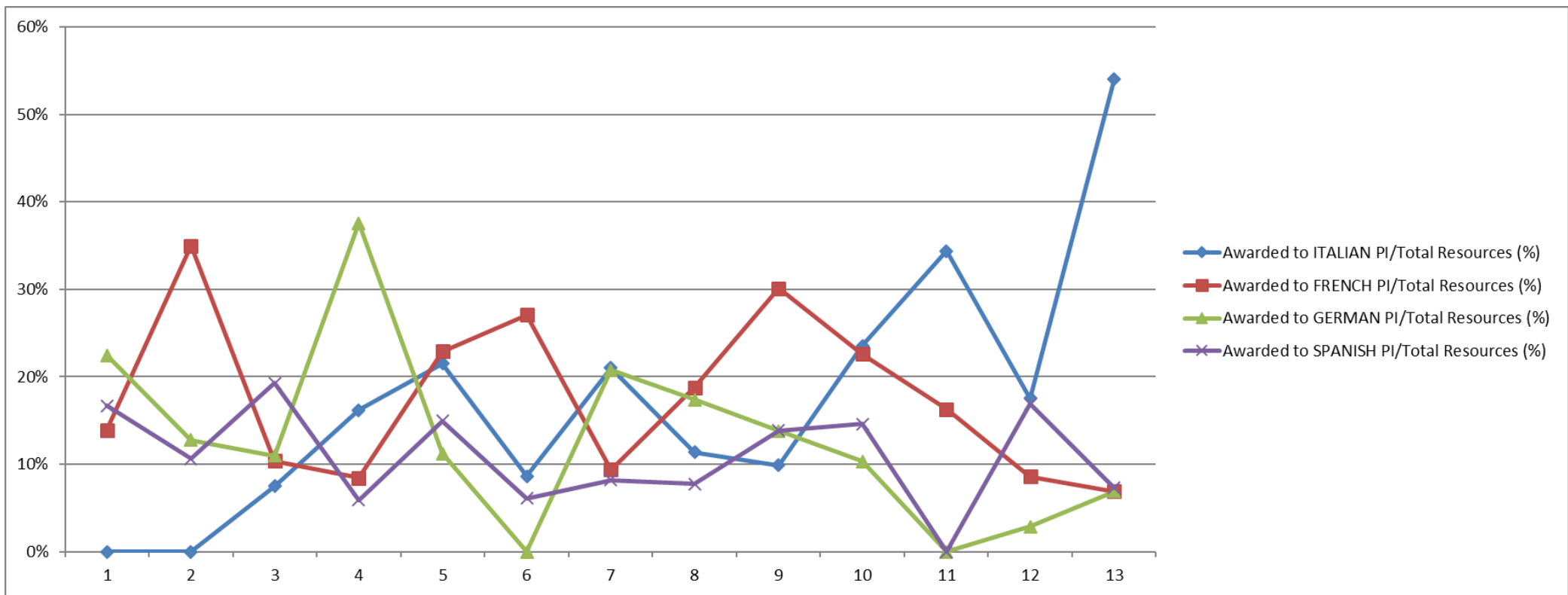
## Some Statistics

- ▶ From call 1 to call 16:
  - ▶ ~ 18'000'000'000 di core hours for Project access
  - ▶ ~ 15'000'000'000 of standard (Sandy Bridge/KNL) core hours
  - ▶ More than 500 projects awarded
  - ▶ More than 400'000'000 € of invested capitals

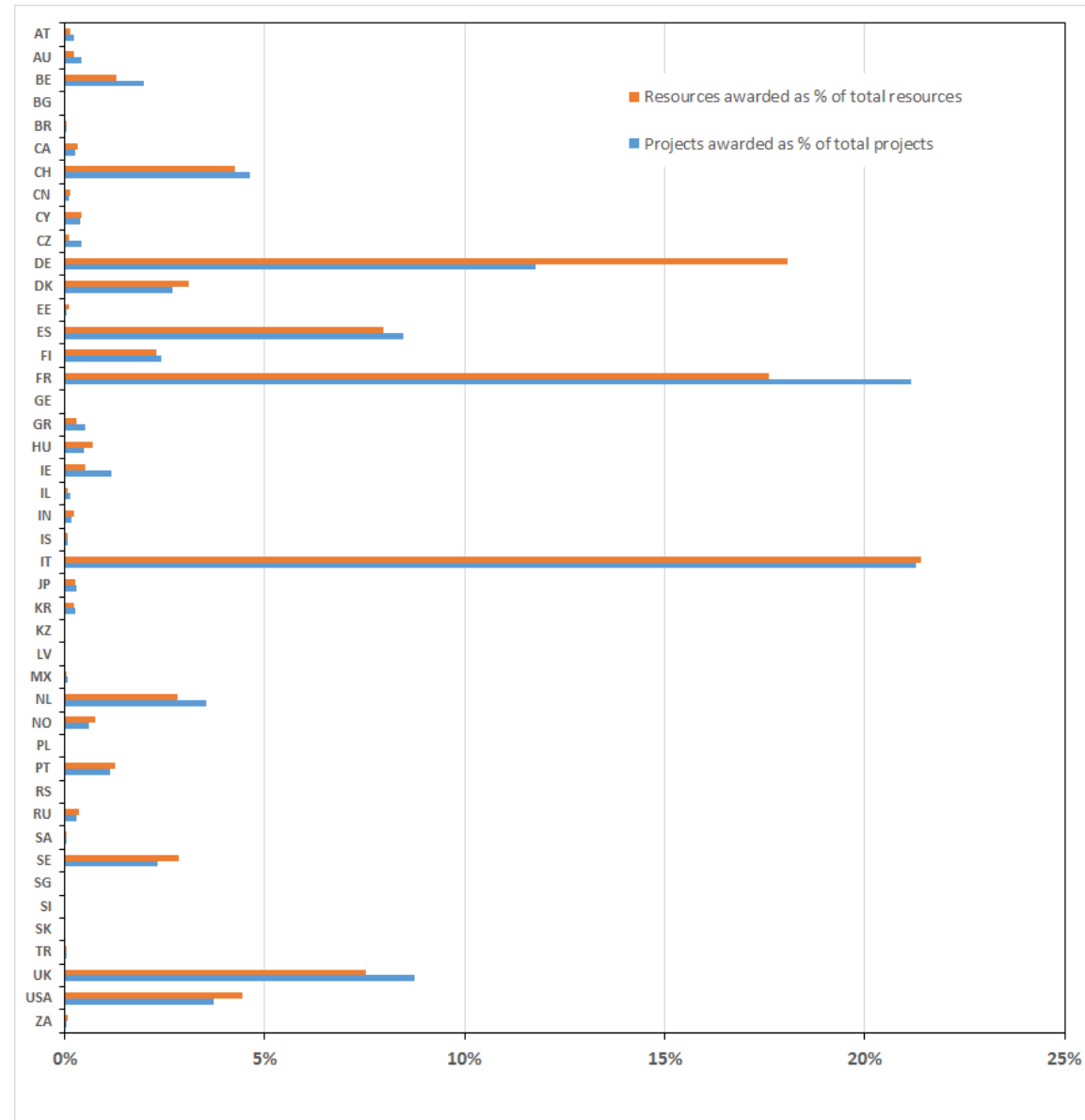
# Core hours per HM (Call 1 to call 16)



## Awarded Core Hours per Hosting Site (PRACE 1)



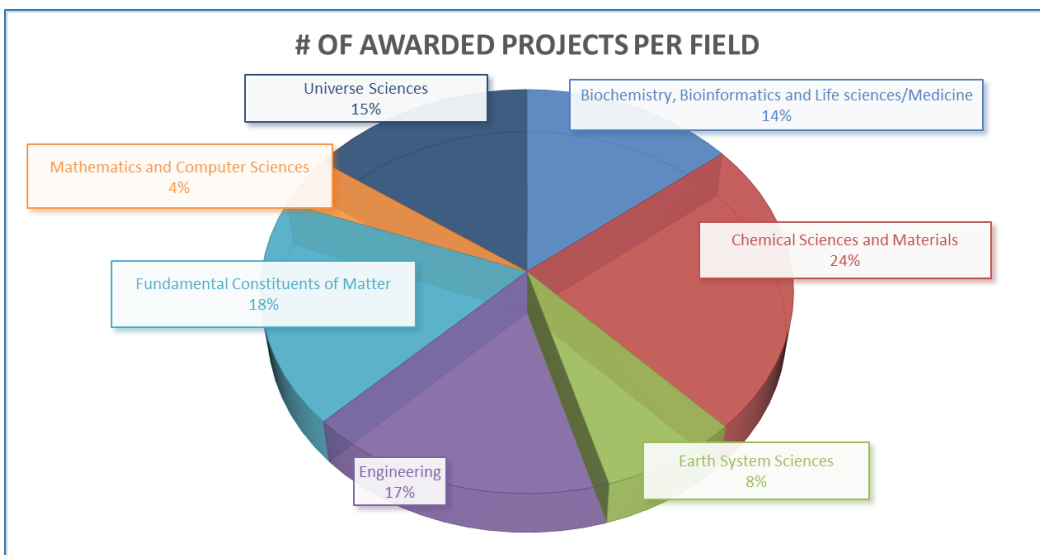
# Awarded projects per Nation



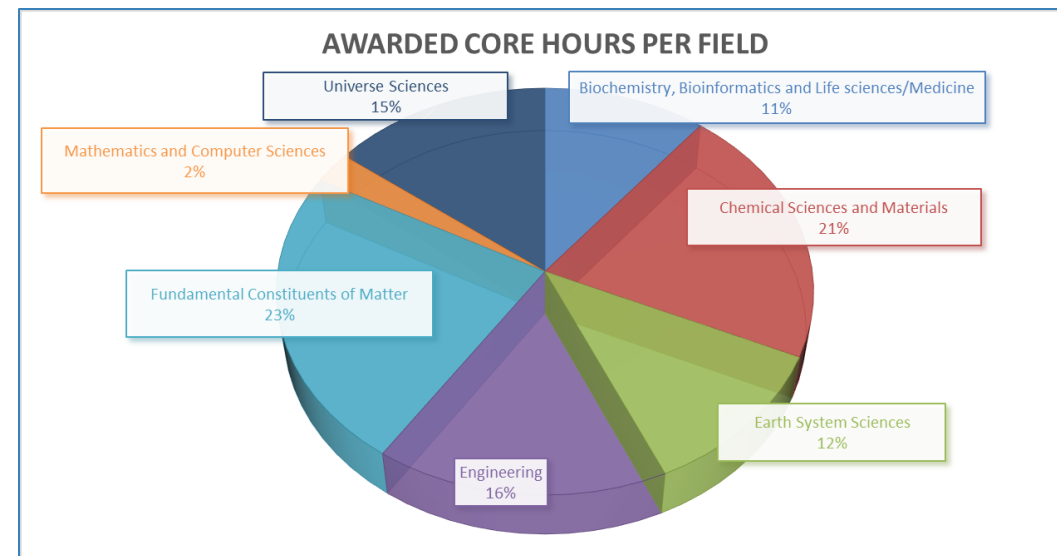


## Projects per field (All PRACE, Call 1 – 13)

# OF AWARDED PROJECTS PER FIELD



AWARDED CORE HOURS PER FIELD





THANK YOU FOR YOUR ATTENTION

For any further information, send an email to:

- [m.guarrasi@ Cineca.it](mailto:m.guarrasi@ Cineca.it)
- [prace-tech@ Cineca.it](mailto:prace-tech@ Cineca.it)