



www.prace-ri.eu



Overview of PRACE and PRACE Services

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Chair of the Board of Directors of PRACE aisbl
(Director of the Hartree Centre, STFC, UK)



PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

Partnership for Advanced Computing in Europe

PRACE is an international not-for-profit association under Belgian law, with its seat in Brussels.

PRACE counts 25 members and 2 observers.

The **PRACE** Hosting Members are France, Germany, Italy and Spain.

PRACE is governed by the **PRACE** Council in which each member has a seat. The daily management of the association is delegated to the Board of Directors.

PRACE is funded by its members as well as through a series of implementation projects supported by the European Commission.

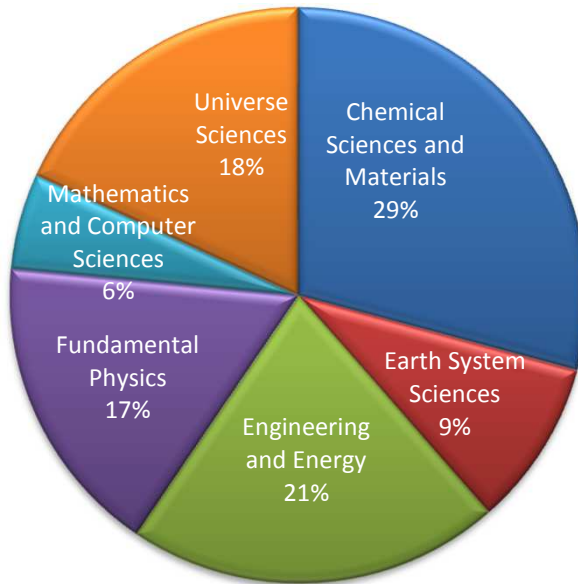


4 Hosting Members offering core hours on

6 world-class machines



MareNostrum: IBM
BSC, Barcelona, Spain



JUQUEEN: IBM
BlueGene/Q
GAUSS/FZJ
Jülich, Germany



SuperMUC: IBM
GAUSS/LRZ
Garching, Germany

Hazel Hen: Cray
GAUSS/HLRS,
Stuttgart, Germany




CURIE: Bull Bullx
GENCI/CEA
Bruyères-le-Châtel, France


FERMI: IBM BlueGene/Q
CINECA, Bologna, Italy







 **437** scientific projects **enabled**

 **11.5 thousand million** core hours awarded since 2010 with peer review, main criterion is **scientific excellence**. **Open R&D** access for **industrial users** with **>50 companies** supported

 **>7 350** people trained by **6 PRACE Advanced Training Centers** and others events

 **21 Pflop/s** of peak performance on **6 world-class systems**

 **530 M€** of funding for **2010-2015**, access **free at the point of usage**

 **25 members**, including **4 Hosting Members** (France, Germany, Italy, Spain)



**Criterion:
Scientific
Excellence**

Access through PRACE Peer Review



Free-of-charge required to publish results at the end of the award period
Open to **international** projects



Project Access (*every 6 months*) **award period 1 to 3 years**
Individual researchers and groups
No restriction on nationality for both researcher and centre
Required to demonstrate technical feasibility of project



Preparatory Access (*cut-off date every 3 months*)
Optional support from PRACE experts
Prepare proposals for Project Access



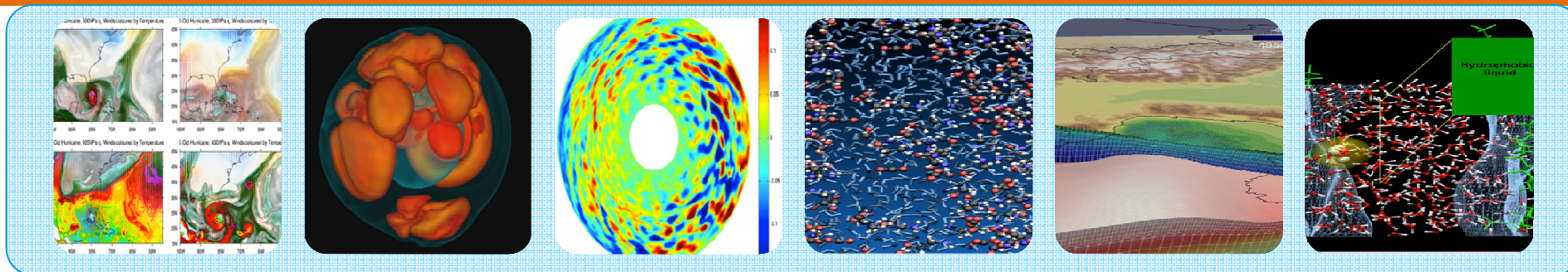
Project Access



www.prace-ri.eu/call-announcements/



PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE



Climate

144 million core hrs
on Hermit (DE)
for UK - UB

PRACE will give to UK Met a 3 years advance in the development of their models (high resolution global weather & climate models).

Astrophysics

million core hrs:
98 on CURIE (FR) +
49 on SuperMUC
(DE) **for Germany**

This PRACE grant is one of the biggest worldwide allocation in this domain. Without this huge computational resources this project would not have been carried out in a decent time.

Energy

30 million core hrs
on SuperMUC (DE)
for Finland

PRACE resources enable the first European direct comparison of first-principles simulations to multi-scale experimental data for fusion energy (Link ITER).

Chemistry

59,8 million core
hrs on JUQUEEN
(DE)
for Switzerland

Simplified models would not give reliable or meaningful results: Only PRACE systems are large enough to allow these computational models to be calculated.

Seismology

53.4 million core
hrs on SuperMUC
(DE) **for Italy**

The massive allocation of computing resources awarded via PRACE can be used to explore the non-linearity dependence of local ground shaking on geological structure.

Life Science

40 million core hrs
on JUQUEEN (DE)
for Germany

A single standard PC would need 5.000 years to do what JUGENE did in 100 days (40 million core hours) Only a PRACE system can offer enough resources to accomplish such a computationally intensive project.