PRACE

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.

ESFRI European Strategy Forum
on Research Infrastructures

Dear Project Coordinator,

At the ESFRI Forum held on 17 April 2015 in Brussels it was agreed to propose your project to be included on the list of ESFRI Landmarks in the ESFRI Roadmap 2016.

The ESFRI Landmarks are Research Infrastructures selected from among those listed in the previous editions of the ESFRI Roadmap, that are now clear reference pillars of scientific excellence and of competitiveness of the European Research Area, because they are delivering world-class scientific services that often reach well beyond their original goals, or because they are in advanced construction/implementation but already set the state of the art in their field. By highlighting Research Infrastructures as ESFRI Landmarks, ESFRI intends to underline their crucial contribution to the European research and innovation landscape.

With best regards,

John Womersley (ESFRI Chair)

PRACE promotes and supports close link with users

Scientific Steering Committee

- **21 European leading scientists (of which 6 are ERC grant holders, an additional 3 participates in ERC evaluation panels)**
- **Provides advice and guidance on all matters of a scientific and technical nature**

Access Committee

- **7 world-class researchers experienced in areas of science, engineering and supercomputing**
- **Gives advice to the Board of Directors concerning the allocation of resources**

Industrial Advisory Committee

- **Representatives of 11 different industrial sectors**
- **Provides PRACE with advice on HPC usage for the benefit of European competitiveness and economic growth**

User Forum

- **Forum for users and potential users of PRACE resources**
- **Monitor and support the PRACE research infrastructure user community**

4 Hosting Members offering core hours on **6** world-class machines

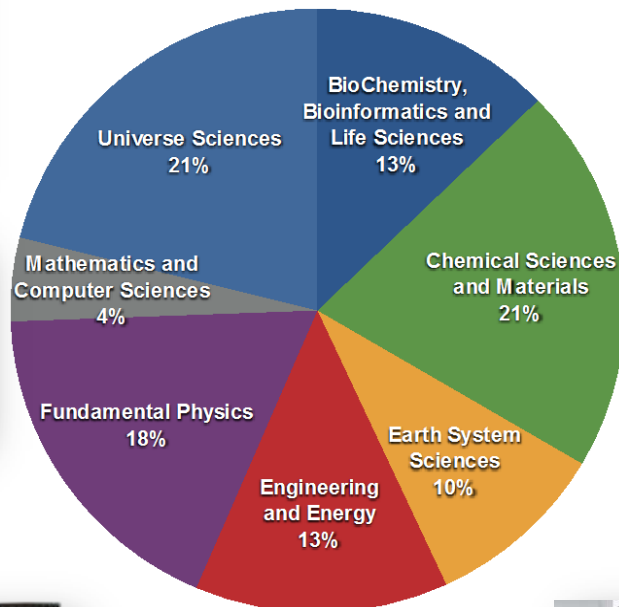**MareNostrum:**
IBM
BSC, Barcelona, Spain

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

HORNET: Cray
GAUSS/HLRS,
Stuttgart, Germany

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

SuperMUC: IBM
GAUSS/LRZ
Garching, Germany

FERMI: IBM BlueGene/Q
CINECA , Bologna, Italy

Pie chart:
- Universe Sciences 21%
- BioChemistry, Bioinformatics and Life Sciences 13%
- Chemical Sciences and Materials 21%
- Earth System Sciences 10%
- Engineering and Energy 13%
- Fundamental Physics 18%
- Mathematics and Computer Sciences 4%

394 scientific projects **enabled**

10.2 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

>3000 people trained by **6 PRACE Advanced Training Centers** and others events

18 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

Open Call for Proposals	Technical Review	Scientific Peer Review	Right to reply	Priorisation + Resource Allocation	Project + Final Report

~ 2 Months **~ 3 Months** **Up to 3 years**

Technical experts in PRACE systems and software	Researchers with expertise in scientific field of proposal	Access Committee	Researcher

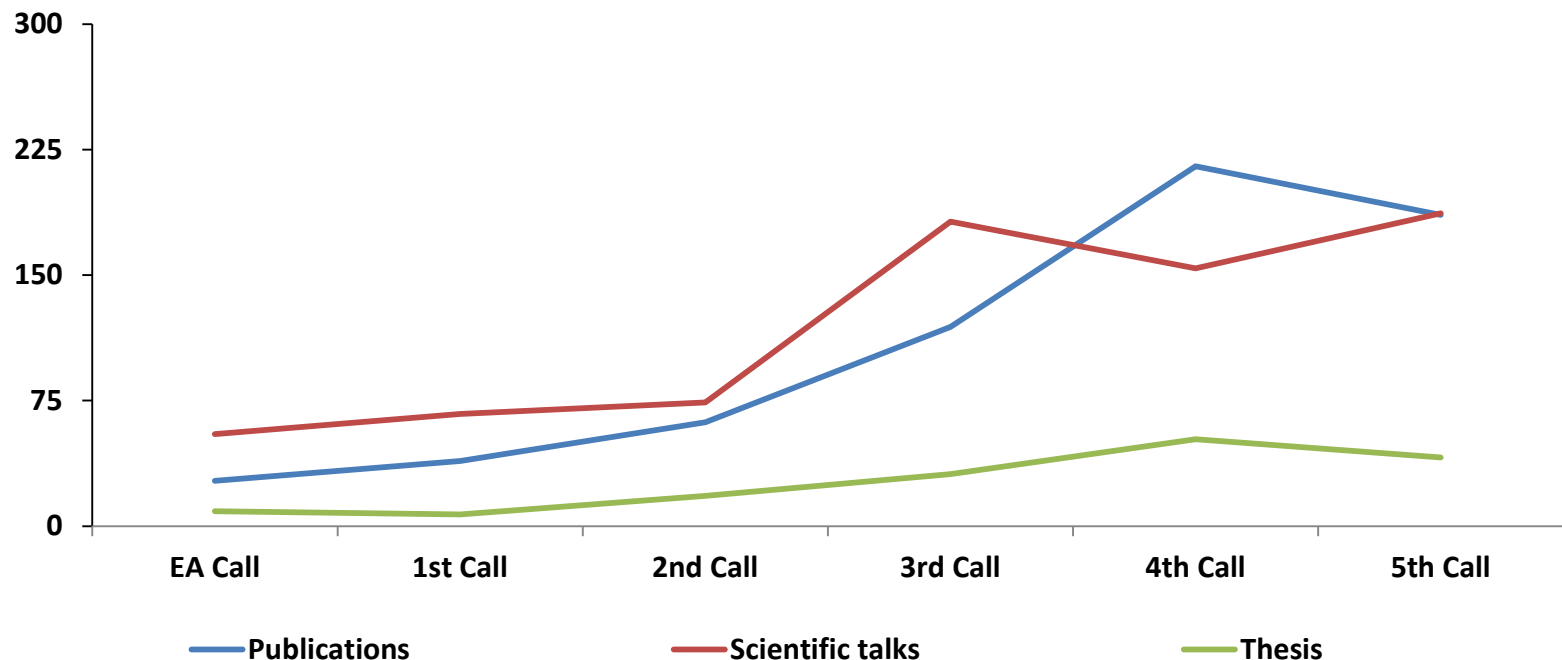# www.prace-ri.eu/call-announcements/

PRACE's impact on evolving research
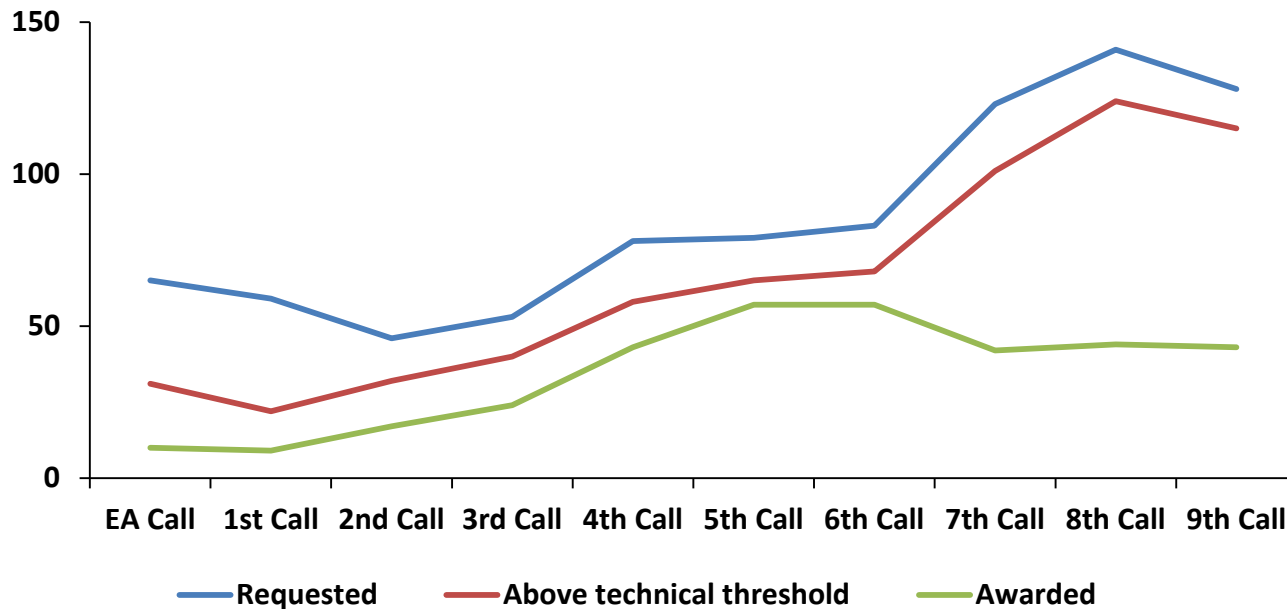
The overall trend highlights the **increasing importance and impact of PRACE Tier-0 service for research**

PRACE's impact on scientific production

The data reflect **an increasing trend in all types of scientific production supported by PRACE.**

PRACE Strategy for 2015-2020

Provide an infrastructure for science and industry

To maintain Europe as Science world class contributor

By offering access to leading edge HPC platforms opened to all disciplines and countries in Europe

Provide an high quality service

- With at least one supercomputer in each major architectural class
- To support world-leading science

Attract, train and retain competences

- To attract, train and retain highly skilled and innovative workforce in science and engineering
- To share knowledge and expertise
- training and software development efforts

Lead the integration of an highly effective HPC ecosystem

- A) scientific and industrial communities,
- B) national HPC centres and their support for the PRACE systems,
- C) Dedicated Access and joint collaboration with the HPC CoE

Caught and caged: the future of drug delivery

Facts & Figures

Mattia **Falconi**, Structural Biology Group, Department of Biology, University of Rome Tor Vergata, Italy

Life Sciences

7 million core hours CURIE Fat Nodes (FN) @ GENCI @ CEA, France

Research team from Italy, Denmark and Brazil

Nanoscience holds special excitement in the field of biomedicine where its potential to revolutionise **targeted drug delivery** is eagerly anticipated.

This innovative DNA nanocage will mark a decisive step forward for nano-bio-medicine.

Original truncated octahedron nanocage composed by twelve B-DNA helices forming the hexagonal faces and six square shaped faces made up of four single-strand linkers.
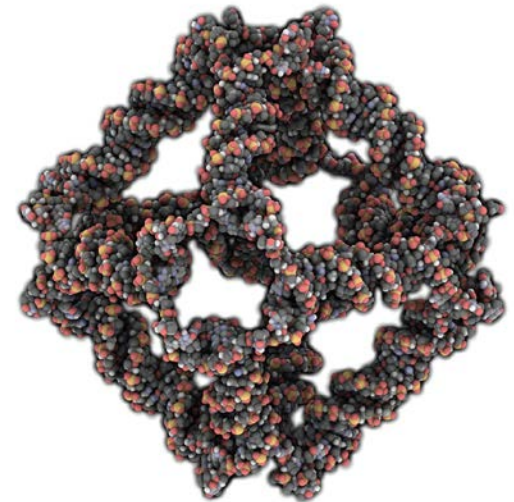
PRACE Events

In 2015 PRACE will be present at several high-level European and international HPC events:

- PRIDE 2015 (27 – 28 May, Opatija)
- ISC'15 (12 – 16 July, Frankfurt)
- ICT 2015 (20 – 22 October, Lisbon)
- SC'15 (16 – 19 November, Austin)

Each event will see specific PRACE activities for visitors of the PRACE booth.

PRACE Publications

In 2015 PRACE will publish a number of new editions, some of which are available at PRACEdays15:

- **PRACE Annual Report 2014** (available)
- **PRACE Women in HPC Magazine** (available)
- **PRACE Brochure** (update available)
- **PRACE Digest** (foreseen for November)

All publications can be obtained free of charge upon simple request to the PRACE Office in Brussels.