

5th PRACE Implementation Phase Project Started



In response to the European Commission's EINFRA-11-2016 Call within the new European framework programme Horizon 2020 PRACE partners from 25 countries submitted a successful proposal and started the 5th Implementation Phase project (PRACE-5IP) on 1 January 2017. The project will assist the transition from the initial five-year period (2010-2015) of the Research Infrastructure established by the Partnership for Advanced Computing in Europe (PRACE) to PRACE 2 and support its implementation.

Key objectives of PRACE-5IP are:

Provision of Tier-0 service based on excellence and innovation.

With this project, it is proposed that the now regular PRACE Access Calls would continue and constitute the bulk of the audited allocation of resources. A rigorous and proven peer-review model which meets or exceeds the standards of comparable processes in participating countries, and indeed globally, will be further enhanced. Tailored services will be developed to facilitate collaboration with groups with specific requirements e.g. ESFRI projects, Horizon 2020 programmes and industry. Enabling efficient use of the Tier-0 systems via targeted user and application support is a key objective of this project. In addition to the continuation of the application enabling, documentation and benchmarking of the previous projects, PRACE already has a programme underway to provide computational resources and, more importantly at this point, human support and requirements assessment, to the recently established FET Centres of Excellence (CoEs).

Support a functional European HPC Eco-system.

The primary service provision at the Tier-0 level is dependent on a well-functioning Tier-1 service at national level. This is exemplified in the domain of training where PRACE currently operates six PRACE Advanced Training Centres (PATCs). In this project PRACE will develop a "PRACE Training Centre" (PTC) brand, i.e. a standardised quality controlled syllabus appropriate to Tier-1. This will not only provide a service to the wider community but will also raise the profile of PRACE and prompt Tier-1 users to look beyond their borders in due course. In parallel with this, code development is needed. This is a naturally cross-tier activity with initial developments made at smaller scales. PRACE will continue such work with programmes such as Preparatory Access and expert technical effort on selected codes. PRACE has also a functional programme" at Tier-1 level which operates the DECI Calls. This optional programme will be retained.

A sustainable governance and business model.

PRACE undertakes a periodic, independent auditing exercise to formally account for delivery of commitments made. In concert with the development of the PRACE model, the audit process must develop, too. Criteria will be made more specific and reporting more comprehensive, reflecting the maturity of the Research Infrastructure. Despite these steps the legal and taxation complexity of a multi-national funded entity like PRACE will remain and models beyond those currently employed will be examined.



PRACE collaborators at the PRACE-5IP Kick-off.

Work with European Technology Platform for HPC (ETP4HPC) and Centres of Excellence in HPC.

PRACE's complementary working relationship with ETP4HPC is exemplified by its commonly executed Horizon 2020 project EXDCI. Furthermore, PRACE and ETP4HPC have eight common partners. Within the collaboration with ETP4HPC specific technical reports will be produced addressing emerging user requirements along with Exascale performance and usability testing. In the context of the Centres of Excellence (CoE's), today PRACE is establishing a strong working relationship with these important activities and in this project will put in place a programme of initiatives that address domain specific challenges facing individual centres.

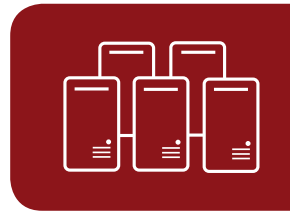
Provide tailored Training and skills development programmes.

Additionally to the operation of the PRACE Advanced Training centres (PATCs) and new PRACE Training Centres (PTCs), PRACE-5IP will produce material which can either be used directly by end-users or to support intermediaries such as teaching staff. In particular, the

project will support Massively Open Online Courses (MOOCs) or blended on-site taught courses with some MOOC elements. The effective implementation of the PTC programme will enable the PRACE brand to be associated with a wider number of courses with an increased number of contact points into academia in partner countries while amortising the cost of the generation of high quality material over a larger number of consumers.

HPC system interoperation.

PRACE will study the use of Containers as a means of exchanging configurations and packaged applications, enhancing user mobility. In addition, OpenStack's applicability to general HPC workloads will be examined. Together these methods could form a lingua franca for interoperating at the technical level with other classes of computing infrastructure. At the non-technical level, as PRACE access is based on the peer review requirements of Member States, equivalence relationships will be studied to identify where resource exchange is both advantageous to end users and within the bounds of conditions imposed at the national level.



PRACE-5IP is again coordinated and managed by by Forschungszentrum Juelich. It has a budget of nearly 15.9 Mio € including an EC contribution of 15 Mio €. The duration will be 28 months.

Over 250 researchers collaborate in PRACE from 49 organisations¹ in 25 countries. The PRACE-5IP Kick-Off meeting took place at the Greek Research and Technology Network S.A., Athens from 1-2 February 2017 with over 130 researchers attending the event.

Synopsis of the PRACE projects

The European Commission supported the creation and implementation of PRACE through six projects with a total EC funding of 97 Mio €. The partners co-funded the projects with more than 33 Mio € in addition to the commitment of 400 Mio € for the initial period by the hosting members to procure and operate Tier-0 systems and the in-kind contribution of Tier-I resources on systems at presently twenty partner sites. The following table gives an overview of the PRACE projects.

¹ This includes 26 Beneficiaries and 23 linked Third Parties from associated universities or centres.

Project Id Grant Number	Number Partners	Budget Mio €	EC Funds Mio €	Duration	Status
PRACE-PP RI-211528	16	18.9	10.0	01.01.2008 – 30.06.2010	Completed
PRACE-IIP RI-261557	21	28.5	20.0	01.07.2010 – 30.06.2012	Completed
PRACE-2IP RI-283493	22	25.4	18.0	01.09.2011 – 31.08.2013	Completed
PRACE-3IP RI-312763	26	26.8	19.0	01.07.2012 – 30.06.2014	Completed PCP ² to end 31.12.2017
PRACE-4IP EINFRA-653838	26	16.5	15.0	01.02.2015 – 30.04.2017	Ongoing
PRACE-5IP EINFRA-730913	26	15.9	15.0	01.01.2017 – 30.04.2019	Started
Total		132.0	97.0		

² The Pre Commercial Procurement Pilot (PCP) is part of the PRACE-3IP project, however with a duration of 66 month.

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