



PRACE 16th Call for Proposals for Project Access

Important Dates:

Opening date:	26/09/2017
Closing date:	21/11/2017, 10:00 CET
Applicants' reply to scientific reviews:	January 2018
Communication of allocation decision:	End of March 2018
Allocation period for awarded proposals:	03/04/2018 – 31/03/2019
Type of Access	Project Access and Multi-Year Project Access

PRACE systems available:

System	Architecture	Site (Country)	Core Hours (node hours)	Minimum request
Curie and its successor Irene - SKL	Bull Bullx cluster / Bull Sequana (starting service in 2H 2018)	GENCI@CEA (FR)	128 million (3.9 million)	15 million core hours
Irene - KNL	BULL Sequana (starting service in 2H 2018)	GENCI@CEA (FR)	57 million (0.8 million)	15 million core hours
Hazel Hen	Cray XC40 System	GCS@HLRS (DE)	70 million (2.9 million)	35 million core hours
Juqueen successor	Multicore cluster	GCS@JSC (DE)	70 million (tbd)	35 million core hours
Marconi- Broadwell	Lenovo System	CINECA (IT)	36 million (1 million)	15 million core hours
Marconi-KNL	Lenovo System	CINECA (IT)	442 million (6.5 million)	30 million core hours
MareNostrum	Lenovo System	BSC (ES)	475 million (10 million)	15 million core hours
Piz Daint	Cray XC50 System	CSCS (CH)	510 million (7.5 million)	68 million core hours Use of GPUs
SuperMUC	IBM System X iDataplex/ Lenovo NextScale	GCS@LRZ (DE)	105 million (6.6 million)	35 million core hours

Introduction

The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association (aisbl) with its seat in Brussels. The mission of PRACE 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 achieve this mission by offering world class high performance computing (HPC), computing and data management resources and services for scientists and researchers from academia and industry in Europe through a peer review process. The Implementation Phase of PRACE receives funding from the EU's Seventh Framework Programme (FP7/2007-2013) under grant agreement RI-312763 and from the EU's Horizon 2020 Research and Innovation Programme (2014-2020) under grant agreements 653838 and 730913.

The computer systems (called Tier-0 systems) and their operations that are accessible through PRACE are provided for this 16th call by 5 PRACE hosting members: BSC representing Spain, CINECA representing Italy, CSCS representing Switzerland, GCS representing Germany and GENCI representing France.

Scientists and researchers can apply for access to PRACE resources. Industrial users can apply if they have their head offices or substantial R&D activity **in Europe**.

The Call is open to:

***Project Access:** Proposals can be based on a 12-months schedule (**Single-year Projects**), or, on a 24- or 36-months schedule (**Multi-year Projects**). The allocation of awarded resources is made 1 year at a time with provisional allocations awarded for the 2nd and 3rd year.

Additionally, the Call:

*reserves **0.5% of the total resources available** for this call for **Centres of Excellence (CoE)** as selected by the European Commission under the E-INFRA-5-2015 call for proposals.

The PRACE Access Committee, composed of leading international scientists and engineers, ranks the proposals received and produces a recommendation to award PRACE resources based on scientific and technical excellence.

Further details on the standard application procedure can be found on the [PRACE website](#) ("How to apply" menu).

1. Scope of the Call

The PRACE 16th Call for Proposals is intended for large-scale projects of excellent scientific merit and for which a significant European added-value and major impact at International level is anticipated.

Applications to PRACE computing resources must use codes that have been properly tested, and that demonstrate either high performance and scalability on the PRACE systems requested or a need for ensemble simulations that require a very large amount of CPU time overall. The focus should be on approaches (parallelization, architectures and software) and memory requirements that should be justified in terms of time-to-solution and the suitability of the hardware requested, e.g. the fraction of peak performance that can be attained.

The need for PRACE Tier-0 computing performance must be clearly spelled out in the proposal.

Further details on the **minimal requirements** for using each system are available in the *“Technical_Guidelines_for_Applicants”* document which can be found on the [PRACE website](#).

Proposals for code testing and optimisation are outside of the scope of this call. A separate call for **Preparatory Access** is continuously open for such purposes (see the [PRACE website](#) for further details about Preparatory Access calls).

Proposals must demonstrate **scientific excellence** and include **elements of novelty and transformative aspects**. They must have a recognised scientific impact, validated in a coherent dissemination plan. Possible practical and timely applications are therefore desirable. The proposal should demonstrate the potential of achieving results, which should be published in high impact peer-reviewed scientific journals and conferences (please see **Section 4 Terms of Access**).

Resources can be requested on a single system, or on more than one system when justified. Please request resources on more than one system only if your project proposal needs an additional system; **do not request resources on more than one system as alternative(s) to the preferred system**. Please note that technical data needs to be provided for each system requested. Following the recommendation of the PRACE AC and availability of resources, proposals may be awarded as a whole, awarded with a reduced scope or rejected.

Please respect the minimum request for each system listed on Page 1; **proposals that do not respect this will be administratively rejected**. Moreover, if the resources requested by the applicant are incorrect (for example if 54 core hours rather than 54,000,000 core hours are indicated), the proposal will also be **administratively rejected**.

1.1. Projects Access

Project Access is the access to PRACE Tier-0 computing resources for projects that use codes that have been previously tested and have demonstrated high scalability and optimisation in the systems requested or in equivalent ones. Preparatory Access is strongly recommended to collect the technical data to support the request of resources.

Proposals for Project Access must be based on computer codes and data ready run on the Tier-0 systems. The need for Tier-0 resources must be demonstrated.

Applicants requesting access as a **follow-up to a running or finished PRACE Project Access** have to present the corresponding [progress](#) or [final](#) reports, following the templates available on the [PRACE website](#) (“Information for PRACE Awardees”). The PRACE Access Committee will use them to evaluate the status of the on-going access and whether the need for the follow-up project is recommended or not.

1.1.1- Single-Year Project Access

Allocations for standard Single-year Access will start on **April 3rd, 2018** for a period of **12 months** (until **31st March 2019**).

1.1.2- Multi-Year Project Access

This PRACE 16th Call for proposals is open to Multi-Year Project Access also, inviting applications for 2 or 3-year projects. Multi-Year Project Access is subject to the same eligibility and assessment criteria as applications for standard Single-year Project Access. In addition, proposals must demonstrate their need for a resource allocation of more than a year.

Allocation of resources is **made for one year at a time**, with **provisional allocations** awarded for the 2nd and/or 3rd year. **All Multi-year Access Projects are subject to annual peer review, based on a progress report and a presentation by the project PI to the PRACE Access Committee. Allocation of resources shall be adjusted accordingly, based on the amount of resources requested in the proposal, the resources effectively used, and the amount of resources (and systems) available in the Call(s) corresponding to the 2nd and/or 3rd year.**

Calls will reserve at least 10% of the resources in each system for previously awarded multi-year projects. PRACE Access Committee will recommend how this reserve is allocated among the existing multi-year projects, while respecting the size of the reserve. Applicants requiring substantial amounts of resources for the 2nd or 3rd year are encouraged to submit follow-up single-year applications.

1.2. Support to CoE

0.5% of the total resources available for this call is reserved for Centres of Excellence (CoE) as selected by the European Commission, under the E-INFRA-5-2015 call for proposals. Resources will be equally distributed among the CoEs. They will be asked to provide a description of their usage of the resources for technical validation, and a final report with the obtained results.

CoEs will be directly informed about the process and requirements to access these resources.

The CoEs will have the same rights and obligations as any other user, as stated in Section 4 (Terms of access).

2. Tier-0 Systems

The PRACE HPC Tier-0 systems available for the 16th Call are:

- “**Curie**” and “**Irene-SKL**” Bull Bullx cluster /
Bull Sequana system (GENCI@CEA, France)
- “**Irene – KNL**” Bull Sequana system (GENCI@CEA, France)
- “**Hazel Hen**” Cray XC40 System (GCS@HLRS, Germany)
- “**Juqueen Successor**” Multicore cluster (GCS@JSC, Germany)
- “**Marconi**” Lenovo System (CINECA, Italy)
- “**MareNostrum 4**” Lenovo System (BSC, Spain)
- “**Piz Daint**” Cray XC50 System (CSCS, Switzerland)
- “**SuperMUC**” IBM System X iDataplex /
Lenovo NextScale (GCS@LRZ, Germany)

All systems are available for Single-Year Access, Multi-year Access and CoEs.

- **Curie and its successor Irene** – Bull system – hosted by GENCI in TGCC/CEA, Bruyères-Le-Châtel, France.

Details and terms of usage can be found [here](#).

The Curie BULLx system is composed by 5 040 compute blades (called thin nodes), each node having 2 octo core Intel SandyBridge EP processors 2.7 GHz, 4 GB/core (64 GB/node) and around 64 GB of local SSD acting as local /tmp. These nodes are interconnected through an Infiniband QDR network and accessing to a multi-layer Lustre parallel filesystem at 250 GB/s. The peak performance of the thin nodes partition is 1.7 petaflops.

The successor of Curie, **Irene**, with a first tranche starting service H2 2018, will be a BULL Sequana system based on 9 compute cells:

- the **Irene SKL** partition will be composed by 6 cells each containing 272 compute nodes with two 24-core Intel Skylake EP processors 2.7 GHz, 4 GB/core (192 GB/node) ;
- the other partition **Irene KNL** will be composed by 3 cells each containing 222 nodes with one Intel Knights Landing 68-core 1.4 GHz manycore processor with 16 GB of high-speed memory (MCDRAM) and 96 GB of main memory.

All the compute nodes of Irene are interconnected through a high-speed interconnect (to be announced later) and accessing to a multi-layer Lustre parallel file system at 500 GB/s. The peak performance of this system will be close to 9 petaflops.

The total available capacity in this call for **Curie** and the skylake partition **Irene SKL** is **128 million** compute core hours. **A smooth transition will be organized between Curie and Irene in the first phase of the 16th call.** Thus, allocations on Curie and Irene SKL are linked: projects will begin their calculations on Curie during the first three months of the call (this period may vary and is subject to change) and will then be gradually moved to Irene SKL.

The total available capacity in this call for the KNL partition **Irene KNL** is **57 million** compute core hours. Allocations on Irene KNL are independent and computing time on this partition will be available starting H2 2018.

Requests below **15 million compute core hours** will not be considered.

- **Hazel Hen** – Cray XC40 System – hosted by GCS in HLRS; Stuttgart, Germany. Details and terms of usage can be found [here](#)

Hazel Hen, a Cray XC40, is designed for sustained application performance and highly scalable applications. It delivers a peak performance of 7.42 Petaflops. The system is composed of 7,712 compute nodes with a total of 185,088 Intel Haswell E5-2680 v3 compute cores. Hazel Hen features 965 Terabyte of Main Memory and a total of 15 Petabyte of storage capacity. The input-/output rates are +/- 350 Gigabyte per second.

The total available capacity in this call for Hazel Hen is **70 million** compute core hours.

Requests below **35 million compute core hours** will not be considered.

- **Marconi** – Lenovo NeXtScale – hosted by CINECA; Italy. Details and terms of usage can be found [here](#)

Marconi system consists of three partitions (from which 2 will be available for Call 15):

- **Marconi – Broadwell** (A1 partition) consists of ~7 Lenovo NeXtScale racks with 72 nodes per rack. Each node contains 2 Broadwell processors each with 18 cores and 128 GB of DDR4 RAM.
- **Marconi – KNL** (A2 partition) will be deployed by the end of 2016 and will consist of 3600 Intel server nodes integrated by Lenovo. Each node contains 1 Intel Knights Landing processor with 68 cores, 16 GB of MCDRAM and 96 GB of DDR4 RAM.

The nodes of both A1 and A2 partitions will be connected via Intel Omni-Path network.

The total available capacity in this call for **Marconi** is:

- On **KNL** partition: **442 million** compute core hours (6.5 million of KNL node hours)
- On **Broadwell** partition: **36 million** compute core hours (1 million of BDW node hours)

Requests below **15 million compute core hours** on the Broadwell partition, or below **30 million compute core hours** on the KNL partition will not be considered.

IMPORTANT REMARK:

Since Omni-Path network and KNL processors are quite new, further information and support from HPC Technical teams can be requested through PRACE Peer-Review at peer-review@prace-ri.eu during the preparation of the application.

- **MareNostrum** – Lenovo System – hosted by BSC in Barcelona; Spain.
Details and terms of usage can be found [here](#).

MareNostrum 4 consists of 48 Compute Racks with 72 compute nodes per rack. Each node has two Intel Xeon Platinum 8160 next generation general purpose Xeon E5 processors with 2.1 GHz, 24 cores per socket (48 cores/node) and 96 GB of main memory (2 GB/core), connected via Intel Omni-Path fabric at 100 Gbits/s.

There are a subset of 200 fat nodes available that have 384 GB of main memory (8 GB/core).

Their use is restricted to a maximum of 50% of their hours for all projects combined during each PRACE call. The total available capacity for **MareNostrum4** in this call is **475 million compute core hours**.

Requests below **15 million compute core hours** will not be considered.

- **Piz Daint** – Cray XC50 System – hosted by CSCS in Lugano, Switzerland.
Details and terms of usage will be made available [here](#).

Named after Piz Daint, a prominent peak in Grisons that overlooks the Fuorn pass, this supercomputer is a hybrid Cray XC50 system and is the flagship system for national HPC Service. Piz Daint has compute nodes Intel® Xeon® E5-2690 v3 @ 2.60GHz (12 cores, 64GB RAM) and NVIDIA® Tesla® P100 16GB. The nodes are connected by the "Aries" proprietary interconnect from Cray, with a dragonfly network topology.

The total available capacity in this call for Piz Daint is **7.5 million** compute node hours (**510 million** compute core hours).

Requests below **1 million compute node hours (68 million compute core hours)** and where the usage of GPU accelerators is not proven will not be considered.

- **SuperMUC** – IBM System X iDataplex – hosted by GCS in LRZ, Garching, Germany.
Details and terms of usage will be made available [here](#)

SuperMUC Phase 1 consists of 18 Thin Node Islands with Intel Sandy Bridge processors and one Fat Node Island with Intel Westmere processors. Each compute Island contains (512 compute nodes, each node having 16 physical cores) 8192 cores for the user applications. Each of these cores has approx. 1.6 GB/core available for running applications. Peak performance is 3.1 PF. All

compute nodes within an individual Island are connected via a fully non-blocking Infiniband network (FDR10 for the Thin Nodes and QDR for the Fat Nodes). A pruned tree network connects the Islands.

SuperMUC Phase 2 consists of 6 Islands based on Intel Haswell-EP processor technology (512 nodes/island, 28 physical cores/node and available memory 2.0 GB/core for applications, 3072 nodes, 3.6 PF). All compute nodes within an individual Island are connected via a fully non-blocking Infiniband network (FDR14). A pruned tree network connects the Islands. Both system phases share the same Parallel and Home filesystems.

The total available capacity in this call for SuperMUC is **105 million** compute core hours.

Requests below **35 million compute core hours** will not be considered.

- **Juqueen Successor - Multicore Cluster hosted by GCS in JSC Jülich, Germany**

JSC is currently procuring the successor of its BlueGene/Q system Juqueen. This system will be the first module of JSC's future modular Supercomputer Complex. It will be a general purpose cluster module, based on multicore CPUs. Only a few nodes will be equipped with accelerators. The system will be connected to the next generation of JSC's central storage system JUST. The system is expected to be available not before June 1st, 2018. Therefore allocations can only be made for 10 months.

The total available capacity in this call for the Juqueen successor is **70 million** compute core hours.

Requests below **35 million compute core hours** will not be considered.

IMPORTANT REMARK:

Please note that any of the Tier-0 system **may be upgraded** during the Single-Year or Multi-Year allocation period. The awarded projects will be given access to the new machine for the remaining part of the budget with appropriate technical support.

3. Eligibility criteria

Scientists and researchers from academia and industry can apply for access to PRACE resources.

Only proposals with a civilian purpose will be eligible to participate in PRACE calls for proposals.

Only proposals written in English will be eligible.

Double-awarding is not allowed; proposals already granted in any other HPC programme will be rejected.

As resources will be provided increasingly under the PRACE 2 Programme in which restrictions apply, we strongly urge applicants to be aware that

- a. when applying for resources on several systems, they lower their chances to receive the expected allocations, especially when this resource distribution is a requirement for their project; conversely, applicants providing technical evidence that their project can accommodate being awarded on other systems than the one(s) requested raise the chances of their project being awarded;
- b. applicants based in countries not contributing to the PRACE 2 Programme (see [PRACE website](#)) are invited to collaborate with Principal Investigators based in countries contributing to the PRACE 2 Programme; even though this is not yet an eligibility criterion, applicants raise their chances of being awarded by teaming up this way.

PRACE HPC centres may have further restrictions on who is eligible to access their own systems. It is the responsibility of the applicant to ensure that they are eligible to access the system(s) they have applied for. In case of doubts, the applicant is advised to contact the HPC centre(s) for clarifications prior to applying (see contacts at www.prace-ri.eu/Resources).

3.1 Eligibility criteria for Project Access (Single-Year and Multi-Year)

3.1.1- Eligibility criteria for academia and public research organisations

Researchers from academia and public research organisations are eligible to apply as long as:

- a) The project leader has an employment contract as a researcher in the organisation at the time of proposal submission.
- b) The employment contract of the project leader must be valid for at least 3 months after the end of the allocation period.

3.1.2- Eligibility criteria for commercial companies

Commercial companies may apply on their own or in collaboration with academia/public research organisations (as principal investigators or collaborators). Commercial companies are eligible to apply if:

- a) The company has its head office or substantial R&D activity **in Europe**.
- b) The employment contract of the project leader is valid when the proposal is submitted and for at least 3 months after the end of the allocation period.
- c) Access is devoted solely for open R&D research purposes.
- d) Commercial companies applying on their own will be limited to a maximum of 5% of the total computing resources of a single PRACE system, subject to the approval of the constraints imposed by state-aid regulations.

4. Terms of access

The Principal Investigator (PI) (or Project leader) shall lead the project and is expected to be an essential participant in its implementation. The PI will have the overall responsibility for the

management of the project and interactions with PRACE. Please make sure that the contact details for the PI are consistent in the different forms to be completed and that **all e-mail addresses used are professional e-mail addresses**.

The usage of PRACE resources needs to be acknowledged for all data produced through PRACE allocations, both in publications and when depositing the data to other infrastructures.

The PI commits to:

a) **Provide** to PRACE within the period established in the Guide for Applicants a **final report**, using the proper [PRACE template](#), with the results obtained through the access to the PRACE Research Infrastructure, as well as a qualitative feedback on the use of the resources.

b) **Acknowledge** the role of the HPC Centre and PRACE and of the relevant partners involved in the pilot use case for joint data storage in all publications which include the results above mentioned. Users shall use the following wording in such acknowledgement in all such papers and other publications:

“We acknowledge PRACE for awarding us access to [resource-name hosted by at site]”

Use as many instances of the pattern [resource-name hosted by at site] as the number of systems awarded via PRACE. Please follow these examples:

- Curie at GENCI@CEA, France
- Irene at GENCI@CEA, France
- Hazel Hen at GCS@HLRS, Germany
- Marconi at CINECA, Italy
- MareNostrum at Barcelona Supercomputing Center (BSC), Spain
- Piz Daint at CSCS, Switzerland
- SuperMUC at GCS@LRZ, Germany
- Juqueen Successor at GCS@JSC, Germany

Respecting the words in bold above is very important since PRACE will use this word pattern when searching for bibliographic references in scientific articles.

c) **Allow** PRACE to publish the mentioned report as of one year from the termination of the allocation period.

d) **Collaborate** with PRACE, upon its request, in the preparation of dissemination material.

Access to PRACE resources is for **open R&D research purposes and is free of charge** provided that the eligibility criteria and terms of access described herein and in the On-line Application Form are fulfilled/respected. If this differs from the terms of access that the relevant Centre may have in place, it is the terms of access of the relevant Centre that will prevail.

Users will hold harmless PRACE and the relevant Centre, including their Directors and staff, from and against any claim and expense arising out of the use of the resources.

From the start to the end of the access period, the applicant should direct questions and requests for support to the user support of the HPC Centre(s) where resources have been allocated.

Applicants must inform promptly the peer review team (peer-review@prace-ri.eu) and the centre where the resources are allocated of any changes to a successful proposal, namely a decrease in the amount of resources needed or on the distribution of the usage of the resources within the agreed time plan with the centre.

Requests for the extension of the allocation period need to be fully justified, and sent to the HPC centre where the resources are allocated. They will be analysed by PRACE on a case by case basis. Extension will only be considered in the event of unforeseen technical issues at the HPC hosting site which would prevent the user from accessing the awarded HPC resources. The awarded resources (total computer time) cannot be increased.

5. Process details and deadlines

5.1- How to Apply

All proposals must be submitted via the PRACE website at: <https://prace-peer-review.cines.fr/>

All proposals must be fully completed and submitted by the closing date. The submission website will not accept applications that are submitted after this time. In the case of technical difficulties, the decision of PRACE as to whether an application can be accepted is final.

Applicants are advised to make sure that they submit proposals as early as possible before the given deadline in order to ensure that all mandatory fields are completed and submission is accepted.

Further details on the standard application procedure can be found on the [PRACE website](http://www.prace-ri.eu/application-guide/) ("How to Apply" <http://www.prace-ri.eu/application-guide/>).

5.1.1- Applications for Single-year and Multi-Year Project Access

All proposals for Single-Year and Multi-Year Project Access consist of 2 parts: an on-line form and the "Project scope and plan", both available at <https://prace-peer-review.cines.fr/>.

The template of the "Project scope and plan" (Please save it as pdf to be attached to the online application form) must be carefully respected (Headings, length, tables and figures). **Proposals that do not follow the template or that are incomplete will be administratively rejected and will not be further evaluated.** The PRACE Peer Review team is available to answer questions by email while the Call is open (peer-review@prace-ri.eu).

All mandatory fields of the on-line application form must be completed before it can be submitted. After the form has been saved, applicants can continue to access it and update it before they finally submit it. Once an application has been submitted, no more changes can be made, unless the applicant un-submits the proposal, performs all necessary changes, saves the changes, and re-submits the proposal. Each time the applicant submits or un-submits the proposal, he/she will receive

an e-mail with the status of the proposal (un-submitted or submitted). **Please note that only submitted proposals will be put forward for peer-review.**

Proposals requesting access as a **follow-up to a running Project Access** have to present a [progress report](#) of the project, the latest one month before the allocation period of the call.

Proposals requesting access as a **follow-up to a finished Project Access** have to present the [final report](#) before the deadline for submission of proposals.

These reports need to be sent to the PRACE Peer-Review Team (peer-review@prace-ri.eu). PRACE Access Committee will use them to evaluate the status of the on-going access and whether the need for the follow-up project is recommended or not.

The **template** document for these reports are **available on the [PRACE website](#)** (“Information for PRACE Awardees”) and it must be **carefully respected**.

5.2- Peer Review assessment procedure

The assessment procedure (Peer-Review Process) abides to the PRACE Peer-Review principles stated on the [PRACE website](#) (“Peer-Review”). The Peer-Review Process encompasses 4 phases.

Administrative check (phase I). Proposals not complying with PRACE eligibility criteria will be rejected at this stage and will not continue to the next phase.

Technical Assessment (phase II). Proposals will be technically reviewed by technical experts of PRACE Hosting Member sites. During this phase, **applicants may be contacted by technical experts in case of questions or concerns raised during the review.**

Scientific Assessment (phase III). Proposals will be peer-reviewed by recognised independent scientific experts. Individual reports will be made available to applicants. Applicants are strongly recommended to use the opportunity to comment on these assessments during the right to reply period.

Access Committee Assessment (phase IV). The reviewers’ reports and the applicants’ responses will be analysed by the PRACE Access Committee who will produce the final ranking list. The Access Committee may agree on a scientific quality cut-off threshold. Proposals ranked under this threshold will not be awarded, even if there are resources available on the systems.

By **end of March 2018**, all applicants can expect to be notified of the outcome.

5.2.1- Criteria for assessment

Only fully completed proposals will be subject to the peer-review evaluation process.

5.2.1.1- Technical review

It is essential that proposals submitted are at a high level of technical maturity and demonstrate the need for Tier-0 resources. Further details on the minimal requirements for using each Tier-0 system are available on the [PRACE website](#) (document titled ‘**Technical Guidelines for Applicants**’).

Technical reviewers are asked to evaluate:

1. Application performance and scalability on the PRACE systems required. The focus should be on time-to-solution, efficiency of the solution for the scientific problem, as well as overall resource utilization, in addition to strong and weak scaling. There should be explicit comparisons with relevant codes in each scientific domain in terms of time-to-solution, percentage of peak and weak and strong scalability for the sizes that are to be performed in the projects.
2. Suitability of requested PRACE platform.
3. Whether or not the applicant provides a suitable breakdown of the resources requested to carry out the simulations.
4. Whether or not the resource request is consistent with the simulations proposed in the project plan

The lack of any mandatory data will result in the technical rejection of the proposal.

During the technical review, technical experts may contact the applicants in case of questions or concerns raised during the review.

5.2.1.2- Scientific review

Successful proposals must demonstrate scientific excellence and focus on topics of major relevance for European research, explaining the **novelty, transformative aspects** and expected scientific impact. A dissemination plan should also be included. The results of the project should be published in high-quality journals and conference papers.

The identification of possible practical and timely applications resulting from the project is desirable and must be made clear in the application.

The scientific reviewers are particularly asked to evaluate:

1. The significance of the proposed research for the solution of challenging scientific and societal problems.
2. The soundness of numerical methods, algorithms and computational tools. The Reviewers must specify the strengths and weaknesses of the proposed research. They must include comparisons with respect to the state-of-the-art in the field in terms of computing, methodology and expected outcomes.
3. The appropriateness of project timeline and resources (Is the project plan realistic, are requested resources sufficient and fully justified, is a Tier-0 system/allocation necessary?).
4. If the requested resources are justified and if a reduction can be made.
5. If the research plan is realistic within the given time and resources requested.
6. The qualifications, expertise and track record of the PI and team (Does the background and experience of the PI and her/his team make a successful outcome of the project likely?).

7. In the case of continuation of previous awarded projects, the reviewers will be asked to review the added value of the new project and the advances over the previous one.
8. The provided dissemination plan of the results in scientific journals and conferences.

The [scientific review assessment form](#) is available to applicants and can be downloaded from the [PRACE website](#) (see documents at bottom of the page).

Terminology

Core hour: Elapsed time (wall clock time) in which a core is allocated to the user.

Node hour: Elapsed time (wall clock time) in which a node is allocated to the user.

Contacts

For any queries related to applications, please contact: peer-review@prace-ri.eu