



# Praise for PRACE: the importance of building expertise in HPC

The PRACE Scientific Conference was recently held in Leipzig, Germany. Delegates at the event highlighted the importance of training and spoke of the fundamental role high-performance computing has to play in driving innovation in Europe.

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*The PRACE Scientific Conference was one of several satellite events at ISC'13. Image courtesy ISC*

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weeks ago, [the PRACE Scientific Conference](#) was held in Leipzig, Germany. After a brief welcome address from Kenneth Ruud, chairman of [the PRACE Scientific Steering Committee](#), Kostas Glinos, head of [the European Commission's eInfrastructures unit](#), spoke about the vision for HPC in [Horizon 2020](#).

"HPC has a fundamental role in driving innovation, leading to societal impact through better solutions for societal challenges and increased industrial competitiveness," says Glinos. "It's not just about exascale hardware and systems, but about the computer science needed to have a new generation of ICT."

"Only very few applications using HPC really take advantage of current petaFLOPS systems," he adds. "New computational methods and algorithms must be developed, and new applications must be reprogrammed in radically new ways." In addition, Glinos highlighted the importance of public procurement of commercial systems for developing the next generation of IT infrastructures, which you can read more about in the recent [iSGTW](#) article '[Golden opportunities for e-infrastructure at the EGI Community Forum](#)'.

Finally, he spoke about [the conclusions of the recent EU council for competitiveness](#): "HPC is an important asset for the EU... and the council acknowledges the very good achievements of PRACE over the years." For Horizon 2020, Glinos

says: "We want to build on PRACE's achievements to advance further integration and sustainability." He argues for the importance of an EU-level policy in HPC addressing the entire HPC ecosystem, saying that the sum of national efforts is not enough - "we need to exchange and share priorities."

[The conclusions of the EU council for competitiveness](#) were also highlighted by Sergi Girona, chair of the PRACE board of directors. "We have to work together because we want to support science and industry, the development of HPC in Europe, and the development and training of persons," he says.

During his talk, Girona also gave an overview of PRACE in numbers: with its 25 member countries, PRACE has a budget of €530m for 2010-2015, including €70m of funding from the European Union. Girona explains that PRACE has now awarded more than 5 billion computation hours since 2010 and is currently providing resources of nearly 15 petaFLOPS.

However, he emphasises that PRACE is about much more than simply providing access to HPC resources. "We don't just want to give access to computing resources; we want to support users at all stages - it is key to train people," he says. "[We have created six training centres in Europe](#) and have approved a curriculum with 71 PRACE advanced training centre courses for this year."

The importance of training was also highlighted by Glinos: "We need more expertise, so we intend to support a limited number of centres of excellence. Topics may relate to scientific or industrial domains, such as climate modelling or cancer research for example, or they may be 'horizontal', addressing wider challenges which exist in HPC. These centres of excellence need to be led by the needs of the users and the application owners."

Following Girona's talk, Wolfgang Eckhart of [the Technical University of Munich](#), Germany, gave a presentation on his research in the field of molecular dynamics. He and his colleagues were selected as winners of the PRACE ISC Award for their paper entitled '591 TFLOPS Multi-Trillion Particles Simulation on SuperMUC'.

The remainder of the conference consisted of a series of exciting presentations on research conducted using PRACE resources, ranging from high-resolution global climate models to molecular simulation, and from astrophysics to better understanding the building blocks of matter. You can read more about these on [the PRACE Scientific Conference website](#).

*This article was originally posted on the GridCast blog, [here](#).*

*- Andrew Purcell*

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**Science Node**

Email:

[editors@sciencenode.org](mailto:editors@sciencenode.org)

Website:

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