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PRACE SHAPE: 6 innovative SMEs projects get access to PRACE HPC resources

The 5th PRACE SHAPE Call for Applications was open for European SMEs (small and medium sized enterprises) to submit proposals from 31 March to 1 June 2017. The Selection Committee, made up of representatives of the PRACE Industrial Advisory Committee (IAC), the PRACE Board of Directors (BoD), the PRACE-5IP Project and the PRACE Peer Review Team reviewed all applications and awarded six novel projects of European SMEs for access to the PRACE HPC Infrastructure.

SHAPE is a pan-European programme that promotes High Performance Computing adoption by SMEs, supported as part of the PRACE initiative. So far, SHAPE has helped 33 SMEs to benefit from using HPC in their business.

Paul Graham of EPCC, United Kingdom, coordinator of the SHAPE programme, is pleased to announce that, following the 5th Call for Applications to SHAPE, six more SMEs will be able to start working with PRACE to gain access to HPC expertise and resources, expand their HPC experience and ultimately enhance their business.

The awarded projects are:

Disior Ltd, Finland "Numerical optimisation of bone fracture treatment": This software developer helps with pre-operative planning of bone fracture treatments. They plan to use HPC to develop a very fast method for implant optimisation, which would affect surgery costs and patient quality of life.

Invent Medical Group, s.r.o., Czech Republic "": The company is a medical start-up which aims to use 3D scanning, computational modelling, and 3D printing in the field of custom-made orthotics and prosthetics. They design and manufacture cranial orthoses, and wish to replace physical testing of these by virtual prototyping using numerical modelling and simulation technologies.

AxesSim, France "HPC for connected objects": The company produces electromagnetic simulation software, and the project is looking to use HPC to perform these simulations in a reasonable timescale for connected objects – looking for example at how the E-M waves produced by small antennae interact with biological tissues.

E&M Combustion S.L., Spain "High-fidelity simulation of an industrial swirling combustor": The SME designs and manufactures combustion systems, such as burners and boilers, mainly for the energy sector, oil and gas, steel and metal industries. Their market is demanding higher efficiency in the burners and combustors in terms of fuel consumption and flexibility of operation, but also in reducing emissions, which has clear societal impact. They hope to use HPC in optimising their combustor designs.



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Svenska Flygtekniska Institutet AB, Sweden "AdaptiveRotor": This SME (the Swedish Aeronautical Institute) focusses on research, education and consulting work in aeronautics. "AdaptiveRotor" is a development project aiming at increasing the propulsive efficiency in propellers for aircraft and thereby reducing the impact of pollution and noise from these systems. They wish to use HPC to evaluate different design candidates for propeller blades.

Brabant Alucast International, Italy "Multiphasic simulation in high pressure die casting process in HPC platforms using open-source CFD": This organisation is an office of advanced engineering, supporting the design and development of high-pressure die casting components for the automotive industry. They wish to use HPC and open-source technologies to evaluate potential benefits on cost, time-to-results for designs, and quantity of designs they can investigate in a day.

As always with SHAPE, it is encouraging to see the diverse range of subject areas and fields that the programme works with. It is expected that this new tranche of projects will start in August 2017.

About PRACE

The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association with its seat in Brussels. The PRACE Research Infrastructure provides a persistent world-class high performance computing service for scientists and researchers from academia and industry in Europe. The computer systems and their operations accessible through PRACE are provided and funded by 5 PRACE members (BSC representing Spain, CINECA representing Italy, CSCS representing Switzerland, GCS representing Germany and GENCI representing France). 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. For more information, see www.prace-ri.eu

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