



PRACE SHAPE awards five inspiring SMEs projects for HPC access

The PRACE 10th SHAPE Call for Applications received five innovative proposals from SMEs across five different countries by the closing date in December 2019. For the first time projects from Slovenia and Turkey are included in the SHAPE Call results. All five submitted proposals were awarded for the PRACE SHAPE pan-European programme. This programme promotes High-Performance Computing (HPC) adoption by SMEs (small and medium-sized enterprises) and it's free of charge.

So far, SHAPE has helped 55 companies to get onto the HPC ladder, allowing them to benefit from using HPC in their business and to scale up their competitiveness.

The following listed SMEs are going to get support from an HPC expert to carry out their simulations and analysis on one of the PRACE Members' HPC systems.

OPEN ENGINEERING (Belgium) “RF Solver on multi GPUs”

This Engineering SME is active in the Computer-Aided Engineering (CAE) market, designing and developing Multiphysics software. This has applications in Sensors and actuators, including MEMS (Micro-Electro-Mechanical Systems) and Microsystems, Optomechanical systems including MOEMS (Micro-Opto-Electro-Mechanical Systems) and Multidisciplinary systems involving interaction between a fluid medium and other structures.

Working together with IDRIS based in France, the SME wants to develop a multi-GPU version of their code based on a single-GPU version that they already have. The plan is then to analyse the performance of the new code. Developments carried out during this project should improve performance and reduce memory usage which should then lead to faster, more accurate results thus improving the services provided to customers.

Enlighting Technologies SL (Spain) “High resolution calculation for the optimization of commercial LEDs spectra in health applications”

This SME is a spin-off company from the University of Barcelona developing simulation software for the creation of Printed Circuit Boards (PCBs) and light scenarios (spectra) using different LEDs available in the market. The project here focuses on the installation of bio adapted luminaires at a hospital facility, where the SME plans to simulate various lighting scenarios. Their codes presently run on a desktop machine and they wish to scale up to running on MareNostrum 4 at BSC.

Global Surface Intelligence (UK) “Optimisation of national vegetation mapping workflows”

Global Surface Intelligence (GSI) is an earth observation company that uses satellite data to assess natural resources using machine Learning and Artificial Intelligence. GSI already uses Cirrus, a Tier-2 system at EPCC, UK and would primarily like to develop their workflow to enable ease of use as well as including some additional parallelism which EPCC will work on together with the SME.

SPARK inovacije, d.o.o. (Slovenia) “HPC logistics”



SPARK is a start-up company working on logistics optimisation, in particular vehicle route optimisation for logistics companies with a focus on reducing fuel usage and congestion. The company uses multi-objective algorithms and together with a team at the University of Ljubljana will explore the use of HPC within their business.

Tarentum (Turkey) Power Forecasting for Renewable Energy Sources

Tarentum delivers AI powered products for businesses across multiple industries. The Wind Power Forecasting product provides production forecasts for Energy Companies. In this project with PRACE, Tarentum combines Numerical Weather Prediction (NWP) models with Artificial Intelligence/Machine Learning Algorithms to improve prediction accuracy and optimize NWP simulations. The team at UHEM in Turkey will work with Tarentum to develop their HPC plans.

The PRACE 11th SHAPE Call for Applications is now open. Use this opportunity and apply with your project:

<https://prace-ri.eu/call/shape-11th-call/>

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 by five PRACE members (BSC representing Spain, CINECA representing Italy, ETH Zurich/CSCS representing Switzerland, GCS representing Germany and GENCI representing France). The Implementation Phase of PRACE receives funding from the EU's Horizon 2020 Research and Innovation Programme (2014-2020) under grant agreement 823767. For more information, see www.prace-ri.eu

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Or contact Silke Lang, Communications Officer: Telephone: +32 2 613 09 28 E-mail: [communication\[at\]prace-ri.eu](mailto:communication[at]prace-ri.eu)
