PDC Center for High Performance Computing

Business Unit Newsflash

Welcome to the PDC Business Newsflash!

The newsflashes are issued in the PDC newsletters or via the PDC business email list in accordance with the frequency of PDC business events. Here you will find short articles about industrial collaborations with PDC and about business events relevant for high performance computing (HPC), along with overviews of important developments and trends in relation to HPC for small to medium-sized enterprises (SMEs) and large industries all around the world.

PDC CENTER FOR HIGH PERFORMANCE COMPUTING

SAVE THE DATE:
PDC INDUSTRY DAY

HAVE YOU EVER THOUGHT OF COMPETING ON THE INTERNATIONAL MARKET? - THEN HIGH PERFORMANCE COMPUTING IS YOUR KEY TO IT.

COME AND LEARN ABOUT SUCCESSFUL EXAMPLES OF INDUSTRIAL USE OF HPC AND GET ACQUAINTED WITH THE LARGE RANGE OF EASY-TO-USE HPC SERVICES PROVIDED BY PDC TO INDUSTRY.

DATE: 2018-03-01
TIME: 10:00 AM
PLACE: OPENLAB MULTIPURPOSE HALL

ADDRESS:
VALHALLAVÄGEN 79,
114 27 STOCKHOLM

SCANIA – PDC'S LARGEST INDUSTRIAL PARTNER
VOLUME RENDERING OF THE INSTANTANEOUS VELOCITY MAGNITUDE ON THE LEEWARD SIDE OF AN R20 HIGHLINE TRUCK AT CROSSWIND CONDITIONS

PRACE Opens its Doors Further for Industry

In early 2017 PRACE opened up a new opportunity for business and industrial partners to apply for both HPC resources and PRACE expert-help through what are known as Type-D PRACE Preparatory Access (PA Type-D) applications. The objective of this was to allow PRACE users to optimise, scale and test codes on PRACE systems. Type-D offers users the chance to start optimization work on a PRACE Tier-1 system (that is, a national system) to eventually achieve scalability for a PRACE Tier-0 system (that is, one of the largest Top-10 systems in the world). This type of access is meant to bridge the gap between the local university- or site-specific computing resources and the PRACE Tier-0 platforms. The access to a Tier-1 system introduces an intermediate scaling level without having to face greater restrictions at the start of the optimization work.

A Swedish SME called Adaptive Simulations AB is one of the first companies to have been awarded one of these grants. Adaptive Simulations primarily works with simulating flows. They provide adaptive algorithms that can automate the whole process of running flow simulations; their innovations are a spin-off from world-leading research conducted over the last decade by a team of researchers at the KTH Royal Institute of Technology in Stockholm. Their project, called "Automatic generation and optimization of meshes for industrial CFD", started on the 1st of September 2017 and will continue for one year.

Meanwhile other Swedish SMEs continue to be active within the PRACE SHAPE programme. For example, the Swedish SME Svenska Flygtekniska Institutet AB was successful with an application called "AdaptiveRotor". The project is expected to start soon and will last six months. The main objective of Svenska Flygtekniska Institutet is to maintain and develop safety in the air transport system, while providing environmentally and economically sound solutions. The current focus of their research activities is on aircraft design methodology to cater for new applications and procedures in the air transport system.

Preparatory Access Type-D calls are always open with periodical cut-off dates. The PRACE SHAPE call 7 is expected to be open in the autumn of 2018.

We also strongly encourage you to contact us before applying to any of these calls in order to discuss and plan the work beforehand.

For more on PRACE Preparatory Access, see http://www.prace-ri.eu/prace-preparatory-access or feel free to contact the PDC business unit via email: business-unit@pdc.kth.se.

The First Successful SME Application to the HPCE3 Project is from Sweden!

The Swedish SME Airinnova AB, which is based in Stockholm, has a large network of collaborative partners, one of which is EPFL (École polytechnique fédérale de Lausanne) in Switzerland. Together with EPFL, Airinnova is trying to establishing a user-friendly editor for building aircraft models by taking an aircraft common language file format CPACS, getting the aircraft model into an in-house meshing tool and then running computational fluid dynamics (CFD) simulations on HPC systems. When Airinnova learned about the travel funding for collaborative research offered by the HPCE3 project, the company took advantage of that and applied to HPCE3 for support to invite researchers from EPFL to Stockholm so they could work together on the project at Airinnova. The visit is expected to be ten weeks long and will start in April/May 2018.

Through HPCE3 the visiting researchers will get computing time on Beskow at PDC, as well as reimbursement of all their travel and accommodation costs. HPCE3 also provides a modest stipend to cover food and other necessities during the visit.

The HPCE3 programme is an excellent opportunity for SMEs, independent software vendors (ISVs) and large companies to engage in knowledge transfer with academia. HPCE3 funding can provide support for researchers from SMEs to visit any academic institution in one of the nine countries providing HPC resources for the programme and vice versa. Researchers based at academic institutions in the nine HPCE3 partner countries can also receive funding from the HPCE3 project to support visits to ISVs or large companies.

RANS Simulation of Common Research Model Aircraft on PDC-Beskow

airinnova

Engineering Solutions and Innovations
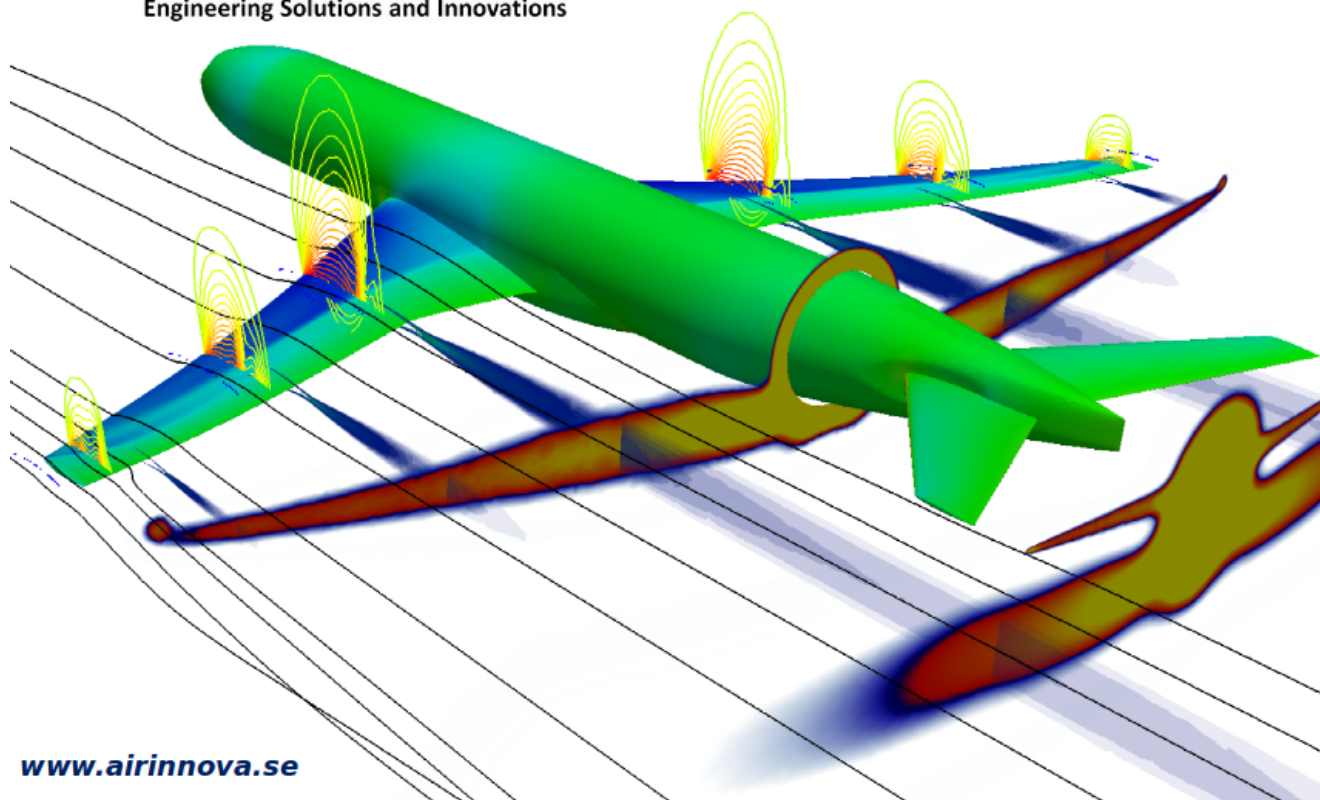
www.airinnova.se

Moreover, three workshops dedicated to SMEs will be organised during the lifetime of the HPCE3 project. These workshops aim to increase engagement between academic HPC centres and the SMEs operating in their local areas as well as promoting awareness of the advantages of using high performance computing in the development of new products or services to boost innovation. These workshops will be held in the UK, Italy and Germany.

Infrastructure on High Performance Computing

Pan-European Research

HPC3 Europa

For more information about HPCE3, please see: http://www.hpc-europa.eu/transnational_access or contact the PDC Business Unit by email: business-unit@pdc.kth.se.

European HPC Summit Week and PRACEdays18

The European HPC Summit Week 2018 will gather the main European HPC stakeholders in Ljubljana, Slovenia, from 29-31 May 2018. This event will offer a wide variety of workshops covering HPC technologies and infrastructures, as well as a number of application areas where supercomputers are vital. The European HPC Summit Week also provides a great opportunity to network with all relevant European HPC stakeholders, from technology suppliers and HPC infrastructures to scientific and industrial HPC users in Europe.

PRACEdays18 is the central event of the European HPC Summit Week and is being hosted by the Faculty of Mechanical Engineering at the University of Ljubljana, Slovenia.

Registration for these events closes on the 7th of May 2018. For further information, including how to register, see: https://events.prace-ri.eu/event/622.

Cray User Group 2018 Conference (CUG 2018): Visionary Computing

The PDC Center for High Performance Computing at the KTH Royal Institute of Technology invites you to join us for CUG 2018 in Stockholm from 20-24 May 2018. "Visionary Computing" is the theme of CUG 2018. The many challenges facing researchers in the HPC field need visionary approaches to push beyond the current boundaries. Sweden and the Stockholm region are the home of great and visionary minds such as Carl Linnaeus, Anders Celsius and Ander Jonas Ångström, to name a few. Stockholm is also the home town of Alfred Nobel, whose legacy of Nobel prizes gathers the brightest minds every year in Stockholm. Leading IT businesses like Ericsson and Spotify make Stockholm a hotspot for the IT industry and with its focus on life sciences and engineering, which includes companies like Scania and Saab nearby, Stockholm is also a prime place for industrial HPC. In this exciting environment, CUG 2018 will explore new frontiers in HPC but also increasingly focus on data, analytics and the convergence of HPC and Big Data. For more information, and to register, see https://cug.org/CUG2018.

**Need help with your HPC research?
Contact business-unit@pdc.kth.se**