



ISC'13 Industry Track

Tuesday, June 18 & Wednesday, June 19, Hall 3

As more and more companies recognize the competitive advantages of integrating HPC, the need for a “one-stop shop” to get up to speed on the various options is also growing. To better meet the needs of these attendees from industry, ISC'13 is launching a new *Industry Track*, which will run as a series of single sessions on Tuesday, June 18, and Wednesday, June 19, parallel to the current conference track.

The goal of the Industry Track is to help attendees from industry, who often have different computing requirements than those at scientific institutions, make informed decisions about acquiring and operating HPC systems. This new track will focus on engineering and manufacturing in industry, especially on helping industrial users improve product design and time-to-market through the use of HPC. The talks are also aimed at spurring a dialogue between users, technology companies, hardware vendors, software vendors and service providers. In particular, the requirements of small and medium enterprises (SMEs) will be strongly represented in the program.

The Industry Track starts with a session about [HPC Provisioning Concepts for the Industrial Sector](#). This first part will deal with the specific requirements of industrial HPC users and how they differ from those of the scientific and academic sectors. The role of the independent software vendors (ISV) will be explained, as will be the specific requirements and constraints of SMEs. Typical business models for services will be outlined together with the economic drivers behind them and the specific requirements in application support and workflow integration. Service concepts will be described depending on whether in-house or ISV codes are used.

The second session, [Independent Software Vendors & Their HPC Products](#), will give ISVs the opportunity to present their software products and demonstrate how their products have been adapted for HPC platforms. The main focus is to inform the audience about the performance improvements of software on parallel systems.

The session on [Overview of the SME Market](#) will contain IDC's [An Overview of The Worldwide SME HPC Market & What Is Needed to Better Serve SMEs](#) followed by the presentation [Bringing Simulation & HPC in Reach of European SMEs in Manufacturing & Engineering](#). The European Commission has set up specific programs for increasing the use of HPC in small and medium businesses. They are doing so because it is well recognized that innovation and competitiveness cannot be maintained in most markets without intensifying the use of HPC and because the bulk of industrial research and production actually comes from small and medium businesses.

Distinguished Speaker Merle Giles will talk about the [HPC-Accelerated Innovation for Industry: Similarities to & Differences from Academic Research](#). Strong scaling, code performance and realism are clearly some of the similarities between industry and academic research. On the other hand, differences appear in the use of key simulation codes, including an increasing demand by manufacturers for realism within a predetermined design window, and for uncertainty quantification to lower the risk of design decisions.

Most manufacturers, especially small and medium enterprises, mainly use desktop workstations for their daily R&D work. Because of the sheer size of the simulation jobs, they often do the preparation work during the day and production runs overnight, resulting in one simulation job per day. Viable alternatives are cluster and cloud computing. The session [HPC – From Desktop to Cloud](#) focuses on the possibilities of clusters and cloud computing for SMEs. This session will investigate different options of moving beyond the sole use of workstations for digital manufacturing. Breaking the CAE jobs free from the restrictions of the workstation environment and moving them to larger cluster systems, or even to the Cloud, will be worth all the programming efforts.

Finally, each of the two days the Industry Track will include sessions in which speakers from industry will present case studies on their success stories about accelerated innovation based on the use of HPC systems.

At ISC'12, one of the highlights was a chat session hosted by Horst Simon, an internationally recognized HPC expert from Lawrence Berkeley National Laboratory. This year, Horst Simon's chat in the *Conference Track* will discuss [The Missing Middle – How Can HPC Help Industry?](#) Four world-class speakers from Asia, Europe and the USA will discuss how HPC systems can drive innovation and help industry to stay competitive.

ISC'13 Conference Location – June 16 – 20, 2013

CCL – Congress Center Leipzig
Messe-Allee 1
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www.ccl-leipzig.de