

ISC HIGH PERFORMANCE | JUNE 24 – 28, 2018 | FRANKFURT, GERMANY



Now in its 33rd year, the ISC High Performance set a new attendance record by attracting 3,505 people and 162 companies and research organizations from 59 countries to the event. HPC users and vendors came together over five days to exchange ideas and display new products.



isc-hpc.com



CONFERENCE OVERVIEW

The rapidly evolving technologies of digital modeling, machine learning & AI, data analytics, and exascale computing provides a new and exciting vision for the future of high performance computing. The intersection between these four technologies promises to reshape the application landscape in both research and industry, as well as change the nature of HPC systems. The 2018 conference touched on all of these themes in nearly every session and talk, attracting executives, researchers, engineers, and anyone else interested in the shape of things to come.

Featured Sessions and Programs

- [Conference Keynote](#)
- [TOP500 - 25 Year Panel & 51st List](#)
- [Three Keynotes & Four Distinguished Talks](#)
- [Industrial Day](#)
- [Machine Learning Day](#)
- [STEM Day & Gala](#)

Over 85 percent of surveyed attendees said that they were satisfied with the selection of topics, which were presented in various focus sessions.





CONGRATULATIONS WINNERS!

Hans Meuer Award

Compiler-Assisted Source-to-Source Skeletonization of Application Models for System Simulation by Jeremiah J. Wilke, Joseph P. Kenny, Samuel Knight, and Sebastien Rumley

Gauss Award

On the Accuracy and Usefulness of Analytic Energy Models for Contemporary Multicore Processors by Johannes Hofmann, Georg Hager, and Dietmar Fey

PhD Forum Award

Mixed Precision Multi-Level Approach for FFTs by Malte Brunn

Research Poster Awards

- **Architectures & Networks:** Can Unified-Memory Support on Pascal and Volta GPUs Enable Out-of-Core DNN Training? by Ammar Ahmad Awan, Ching-Hsiang Chu, Hari Subramoni, Xiaoyi Lu, and Dhabaleswar K. Panda
- **Artificial Intelligence and Machine Learning:** A Deep Learning Tool for Fast Simulation by Sofia Vallecorsa
- **HPC Algorithms:** GPU-Accelerated Simulation of Elastic Wave Propagation by Kristian Kadlubiak, Jiří Jaroš, and Bradley Treeby
- **HPC Algorithms:** Using GPU's FP16 Tensor Cores Arithmetic to Accelerate Mixed-Precision Iterative Refinement Solvers and Reduce Energy Consumption by Azzam Haidar, Stan Tomov, Ahmad Abdelfattah, Mawussi Zounon, and Jack Dongarra

- **HPC Applications:** [Deep Learning Hardware Accelerates Fused Discontinuous Galerkin Simulations](#) by Alexander Heinecke, Alexander Breuer, Junyi Qiu, and Yifeng Cui
- **Performance Modeling & Measurement:** [Cross-Architectural Modelling of Power Consumption Using Neural Networks](#) by Milos Puzovic, Eun Kyung Lee, and Vadim Elisseev
- **Programming Models & Systems Software:** [HuronFS : Hierarchical, User-Level and On-Demand Burst Buffer File System](#) by Tianqi Xu, Kento Sato, and Satoshi Matsuoka

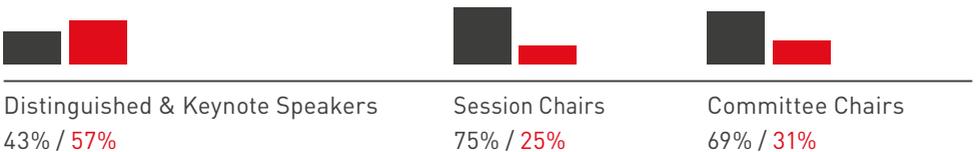
HPC in Asia Poster Award

[Accelerating HPC Applications on FPGAs Using OpenCL and FPGA Network](#) by Norihisa Fujita, Ryohei Kobayashi, Yoshiki Yamaguchi, Makito Abe, Kohji Yoshikawa, and Masayuki Umemura

Student Cluster Competition Awards

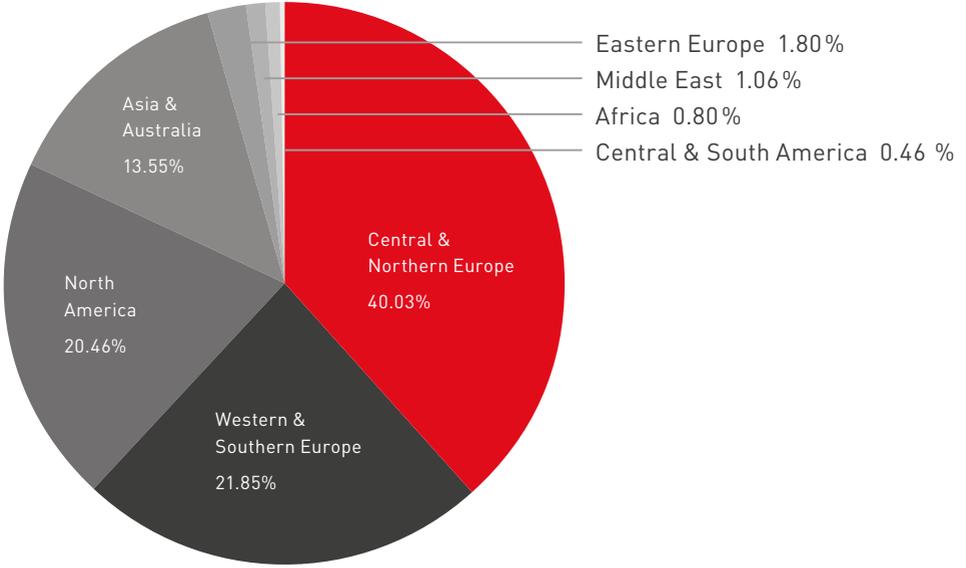
- 1st Place: [Tsinghua University](#)
- 2nd Place: [Nanyang Technological University](#)
- 2nd Place: [Centre for High Performance Computing \(CHPC\)](#)
- Highest LINPACK Performance: [Friedrich-Alexander University Erlangen–Nürnberg](#) (51.56TF)
- Fan Favorite: [ShanghaiTech University](#)

Gender Diversity in the Conference Program (Male / Female Representation)



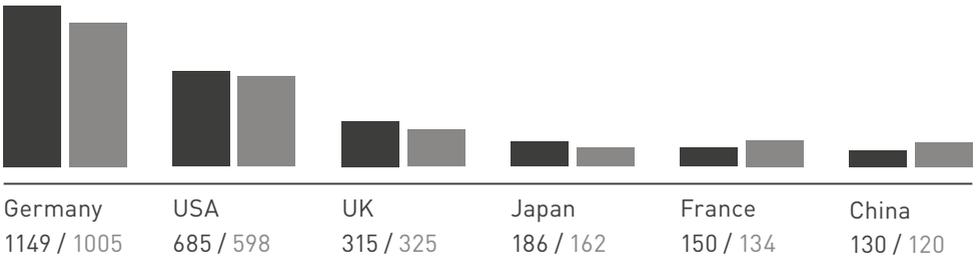
89% of all surveyed attendees consider ISC a highly diversified conference in terms of gender and geographic distributions.

ATTENDEES BY REGION



TOP COUNTRIES IN ATTENDANCE (2018 VS 2017)

2018 / 2017



A video summarizing ISC 2018 is now available on [YouTube](#).

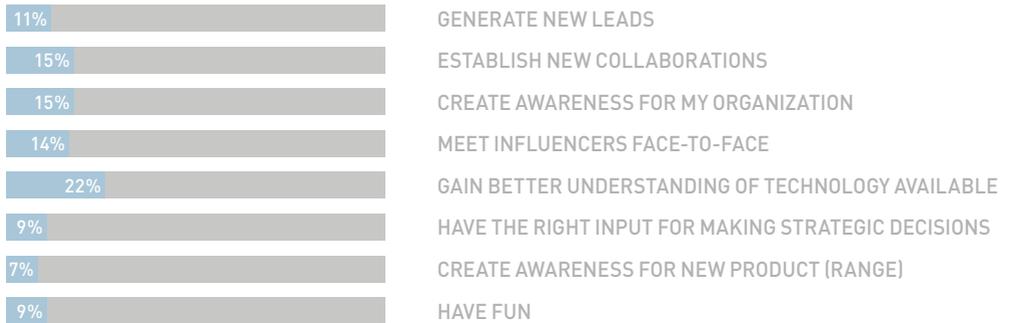
High-quality images are available for download at [Flickr](#).

ATTENDEE AFFILIATION (Booth pass holders excluded)

There were 60 local and international journalists and analysts onsite to report on the exhibition and conference.



GOALS FOR ATTENDING ISC 2018 (based on voluntary feedback at registration)



SOURCE: ISC 2018 REGISTRATION PORTAL

EXHIBITION TRAFFIC (based on surveyed attendees)



SOURCE: ISC 2018 ATTENDEE SURVEY



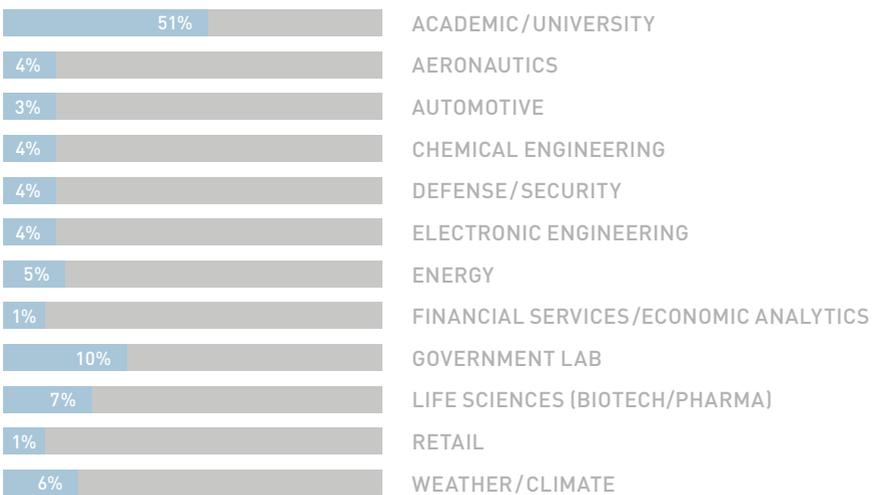
EXCLUSIVITY OF ISC EXHIBITION



57% of all surveyed attendees don't attend any HPC-related exhibition other than ISC.

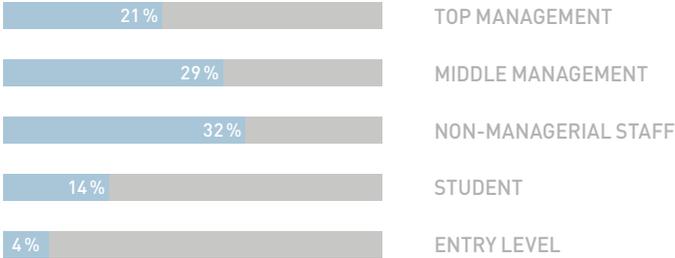
HPC USER CATEGORIES

(Booth pass holders excluded)

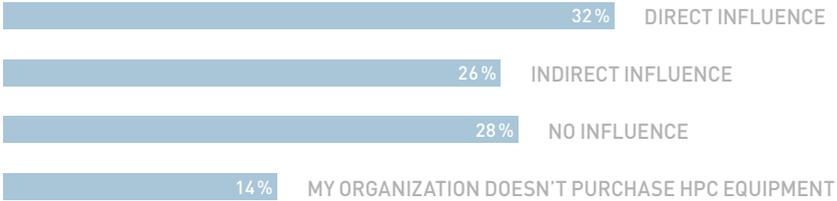


PROFESSIONAL ACTIVITIES

(Booth pass holders excluded)



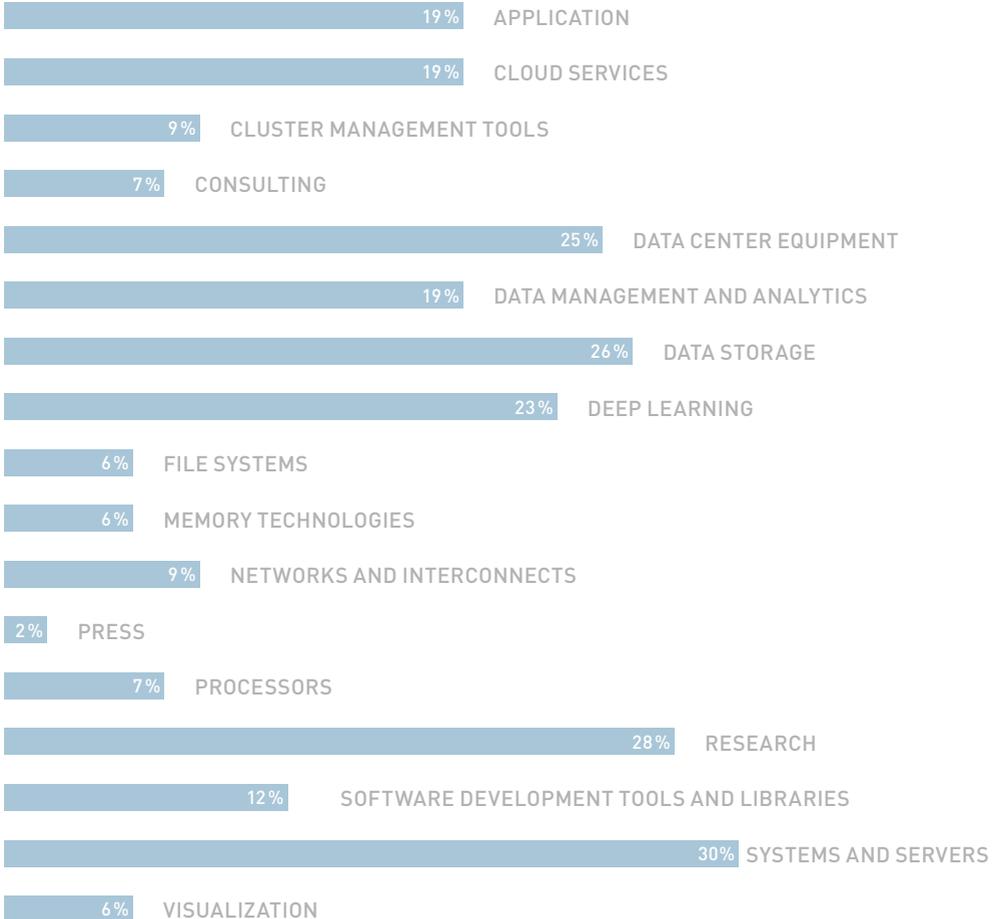
HPC PURCHASING POWER



The Exhibition (June 25 – 27, 2018)

The ISC exhibition hall was filled with new products and demonstrations from 162 organizations spanning 27 countries, including leading vendors, research organizations and universities. These included 24 exhibitors new to the conference.

EXHIBITOR CATEGORIES (includes multiple choices)



5%

10%

15%

20%

25%

30%

35%

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