



HPC Applications Powered by FF4EuroHPC: Revolutionizing European Innovation by Utilizing Supercomputing for SMEs

Stuttgart, 25 October 2023

On October 18th and 19th, the FF4EuroHPC and EuroCC 2 consortia brought together eminent representatives from industry and politics, representatives from the National Competence Centres, HPC experts and enthusiasts at the HPC Industry Summit, which took place in Berlin to celebrate the successful closure of the FF4EuroHPC project and highlights from EuroCC 2.

The event was opened starting with **Dr. Bastian Koller**, the Project Coordinator and Managing Director of the High-Performance Computing Center Stuttgart, who emphasized the importance of the event: *“This event is another milestone in the evolution of the Fortissimo activity. After two extremely successful actions, we established FF4EuroHPC as a worthy successor and created this time 42 unique success stories showing the value of HPC and AI for Small and Medium Enterprises. We will show today the potential of those technologies and interact with the audience to see which next steps can be of value for the European Industry.”*

On October 19th, inspiring speakers dived into the HPC world discussing the industrial application of HPC and exclusively presented FF4EuroHPC success stories. A unique fishbowl program followed, moderated by **Prof. Mark Parsons** from EPCC, the University of Edinburgh, and included representatives from Bosch, Airbus, SDEA Solutions, Costelcom, Altair and DoltNow, exchanging views on High-Performance Computing, Artificial Intelligence and Quantum technologies with the audience. The panel on HPC as a Driver for Industrial Innovation followed. The discussion evolved with the help of moderator **Dr. Guy Lonsdale from scapos** and panelists.

Supercomputing: Strengthening Europe’s innovation and global competitiveness

In today's data-driven landscape, supercomputing plays a vital role in solving complex problems, enhancing processes, and driving innovation. Companies embracing cutting-edge technologies such as High-Performance Computing (HPC) gain a competitive edge, making informed decisions, accelerating innovation, and delivering exceptional products and services.

The primary objective of the EuroHPC Joint Undertaking (EuroHPC JU), a joint initiative aiming to develop a World Class Supercomputing Ecosystem in Europe, is to boost industrial competitiveness within Europe and elevate the overall quality of life for European citizens.

Daniel Opalka, the Head of Sector Research & Innovation at EuroHPC JU contributed as a keynote speaker and stressed the importance of European research and development projects such as EuroCC and FF4EuroHPC: *“The impact of these projects, by delivering skills to businesses, can make a significant difference. These are projects that could offer continuous support. I would like to thank all of you for the work done in the past years, and I am very happy to see a large number of success stories.”*

To this end, the EuroHPC JU is not only investing in European HPC infrastructure but also encompasses substantial funding allocated for research and development projects with the potential for profound impact. One of those is FF4EuroHPC, an R&D project funded by the European Union's Horizon 2020 research and innovation programme. FF4EuroHPC helps facilitate access to HPC-related technologies for SMEs and thus increases the innovation





potential of European industry. It represents a pivotal milestone in Europe's journey towards harnessing the transformative power of supercomputing technology.

As a keynote speaker, **Javier Cordova Morey**, Policy Officer at the European Commission, presented the European Commission's work, Programmes, and strategies. During the presentation, Mr. Cordova Morey emphasized the value that Fortissimo projects brought to the European landscape: *"SMEs are the backbone of the European economy, essential for ensuring economic growth, innovation, job creation, and social integration within the European Union. The European Union provides digital support to SMEs in various forms. A highly useful instrument for SME support is cascade funding for start-ups, scale-ups, SMEs, and mid-caps involved in the adoption or development of digital innovation. An excellent and highly successful example of cascade funding is the Fortissimo projects, where more than 130 success stories and three hundred partners have benefited."*

Empowering SMEs for Industry 4.0 Advancement

The FF4EuroHPC project, the third instalment in the highly successful Fortissimo project series, stands out as a unique endeavour in the realm of R&D projects. A decade ago, the Fortissimo projects were conceived and launched with a visionary purpose: to bolster the innovation capacity and competitive edge of European SMEs. These projects aimed to exploit the advantages of HPC for SMEs across the European landscape. In doing so, they sought to lower barriers hindering market entry and facilitate the exploration of novel business prospects. Employing cutting-edge technologies, including HPC, Artificial Intelligence, and High-Performance Data Analytics, Fortissimo projects enabled businesses to harness innovation and elevate their competitiveness within the European industrial landscape.

The FF4EuroHPC project introduced a pioneering approach through cascading funding mechanisms. Innovative SMEs, forming consortia in collaboration with HPC providers, research institutions, and domain experts, embarked on a transformative journey and carried out experiments for a duration of 15 months. Together, partners successfully overcome their business challenges and develop novel products or processes, thereby contributing to the continuous evolution of the European industry.

Dr. Koller highlighted impressive project achievements: *"We continued the tradition of the Fortissimo 1 and 2 actions and offered two Open Calls, with a total of EUR 8 million budget to support Small and Medium Enterprises and their partners to create successes. In total, we received 142 high-quality submissions of which we could fund 42 highly valuable experiments, executed by 118 partners from 22 European countries. Our aim was to ensure a fair distribution of support to SMEs from different European countries, which resulted in the geographical coverage that is now exceeding by far that achieved in prior activities."*

The FF4EuroHPC project contributed to the exceptional outcomes that are presented through inspiring [success stories](#). These stories introduce the specific industrial challenge partners faced, explain the solution experiment partners developed and highlight impressive business benefits partners achieved. FF4EuroHPC enables SMEs to gain a competitive edge in their respective industries. By employing technologies, and partners to shorten development time, reduce time-to-market, and decrease staff, material, and development costs, FF4EuroHPC stands as a catalyst for fostering growth and prosperity among SMEs.

The Fortissimo projects in collaboration with the EuroCC 2 project are bringing valuable success stories not only to SMEs but to the whole HPC value chain. Even more, beyond





connecting the whole value chain, these projects provide a great showcase through success stories and also address politicians and decision-makers.

One of the keynote speakers at the event was **Michael Rafii from the German Federal Ministry of Education and Research (BMBF)**. After presenting the German strategy for HPC, he stressed the importance of the FF4EuroHPC project: *"If we have a program in which we want to advance the role of SMEs in our system and emphasize the opportunity for SMEs, it is really important that we have projects to show, not just working in theory, but working in practice. And this is where this project comes into place. It is an inspiration to the users who are not yet using HPC so they can see how to benefit from it. Secondly, we can use it at the political level as well as when discussing with funding agencies or with parliamentarians and show that funds for HPC are not used for academia only, but also for SMEs."*

The event was successfully concluded with the important message: All stakeholders involved in the HPC ecosystem appreciated the event and expressed the need to continue with this format of the events also in the future. Moreover, visitors found the success stories and the collection of these in a printed booklet highly valuable and will further support the consortia by distributing materials to their users.

Closing another Fortissimo project

The Fortissimo projects have left an invaluable legacy since their inception in 2013. Together, the three projects executed more than 130 experiments, resulting in 120 success stories, involving 330 partners. By showcasing these success stories, European industry actors may be encouraged to persist in their pursuit of digitalization and Industry 4.0, ultimately bolstering the EU economy. Although the FF4EuroHPC project has concluded, its legacy will endure as the consortia partners and HPC stakeholders will continue promoting the success stories and inspiring the European HPC Community.

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For more information about the FF4EUROHPC project, please visit www.ff4eurohpc.eu

The success story booklet is available online:
<https://www.ff4eurohpc.eu/en/multimedia/booklet/>

Contact:

Tina Crnigoj Marc, FF4EuroHPC Communication Lead: tina@arctur.si

Sophia Honisch, HLRS PR Lead honisch@hls.de

