ETP4HPC Position Paper

Engagement with Industrial HPC Users in Europe

Industrial HPC Users ("Industrial Users" or "Industrials") are a highly relevant and extremely important community with regards to the development and expansion of the HPC ecosystem in Europe. Even though some industrials in Europe are limited users of HPC, there is an increasingly large number of players who would like to exploit the power of HPC & Supercomputers to build better products and services, or to optimise their business operations. This community can greatly benefit from Research and Innovation in the area of HPC and the availability of EuroHPC pre-exascale and exascale machines among other public HPC systems. Also, European Small and Medium-sized Enterprises (SMEs) need an understanding of HPC and would gain from access to basic HPC infrastructures. On the basis of numerous discussions, internal to ETP4HPC but also with the European Commission and with major European Industrials, we believe that Industrial Users have not been sufficiently included in HPC R&I Roadmapping and the usage of public HPC machines from which they (& the general public through the Industrials' products and services) can benefit from.

Owing to the strong position of the ETP4HPC association within the HPC technology ecosystem in Europe, we believe that we can be one of the connecting links for industrial HPC users into EuroHPC, also providing them an effective platform for collaboration and relationship building with the neighbouring domains of Big Data, AI and IoT, from an HPC technology usage perspective.

ETP4HPC is thus very much eager to collaborate with organisations representing other important dimensions of European HPC (for example: Infrastructure provision) and help to make sure that Industrials:

- Participate very actively in the EuroHPC decision-making processes and help to co-develop the European short- and medium-term HPC strategy in line with Industrial User Requirements. Note that ETP4HPC is a major part of EuroHPC's Research and Innovation Advisory Group (RIAG).

- Engage in co-design for the technology developments in all relevant communities including Big Data, IoT and AI. These communities have provided inputs to ETP4HPC's Strategic Research Agenda 4, which was released in march 2020.

- Communicate their requirements for EuroHPC Infrastructures.

- Get support in accessing top level EuroHPC Infrastructure for industrial applications.

- Shorten their industrial innovation cycles and time-to-market.

- Benefit from enhanced collaboration and interaction with other players or indeed the management and governing entities for EuroHPC.

Through these collaborations, Industrials can advise, guide and participate in R&I, and also accelerate development and drive growth through access and usage of the EuroHPC infrastructure. We strongly emphasize that by working together, we can support the inclusion of Industrial users into the EuroHPC programme & the HPC ecosystem, considering that we work on complimentary aspects and work with complementary communities.

The ETP4HPC organisation has already done substantial groundwork during the past year and a half on this topic. The ETP4HPC Steering Board last year (2019) approved the role of ETP4HPC to also include Industrial Users as part of the organisation. The ETP4HPC board has also approved the allocation of additional resources for the Industrial User Working Group (IUWG) program management, for example by the allocation of half of a person's time (0.5 FTE) for the co-ordination of this work. This work also includes liaising with other organisations in the EU in trying to work with Industrial users. We have also established links and connections with some major Industrials, and, are taking their viewpoints & needs into consideration in our deliberations (& inputs to EuroHPC) on how HPC should be going forward.

In subsequent steps, the ETP4HPC will:

- Continue to engage with Industrial Users though the ETP4HPC IUWG and help to bring them into the fold of wider discussions.

- Actively take part in any special interest working groups, BoFs, workshops, synchronisation and co-ordination phone calls etc, in this area – and invite other organisations when we do the same.

- Further discuss the requirements of Industrial Users alongside RIAG, INFRAG, PRACE, and the Industry Users Task Force which is now in a preparation phase through the active engagement of HLRS and Teratec with the support of the European Commission.

In summary, ETP4HPC firmly believes that there is the need for a synergistic efforts aimed at bringing Industrial Users to the forefront in Europe for the technology roadmapping & exploitation of large public HPC infrastructures. ETP4HPC is offering its support and is taking an active role.

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