



PARTNERSHIP FOR ADVANCED COMPUTING IN EUROPE

PRACE-ETP4HPC Workshop on HPC Education and Training for Industry Users Background and Overview

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Objectives of the workshop

Perspectives and discussion of industry skills needs and development activities that will lead to better planning of HPC education and training and future funding opportunities – focus on industry **users**.

- ▶ Influence ongoing activities
 - ▶ Education at schools, universities, etc.
 - ▶ Training by HPC centres, research institutes, European projects, commercial entities.
- ▶ Planning of future activities
 - ▶ EuroHPC, Digital Europe programme – Advanced Digital Skills.





Previous events

- ▶ Not the first, nor the last, workshop on this topic!
- ▶ ETP4HPC, PRACE (Industry Advisory Committee), CoEs and FocusCoE, EuroHPC Competence Centres have all looked at ways to better organise HPC education and training for industry users, *in addition* to an academic target audience.
- ▶ “Comprehensive European stakeholder workshop on HPC training and skills development needs” by FocusCoE, Brussels, 8 Oct 2019.
- ▶ EuroHPC skills and education workshop (focus on industry), 31 Aug 2020.
+ Further input from ETP4HPC and BDVA.



Past reflections

- ▶ Large industry has similar training needs to research, but time-scales for delivery tighter.
- ▶ SMEs need training offerings tuned to their specific needs.
- ▶ HPC adoption by SMEs is not just a technology question – it requires the support to take the step & promotion of the business benefits (...c.f. the Fortissimo/FF4EuroHPC approach).
- ▶ Need for academia-industry interaction for mentoring → opening career paths.
- ▶ Certification can provide added value.



Past reflections

- ▶ Industry need training on non-technical “soft” skills as well as technical skills.
 - ▶ Business leaders who know about HPC and logics of adoption.
 - ▶ Technical staff who know about the business case and issues for using HPC.
- ▶ Training has to build upon a base of general IT skills.
- ▶ Initial HPC training is important to ensure good technical and scientific foundations – with regular updates to prepare for a lifelong career.
- ▶ HPC education is not covered by one curriculum – different, overlapping skills profiles are needed (e.g. infrastructure designers, software specialists, scientists and engineers).
- ▶ HPC Europa-like mobility programme for industry internships.



Today

- ▶ Talks from industry representatives to shed light on:
 - ▶ Skills needs capture and monitoring
 - ▶ Successful models of engagement with industry by training providers
 - ▶ Approaches that work well, and those that have not
 - ▶ Current trends in different industry sectors
 - ▶ Developing skills at different levels, from schools, universities to on-the-job training
 - ▶ Potential activities, e.g. degree programmes, short courses, mentorships/internships
 - ▶ Other perspectives

- ▶ Another workshop with focus on industry – HPC technology developers and providers