

EHPCSW 2019 / PRACEdays19 Panel Discussion

“The future of scientific and industrial computing in Europe”

The two pillars of scientific experiments and theories have been the seed for our understanding of the world for centuries. The appearance of computers and their implementation in efficient numerical techniques provoked the expansion of simulations as a new way to understand, guide and design new experiments, models, materials and processes that could better support the technical and economic development of our societies. Simulations now embrace all the areas of science and humanities and have been the main use of supercomputers world-wide. The large amounts of data generated by simulations together with those derived from instruments now call for a different era: the use of data science and statistical learning has impacted our daily lives almost without us noticing and will impact the way we use supercomputing.

The new exascale computers will need to answer the societal new needs for efficiency, sustainable growth, and security, and have to address crucial problems like energy supply, health, and active aging. The combination of simulations and data will certainly change the way scientific and industrial computing is performed in Europe and the rest of the world. This will challenge our capacities to educate the next generation, develop newer and efficient algorithms and promote the smooth technology transfer.