

## **HEROES: Hybrid Eco Responsible Optimized European Solution**

### **Description**

Bridging the gap between HPC and IA/ML user communities and HPC Resources is key for unleashing Europe's innovation potential. A lot of effort has been put into building European technologies that are able to deliver centralised, petascale/exascale HPC & ML. It is equally important to make these resources easily and responsibly consumable.

Over a two year time frame, the project will aim to develop an innovative european software solution that will allow industrial and scientific user communities to easilysubmit complex Simulation and ML workflows to HPC Data Centres and Cloud Infrastructures as well as enabling them to take informed decisions on selecting the best platform to achieve their goals in time, within budget and with the best energy efficiency. Although the project will eventually be able to create value across multiple industrial sectors, the demonstrator and the project's initial focus will address workflows of strategic importance in the field of Renewable Energy and in Manufacturing, applications where HPC is involved in the design of more Energy efficient products (for example in the design of energy efficient vehicles).

HEROES is supported by Meteosim, UL Renewables, EDF and Dallara, which will advise on workflows relevant to such use cases. HEROES major innovations reside in its platform selection decision module and its application of marketplace concepts to HPC. The consortium involves 4 European SMEs which bring HPC to their clients and are facing this market demand daily. The Barcelona Supercomputing Center complements the project by bringing its specific expertise in energy management and resource optimisation. The project outcomes will be commercialised at the end of the project.

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