

# Industrial software codes for extreme scale computing environments and applications

To improve industrial software and codes for industrial users to fully exploit the new capabilities of extreme performance HPC environments. This includes aspects such as novel algorithms, efficiency, scalability, refactoring, porting and optimisation to novel HPC hardware and software architectures of increased supercomputing performance.

Proposals should clearly identify the target software and codes to be improved. These software and codes should be used in areas of significant demonstrable market impact, where Europe is leader or should achieve leadership and create value in Europe.

The JU considers that proposals requesting a contribution from the JU of up to EUR 2 million, matched by the Participating States with a similar amount, would allow this specific challenge to be addressed appropriately. [[Please refer to the Annex of the Work Plan for the funding rate and the national contribution to this topic]] Nevertheless this does not preclude submission and selection of proposals requesting other amounts.

To efficiently enable the industrial applications fully exploit the evolving HPC hardware and software landscape and seek synergies with open-source components, including the use of novel mathematical methods and algorithms.

Proposals should describe how the proposed work will contribute to the listed corresponding expected impacts and include baseline, targets and metrics to measure impact:

- Contribution to the realisation of the EuroHPC overall and specific objectives [[Council Regulation 2018/1488 of 28 September 2018 establishing the European High Performance Computing Joint Undertaking (EuroHPC) <https://eurohpc-ju.europa.eu/documents/Regulation.pdf>]]

- Achieving European leadership in the areas of application of the target software and codes and creating value in Europe
- Enabling a demonstrably more competitive and innovative European industry, including SMEs, and maximising market impact of the project's results
- Significant improvements in the target software and codes, in terms of e.g. efficiency, scalability, refactoring, adaptation to new software engineering and programming environments and tools, and optimisation for novel HPC hardware and system software
- Greatly accelerate the time to market for products and services based on HPC codes and software
- Support a sustainable industrial HPC software capability in Europe

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