

[Inno4Scale: Innovative Algorithms for Applications on European Exascale Supercomputers](#)

Description

New architectures for Exascale and post-Exascale computers will have massively parallel and heterogeneous processing capabilities that will require the complete redesign and reimplementaion of the used algorithms to fully exploit the possibilities of these supercomputers. The objective of the Inno4scale project is to promote the efficient use of European HPC systems by identifying and funding the most promising novel algorithms for applications.

Through this action, the project will facilitate the design and development of highly efficient application software for European Exascale computers, the most successful of which should later be taken up by science and industry, resulting in important performance gains. The project will design and implement a call for proposals based on the cascade funding mechanism, financing the most promising ideas on novel algorithms for applications to fully exploit and benefit from these valuable European Exascale resources. Proposals received will be evaluated by external experts based on their potential innovation and impact on the upcoming Exascale era, and the CASTIEL/EuroCC2 and PRACE networks will be used to ensure the widest possible reach of the call.

The Inno4scale consortium, made up of two major European HPC research centres and two experienced partners in managing HPC-related programmes, is in the ideal position to carry out the project in an effective and efficient manner. The results of the selected innovation studies that will receive more than 4 million euros in total, include the development and publication of the novel algorithms to reduce the time-to-solution or energy-to-solution of existing computing problems, as well as to provide novel approaches for large-scale projects. In this way, the Inno4scale project will contribute to the realisation of the EuroHPC JU overall objectives and those specific for this call, as well as enable an optimal exploitation of European Exascale and Post-Exascale HPC systems.

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