



EPICURE

Unlocking European-level HPC Support




Co-funded by
the European Union



EuroHPC
Joint Undertaking

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- 1. Context**
 - 2. Mission**
 - 3. Main Goals**
 - 4. Expected Outcomes**
 - 5. Support Services**
 - 6. Access the Resources**
 - 7. Consortium**

Context

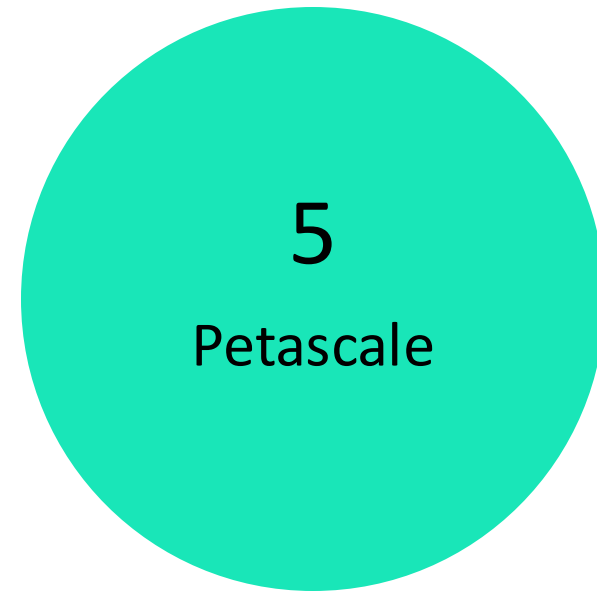
HPC has enabled technologies with a positive impact on society

- More **precise** climate and weather modelling
- Reduced healthcare **research costs** through simulation
- **Planning** and **yield prediction** of renewable energy resources
- Train **larger** and more **complex** Artificial Intelligence models
- ...

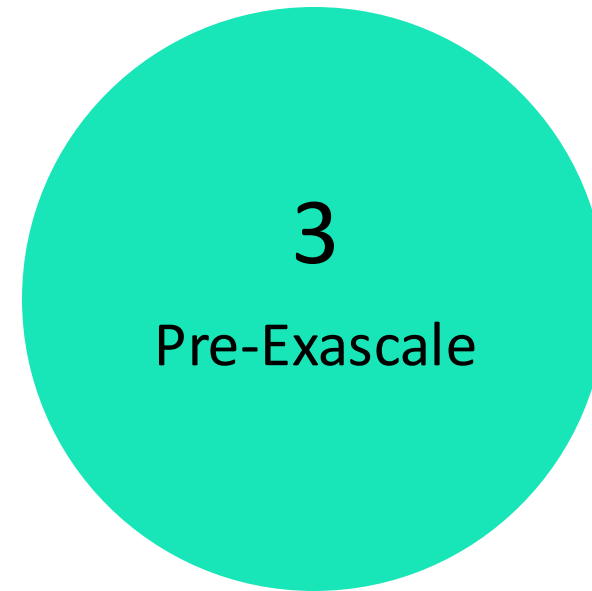
Installation of supercomputers in multiple countries reflects a commitment to HPC's technological potential

- **EuroHPC JU** has been instrumental in elevating European supercomputing

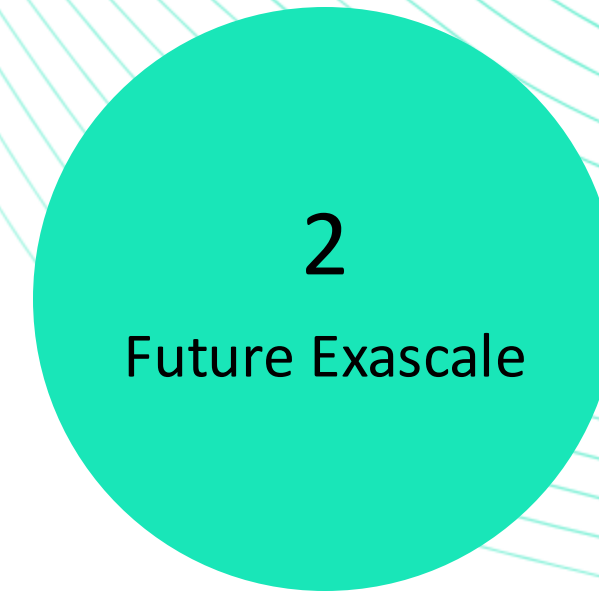
Context




KAROLINA
VEGA
MELUXINA
DISCOVERER
DEUCALION



LEONARDO
LUMI
MARE NOSTRUM 5



JUPITER
JULES VERNE

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Mission

EPICURE draws on the **experience** and **knowledge** of the current and future EuroHPC supercomputer hosting organisations to provide better user support

- Adequate code installation and porting to different architectures (**Level 2**)
- Intra- and inter-node optimisation, focusing on accelerators and scalability (**Level 3**)


Knowledge exchange through the organisation of hardware-specific **training**, **hackathons**, **webinars**, and **workshops** in several EU countries

- Promotes **sharing of expertise** among hosting organisations
- Provides users with a wide knowledge pool

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Main Goals

- **To establish** a four-year operation of a distributed European-wide high-performance computing application support service bringing together Application Support Teams (ASTs);
- **To reach** a large pool of EuroHPC users;
- **To develop** a European HPC Application Support portal;
- **To contribute** to the development and improvement of the European HPC Application Support Service;
- **To collaborate** with the Centers of Excellence to develop an HPC-skilled workforce.

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Expected Outcomes

- **Publish** best practice guidelines on how to code applications that use EuroHPC supercomputers adequately;
- **Create** a knowledge pool publicly available with the resources of training and webinar activities;
- **Provide** the community with optimised codes of various scientific domains;
- **Foster** an educated HPC user community;
- **Provide** a wide range of support services across all EuroHPC JU centers.

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Support Services

Meet our Support Services



Code enablement and scaling

Support for enabling and increase the scalability of user codes to EuroHPC supercomputers



Performance Analysis

Performance analysis for HPC codes



Benchmarking

Our service focuses on developing a benchmarking suite to evaluate the performance of EuroHPC machines.




Code refactoring

This service involves restructuring or rewriting parts of an application code to improve its maintainability but without changing its function.



Code optimization

Our service aims at improving the efficiency and performance of the software such that it consumes fewer resources

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Access the Resources


1. Access to **EuroHPC JU supercomputers** through open calls

- Regular, Extreme Scale, and AI/Data Intensive access typologies
- Accepted projects are matched to adequate supercomputers

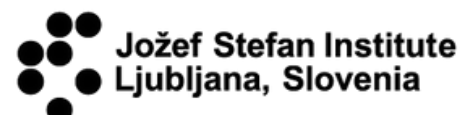
2. Access to **EPICURE support** for accepted projects

- Users choose the level of support needed
- A team of experts will work closely with users to achieve set goals



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Consortium





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Thank you!

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pmo-epicure@postit.csc.fi