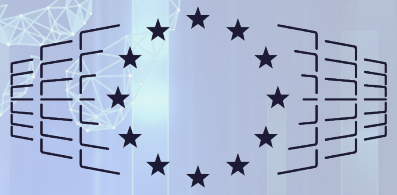
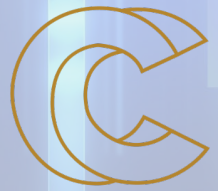
EuroHPC USER DAY

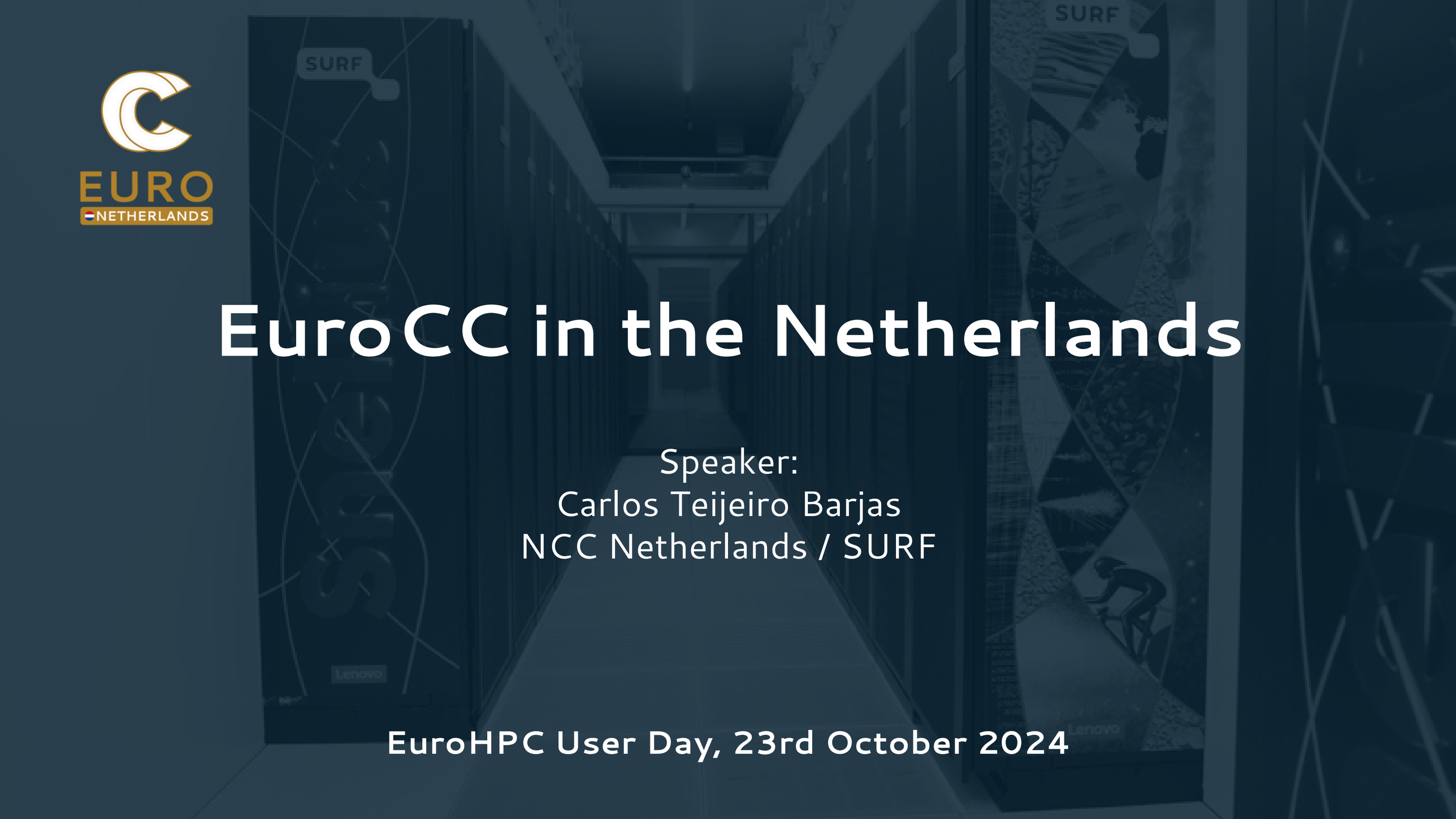
22 – 23 October 2024



EuroHPC
Joint Undertaking



EURO
NETHERLANDS



EuroCC in the Netherlands

Speaker:
Carlos Teijeiro Barjas
NCC Netherlands / SURF

EuroHPC User Day, 23rd October 2024

EURO NETHERLANDS

NCC Netherlands

Services to help in the access to and adoption of HPC:

- 50.000 core hours (in-kind contribution from SURF)
- Basic consultancy up to 8h HPC/AI
- Advanced consultancy for promising use cases
- Regular catalogue of training activities

Integration with the existing HPC support landscape

- Complementarity with national academic access
- Facilitation of multi-tier computations

Customer Journey

Week numbers are informative

Step 1

Pre-Scan Assessment

- Skills Scan : Tech Stack &
- Proj. MGMT Skills
- (Optional) Report HPC4SME
- Confirmation email
- Next steps

Go/ No Go

Step 2

Fit/Exploration Interview:

- Problem statement/ Use Case / Workshop
- Data classification (Sensitive etc.)
- SURF Way of Working
- Project Assets List Assesment/ Preparation

Go/ No Go

Step 3

PoC – Proof-of-Concept Proposal

- SURF Usage Agreement: Data Privacy
- Onboarding/Offboarding
- Approval for Public Communications
- Collab for White Papers & Scientific Articles/
- Conferences/ Publication

Step 4

Kick-off Meeting:

- Onboarding
- Goal setting
- Meet the team
- Training AI/HPC
- Access HPC platform
- Weekly check-ins

Step 5

Mid-term check-in:

- Challenges
- Help
- GO/NOGO

Step 6

End-of-Project:

- Presentation
- Achievements
- Challenges
- Lessons learned
- Next steps

Step 7

Community onboarding:

- Access to HPC network
- Events
- Stay in touch!

Week 0 — Week 1 — Week 2 — Week 3-5 — Week 20 — Week 40 — Week +++

Thank You

eurocc-netherlands.nl

What is EXCELLERAT

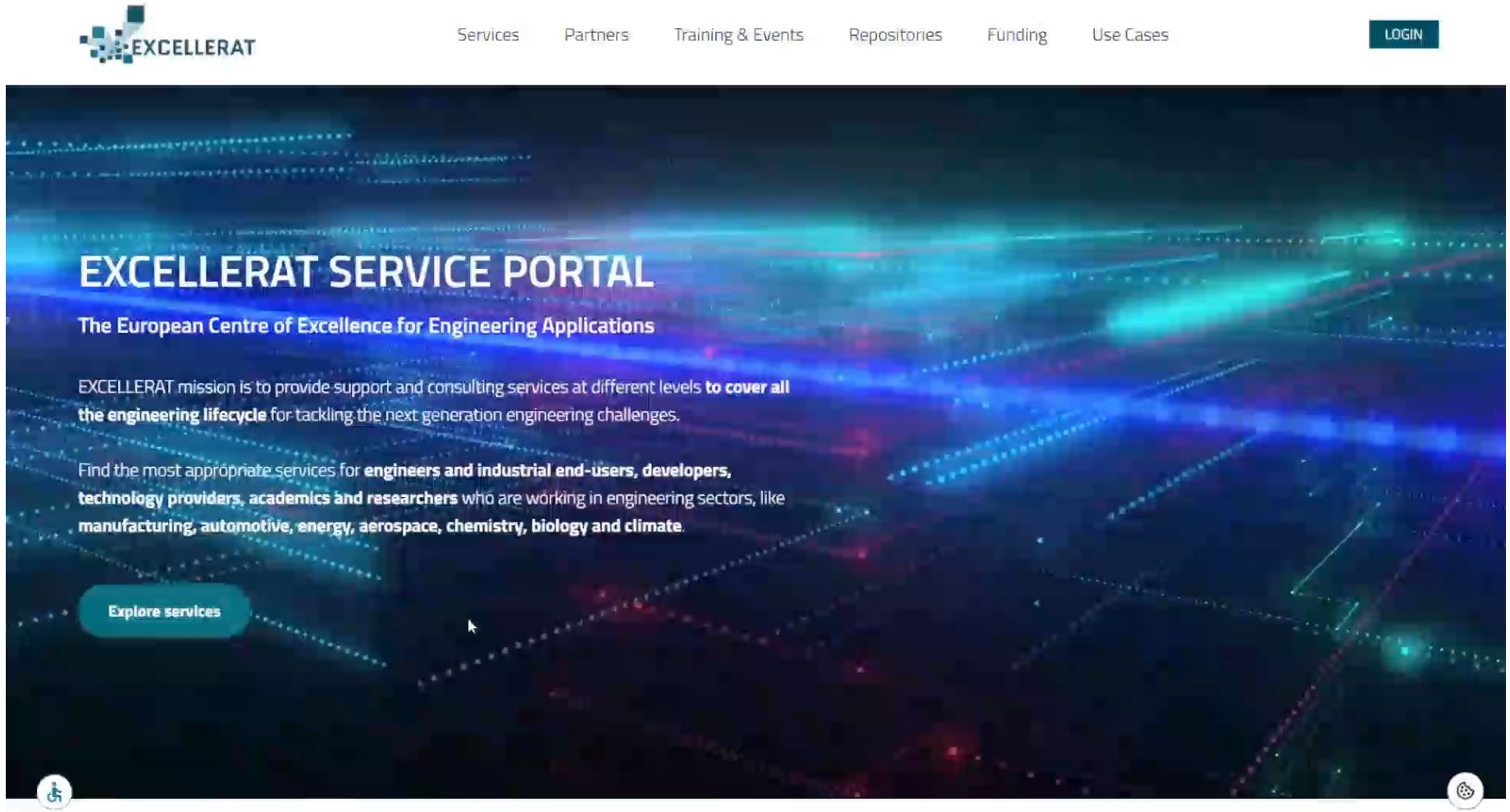
The EXCELLERAT project offers **knowledge and expertise** on leveraging ***data management, data analytics, visualization, simulation-driven approaches, and co-design with HPC*** to enhance engineering across the aeronautics, automotive, energy, and manufacturing industries.

The goal is to enable the European engineering community to **advance towards Exascale** technologies and to create **a single entry point** to services and knowledge for all stakeholders (industrial end users, technology and HPC providers, academics, code developers, engineering experts) of HPC for engineering

Application Support in EXCELLERAT P2

- Indentifying Key Applications
  - Through our **Use Cases** in specific engineering domains
- Optimization, Scalability and Analysis Tools
  - Code refactoring, memory management, data analytics, visualization, UQ
- Best Practices and Guidelines
  - Establish best practices for **developing and running applications on HPC systems** (guidelines on coding standards, optimization techniques, etc.)
- Collaboration and Community Engagement
  - **Enlarge the EXCELLERAT Community**, build meaningful and mutually beneficial collaborations
- Training and Workshops
  - Define a **structured training offer complementary and in synergy** with that developed by the EuroCC National Competence Centres network

EXCELLERAT P2 Service Portal



EXCELLERAT P2

Funded by the European Union. This work has received funding from the European High Performance Computing Joint Undertaking (JU) and Germany, Italy, Slovenia, Spain, Sweden, and France under grant agreement No 101092621.

Co-funded by
the European Union

EuroHPC
Joint Undertaking

The European AI Support Centre: MINERVA

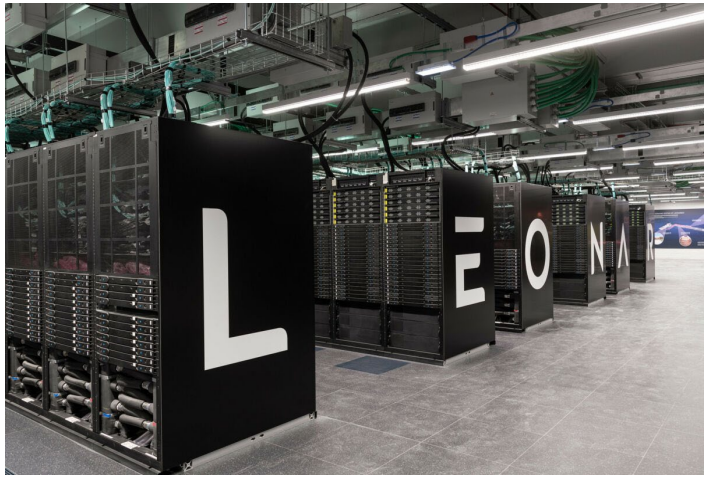
Laura Morselli

CINECA

EuroHPC Users Day
23 October 2024

A bit about myself

CINECA



EURO² & CASTIEL 2

f4EuroHPC

EUHUB

Driving SMEs and start-ups innovation by unleashing the potential of HPC and GenAI.

Artificial Intelligence for better opportunities and scientific progress towards a trustworthy and human-centric digital environment.

MINERVA

European Support Centre for Scalable AI Research and Deployment.

THE SERVICES FOR THE EUROPEAN AI COMMUNITY

AI COMMUNITY

Start-ups SMEs Public Administrations
Big Industries Research Centres Universities

APPLIED ML/AI RESEARCH CORE ML/AI RESEARCH

HPC COMMUNITY

HPC Centres NCCs Hosting Entities

ASTs EDIHs Training Initiatives

Level1
Support for **porting AI Applications and workflows to HPC infrastructure**

Level 2
Support for the **use and mastery of AI libraries on HPC architectures**

Level 3
Support for the **pre-training** of open large-scale and foundation models

Level 3
Support for the **specialization** of various open large-scale and foundation models

Guidance and Support on **regulations on ethical and responsible AI**

Specialised/Advanced trainings for the AI communities

Best practice guides on AI on HPC

Catalogues of models and datasets

Benchmarks

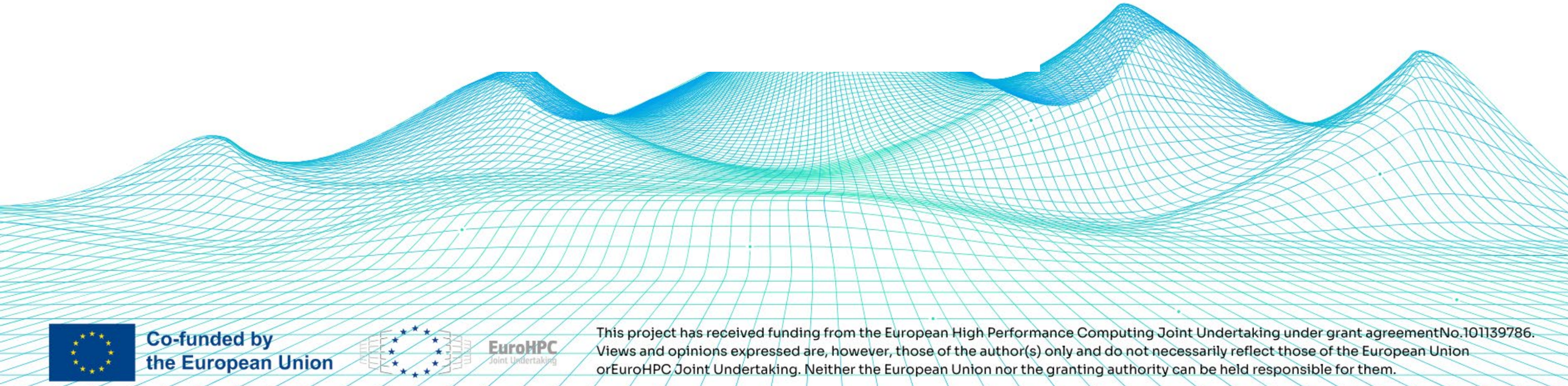
Thank you!

Laura Morselli
l.morselli@cineca.it
CINECA

EPICURE

EPICURE Application Support for EuroHPC Users

Andrew Emerson, CINECA



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EuroHPC Joint Undertaking

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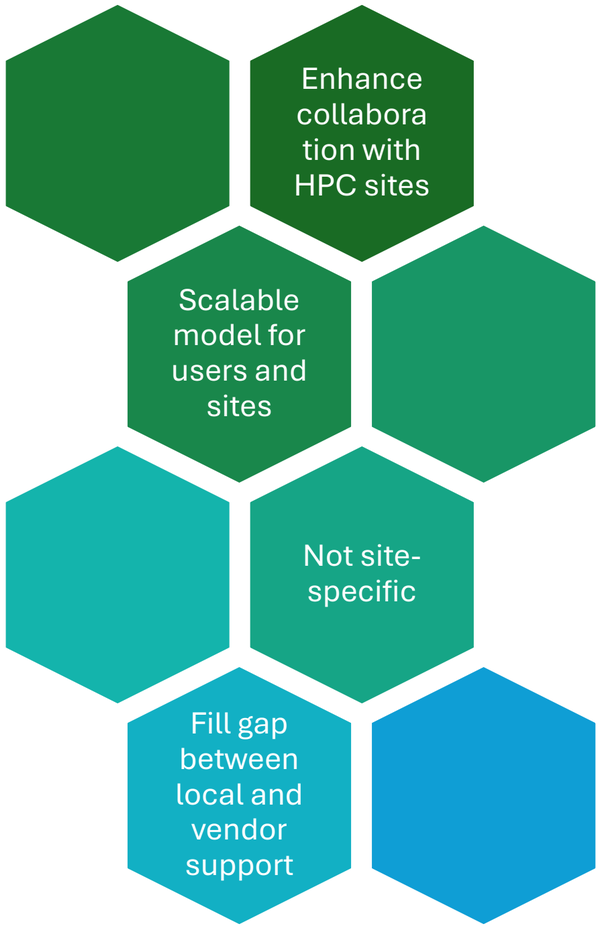
What is EPICURE?



Four-year project for providing support services to EuroHPC users (started Feb 2024)

Coordinated by CSC with 17 partners from European HPC sites

Provides a distributed network of **Application Support Teams** (AST) for Level 2 and Level 3 support:

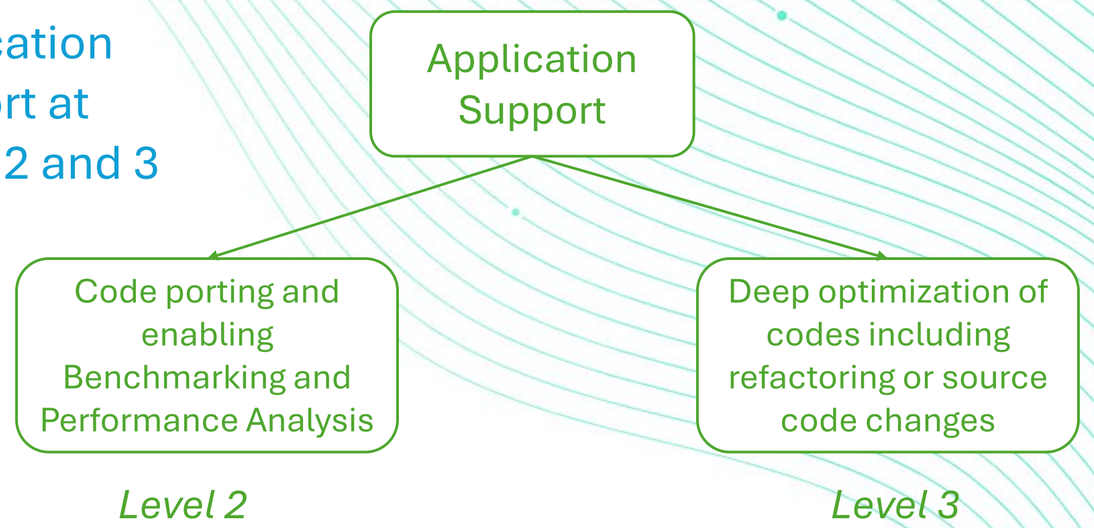
→ Porting and Optimization
→ Advanced Training
→ Development of Best Practice Guides
→ Collaboration with equivalent groups at European and global level for pre/exascale applications

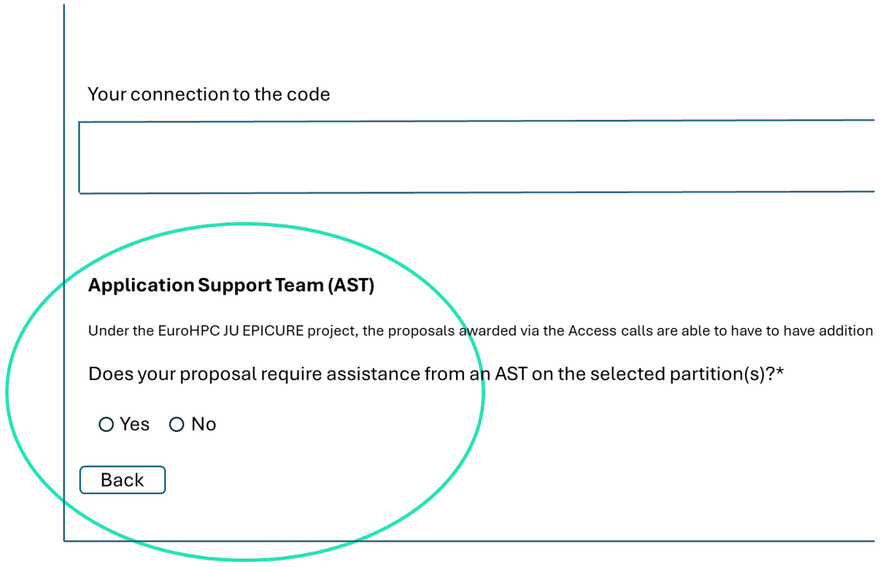
Projects, types of support and how to apply

- Extreme Scale Access
- Regular Access
- AI
- Development
- Benchmarking

All EuroHPC-funded projects can be supported

Application support at levels 2 and 3





Apply from the EuroHPC JU application form

[a more comprehensive form than shown here will be available]

EPICURE

Unlocking European-level HPC Support

Thank you!

pmo-epicure@postit.csc.fi

Follow us

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EuroHPC JU USER DAY

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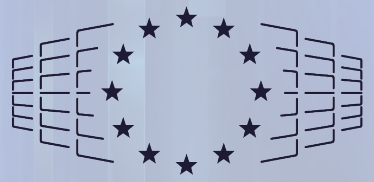
AWARDS SESSION



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BEST EUROHPC JU USER 2024

Dr. RAMON BRASSER

VEGA HPC

Resource Management: Successfully exploits the GPU partition, demonstrating optimal resource allocation.

Software Efficiency: Utilisation of an optimised software solution for modern GPUs, ensuring high efficiency

Energy Conservation: Understands and applies efficient solutions in terms of energy conservation

Collaboration: Considered behaviour on the system in relation to other users and users support.

EuroHPC Joint Undertaking

Selection Panel:
EuroHPC Hosting Entities

BEST EUROHPC JU PAPER

Prof. AGNIESZKA JANIUK

Relativistic magnetohydrodynamics simulations of merging and collapsing stars

LUMI

Clarity in Explaining Complex Phenomena: Clear, accessible explanations of star collapses and black hole formation with scientific rigor.

Significant Contribution to Astrophysics: Breakthrough insights into the formation of bright transients and black holes.

Use of HPC Resources: Effective use of resources on LUMI to simulate or analyse high-energy astronomical events.

EuroHPC Joint Undertaking

Selection Panel:
EuroHPC User Day 2024
Peer Review Committee

BEST EUROHPC JU AI PROJECT

Dr. ANDREA DI GIOIACCHINO

CAPHARD: Codon-Assisted Phage-Host Automatic inteRaction Discovery

LEONARDO

Impact on Public Health: High societal impact as antibiotic resistance is a top global health threat.

Innovative use of AI: The Generative Language Modeling is the core AI Technology used during the project.

Scientific Rigor and Innovation: In-depth research approach, focusing on the accuracy and reliability of genomic data analysis.

EuroHPC Joint Undertaking

Selection Panel:
EuroHPC User Forum Coordination Group

THANK YOU!

See you in Autumn 2025 in Denmark!

EuroHPC
Joint Undertaking