



Nadja Schauffler, HLRS – High-Performance Computing Center Stuttgart  
EuroCC4SEE workshop in Belgrade, 22 May 2025

# EuroCC 2 and EuroCC4SEE



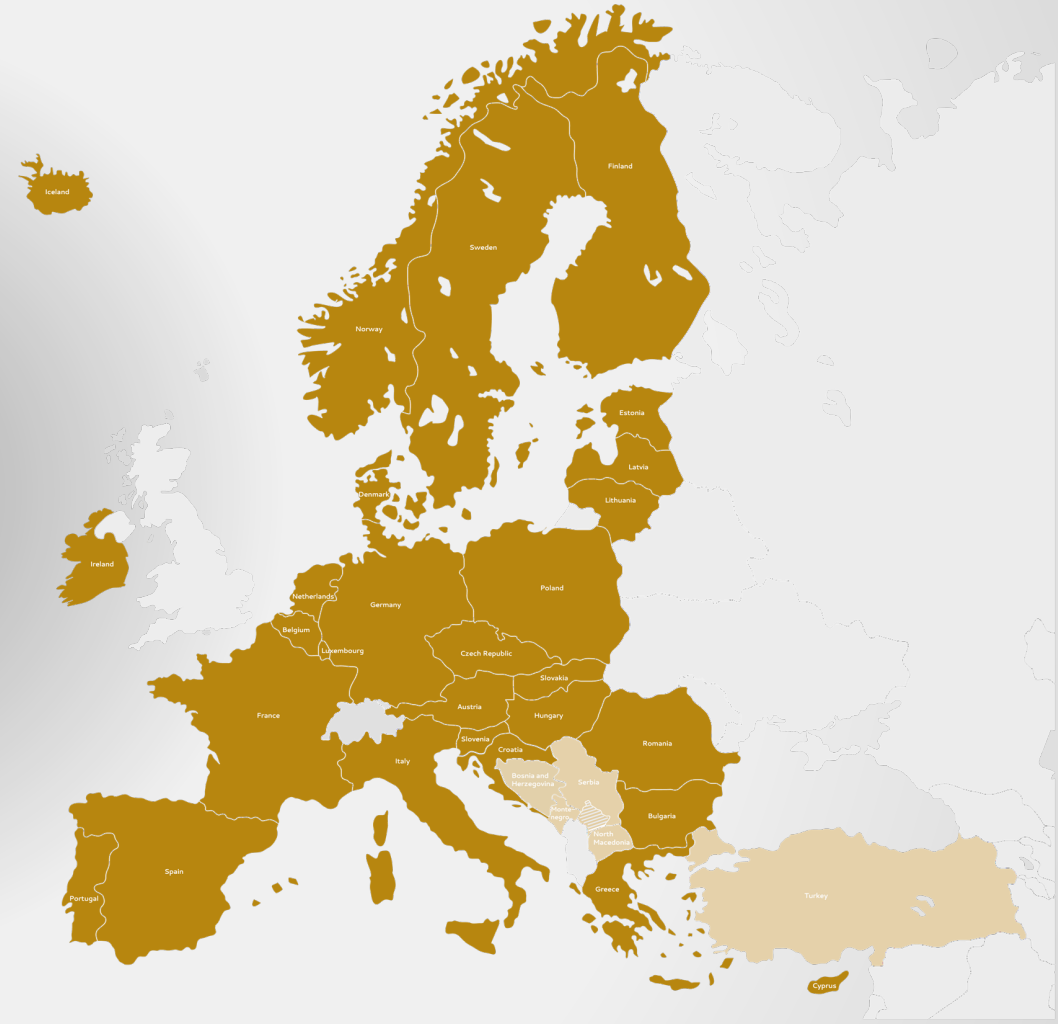
## Mission:

- establish and develop National Competence Centres (NCCs) in Europe for
  - ✓ High-Performance Computing (HPC)
  - ✓ High-Performance Data Analytics (HPDA)
  - ✓ Artificial Intelligence (AI)
- foster strong national networks providing services to users from industry, academia and public administration
- build strong European HPC ecosystem that can meet global challenges

## 33 NCCs:

EuroCC 2: 28 beneficiaries (gold in map), 4 associated partners

EuroCC4SEE: 5 beneficiaries (light gold)



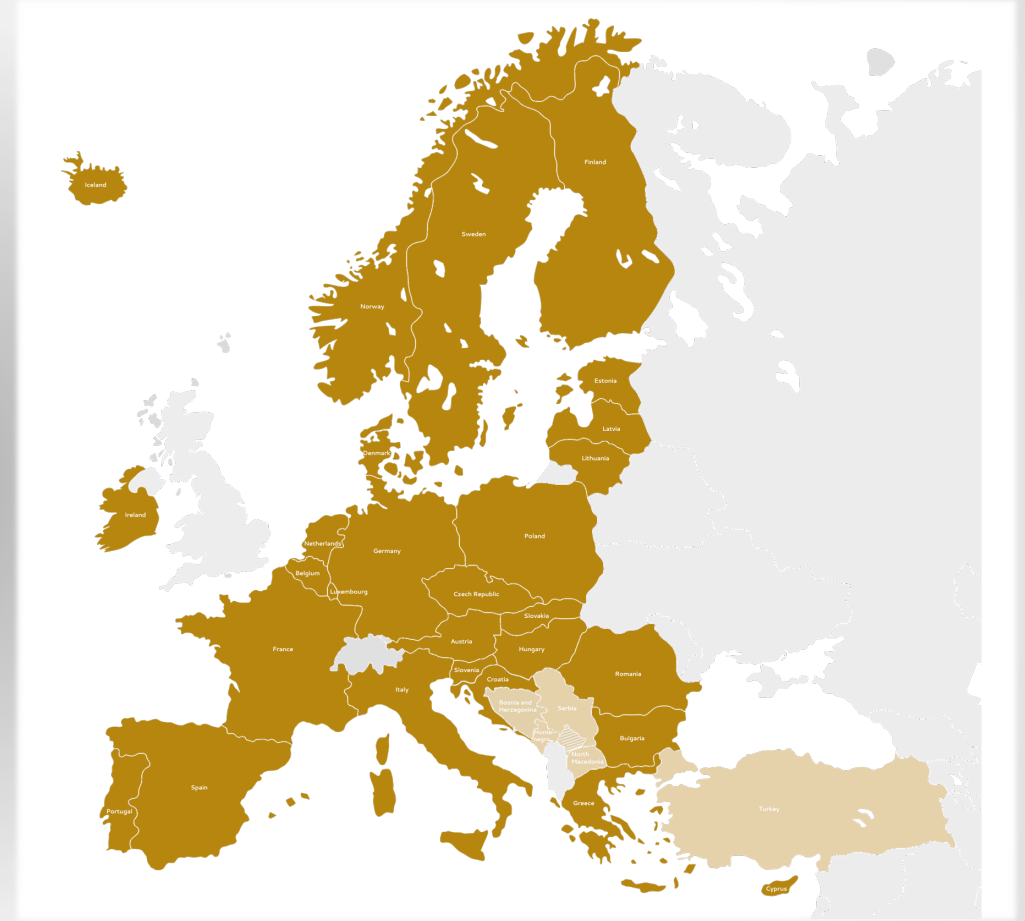
# EuroCC Phase 1

- Runtime: 09/2020 until 12/2022
- Funded by: EuroHPC JU and the member states
- 33 nations:  
*Germany, Bulgaria, Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovenia, Spain, Sweden, United Kingdom, France, Netherlands, Belgium, Luxembourg, Slovakia, Norway, Switzerland, Turkiye, Republic of North Macedonia, Iceland, Montenegro*
- Focus: Initial setup of the structures for NCCs to support industry, public administration and academia



# EuroCC 2

- Started 01/2023, Runtime 36 months
- Continuing with 33 National Competence Centres (two left, two new)  
*Germany, Bulgaria, Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovenia, Spain, Sweden, France, Netherlands, Belgium, Luxembourg, Slovakia, Norway, Turkiye, Republic of North Macedonia, Iceland, Montenegro, Serbia + Bosnia and Herzegovina (via EuroCC4SEE)*
- Further maturation of services, knowledge building and interaction in the network of NCCs
- Keep elevating the impact of the participating countries across Europe in the fields of HPC, HPDA and AI



## Methodology

Each National Competence Centre represents a standalone work package (WP X)

### WP X

- Task X.1 (National Competence Centre) - Management
- Task X.2 Training and Skills Development
- Task X.3 Services to and Interaction with Industry
- Task X.4 Services to and Interaction with Academia and Public Administration
- Task X.5 Service Portfolio & Competence Management, Additional Services
- Task X.6 Collaboration
- Task X.7 Awareness Creation and Communication

# What are National Competence Centres (NCCs)?

- Single points of contact for HPC and associated technologies (HPDA, AI, Quantum...)
- Overarching goals:
  - Provide innovative services to users from industry, academia and public administration
  - Catalogue and enhance national HPC competences and capabilities
  - Establish a strong European HPC ecosystem
- Supported by **CASTIEL 2** (Coordination and Support Action)





# CASTIEL 2



## Mission: Support and connect the NCCs & CoEs

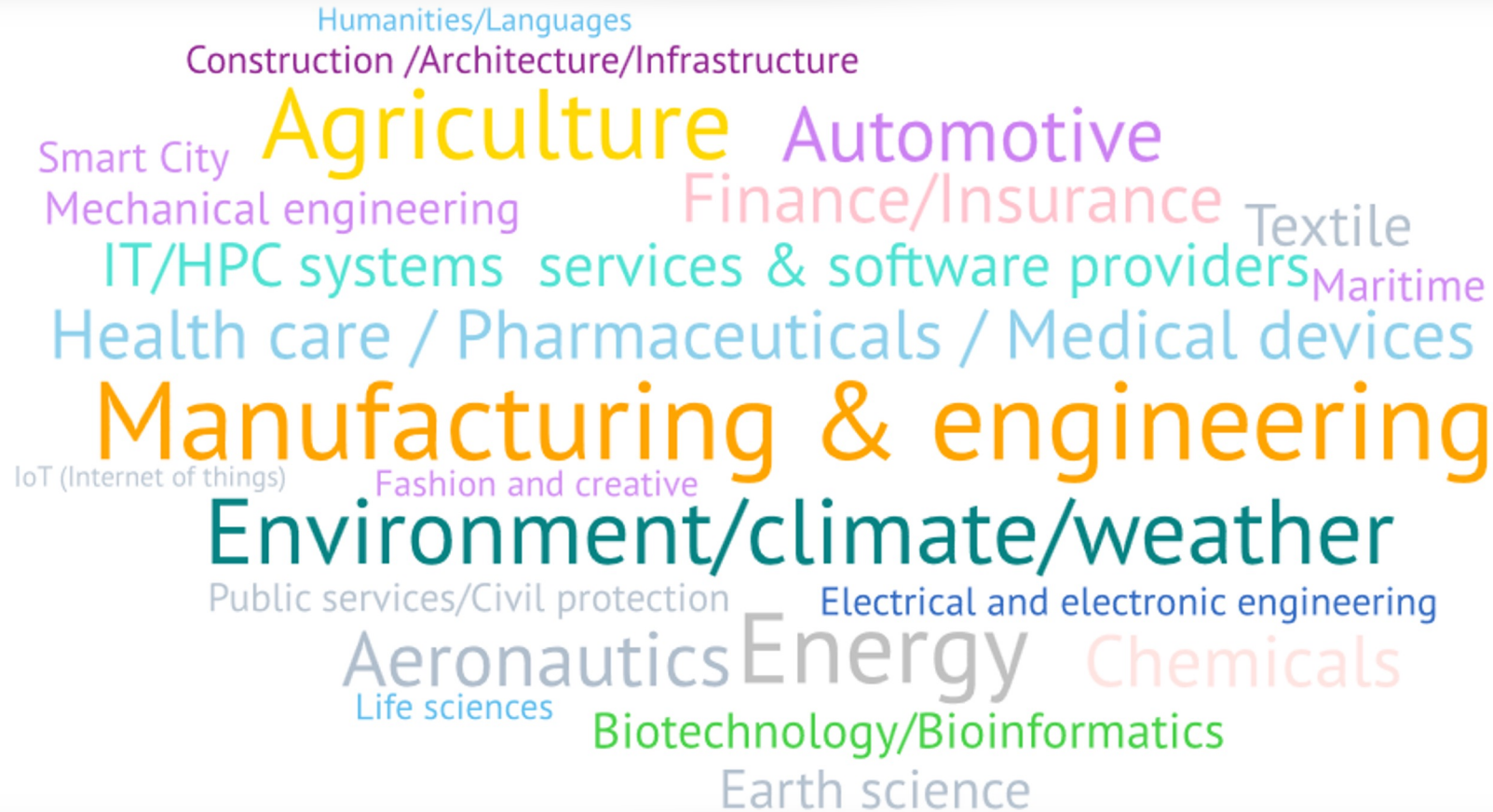
Participating countries (6)

Austria, Belgium, France, Germany, Italy, Spain + Estonia

- sets framework to support development of each NCC and each Centre of Excellence (CoE), helping them to get closer together in terms of capabilities and expertise
  - provides mechanisms for exchange and support betw. NCCs and CoEs to add domain-specific knowledge
  - Support with material and mechanisms
- serves as a single and central reference point at the European Level to coordinate and support the NCCs and CoEs.



# Continuous creation of success stories



A word cloud centered on a white rectangular background, featuring various industries and sectors in different colors and sizes. The most prominent words are 'Manufacturing & engineering' in large orange letters, 'Agriculture' in large yellow letters, and 'Environment/climate/weather' in large teal letters. Other visible words include 'Automotive' (purple), 'Finance/Insurance' (pink), 'IT/HPC systems' (teal), 'Health care / Pharmaceuticals / Medical devices' (blue), 'Energy' (grey), 'Chemicals' (pink), 'Biotechnology/Bioinformatics' (green), 'Earth science' (grey), 'Aeronautics' (grey), 'Public services/Civil protection' (blue), 'Electrical and electronic engineering' (blue), 'Life sciences' (blue), 'Fashion and creative' (purple), 'IoT (Internet of things)' (purple), 'Smart City' (purple), 'Mechanical engineering' (purple), 'Services & software providers' (teal), 'Textile' (grey), and 'Maritime' (purple). The words are arranged in a way that they overlap and are scattered across the white area.

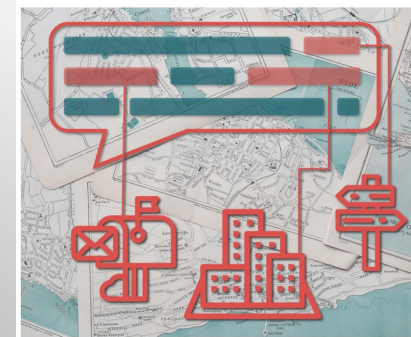
Humanities/Languages  
Construction /Architecture/Infrastructure  
Smart City  
Mechanical engineering  
IT/HPC systems  
Health care / Pharmaceuticals / Medical devices  
IoT (Internet of things)  
Public services/Civil protection  
Life sciences  
Earth science  
Agriculture  
Automotive  
Finance/Insurance  
Services & software providers  
Textile  
Maritime  
Manufacturing & engineering  
Environment/climate/weather  
Aeronautics  
Energy  
Chemicals  
Biotechnology/Bioinformatics



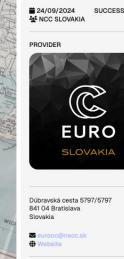
# Continuous creation of success stories



**TRANSFER AND OPTIMIZATION OF CFD CALCULATIONS WORKFLOW IN HPC ENVIRONMENT**  
 Shark Aero company designs and manufactures ultralight sport aircrafts with two-seat tandem cockpit. For design development they use popular open...



**NAMED ENTITY RECOGNITION FOR ADDRESS EXTRACTION IN SPEECH-TO-TEXT TRANSCRIPTIONS USING SYNTHETIC DATA**



**DIGITALSMART AND DUNAVNET TO PROVIDE AI EDGE SOLUTION FOR POULTRY INDUSTRY** ...  
 Organisations & Codes Involved: DigitalSmart is a coordinator of a new H2020 project: called AIMHIGH that is...



**Predict the Damage**  
 to infrastructures caused by storms and map more precisely the risks of claims for insurance

The French NCC: CC-FR, dedicated to HPC, HPDA and AI technologies, brings together the community of technology providers and users. CC-FR federates the HPC, HPDA and AI ecosystem and supports SMEs on the use of intensive computing, high-performance data analysis and artificial intelligence.



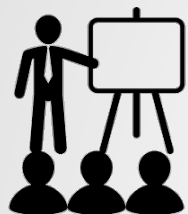
**Low-latency AI-based Gesture Recognition**

NCC-Bulgaria was founded by the Institute of Information and Communication Technologies at the Bulgarian Academy of Sciences, the Sofia University "St. Kliment Ohridski" and the University of National and World Economy.

NCC-Bulgaria is focused on:  
 • Creating a roadmap for successful work in the field of high-performance computing, big data analysis and artificial intelligence.  
 • Analyzing the existing competencies and facilitating the use of HPC/HPDA/AI in Bulgaria  
 • Raising awareness and promoting HPC/HPDA/AI use in companies and the public sector.

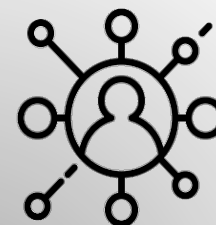


# What do you get?



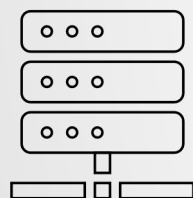
## Training and Expertise

- Hands-on training courses and workshops
- Access to expert knowledge in HPC, HPDA, and AI



## Access to services

- National and European-level capabilities
- Tailored support in HPC and related technologies



## Access to technology

- Supported access to supercomputers
- Guidance and hands-on help with proposals



**FORTISSIMO**  
PLUS



ffplus-  
project.eu



## HPC+ for everyone

- Services for all levels: beginners to experts
- For users in industry, academia, and public administration

*new FF+ call for business experiments: 4 June - 26 August*

# Advantages



One-stop shop



Local and accessible



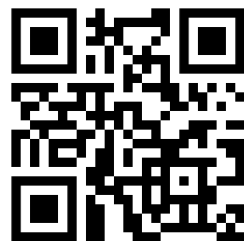
Connected to Europe



Free of charge



# Where to find information and material?



[hpc-portal.eu](http://hpc-portal.eu)

The Portal for High-Performance Computing in Europe

- NCCs
- CoEs
- Information
- Competences
- Training courses
- Events
- Contents
- Documents as results of workshops
- Funding opportunities
- Videos from events and workshops
- ...

Bringing together three platforms into one unified portal:

Upgraded HPC  
Portal



Integrated EuroCC-  
Access Portal



Integrated HPC  
CoE Portal



# Training, News & Events

## EVENTS

Stay informed about upcoming events in High-Performance Computing (HPC). From conferences and workshops to webinars, this section highlights opportunities to connect, learn, and collaborate with experts across the HPC ecosystem. Don't miss your chance to engage with the community.

04/07/2025 - 04/07/2025 ONLINE



### GCS INFO EVENT: AI ON GCS SUPERCOMPUTERS - PROJECT CALL INFORMATION

Do you need compute time for AI projects? Is your workstation or university cluster too small? A new call for projects on the Gauss Centre for...

[READ MORE](#)

16/06/2025 - 20/06/2025 IN PERSON  
NAPLES, ITALY COE EOCOE III



### CINI 3RD INTERNATIONAL SUMMER SCHOOL ON HIGH-PERFORMANCE COMPUTING FOR SCIENCE...

The Summer School offers an intensive program on the entire hardware and software stack. This co-design perspective is essential for designing...

28/05/2025 - 28/05/2025 IN PERSON  
BERGAMO, ITALY NCC ITALY



### OPENFOAM: AN OPEN TOOL FOR VIRTUAL PROTOTYPING

Virtual prototyping has become essential for companies aiming to innovate and grow. With the help of HPC resources, businesses can create digital...

## IN THE SPOTLIGHT

Keep up with the most recent updates and developments in the High-Performance Computing (HPC) ecosystem. This section highlights key announcements, project news, and important milestones, keeping you connected to the dynamic world of HPC across Europe.

10/04/2025 IN THE SPOTLIGHT



### SURVEY: HPC TRAINING LANDSCAPE IN EUROPE

HPC Training Landscape in EuropeThe survey's primary goal is to gather insights from various European communities on HPC, AI, and Quantum Computing...

[READ MORE](#)

02/03/2025 IN THE SPOTLIGHT  
COE CEEC



### NEWS FROM THE CENTRE OF EXCELLENCE IN EXASCALE CFD

Swimming with the Flow: weLaberla Simulations with VistiaTwo years into CEEC, we're starting to see how we'll help push computational fluid dynamics...

[READ MORE](#)

13/02/2025 IN THE SPOTLIGHT  
COE ESIWACE-3



### NEWS FROM ESIWACE3

Open Call for Proposals to Advance Europe's Weather and Climate Models for Pre-Exascale SystemsThe ESIWACE3 Consortium is excited to announce an open...


[READ MORE](#)

 SHORT COURSES

 ACADEMIC PROGRAMMES

 STUDY MODULES

 MATERIAL

 ARCHIVE SHORT COURSES

## SHORT COURSES

25/11/2025  
STUTT GART, GERMANY

HYBRID  
GERMAN



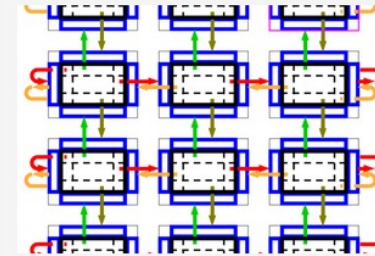
### MODERN C++ SOFTWARE DESIGN (ADVANCED)

This advanced C++ course provides both advanced C++ programming techniques and software design...

[READ MORE](#)

03/11/2025  
GERMANY

ONLINE  
ENGLISH



### SUPERCOMPUTING ACADEMY: PARALLEL PROGRAMMING WITH MPI

MPI is a communication protocol for parallel programming based on message exchange between...

[READ MORE](#)

23/10/2025  
STUTT GART, GERMANY

IN-PERSON  
ENGLISH



### SCIENTIFIC VISUALIZATION

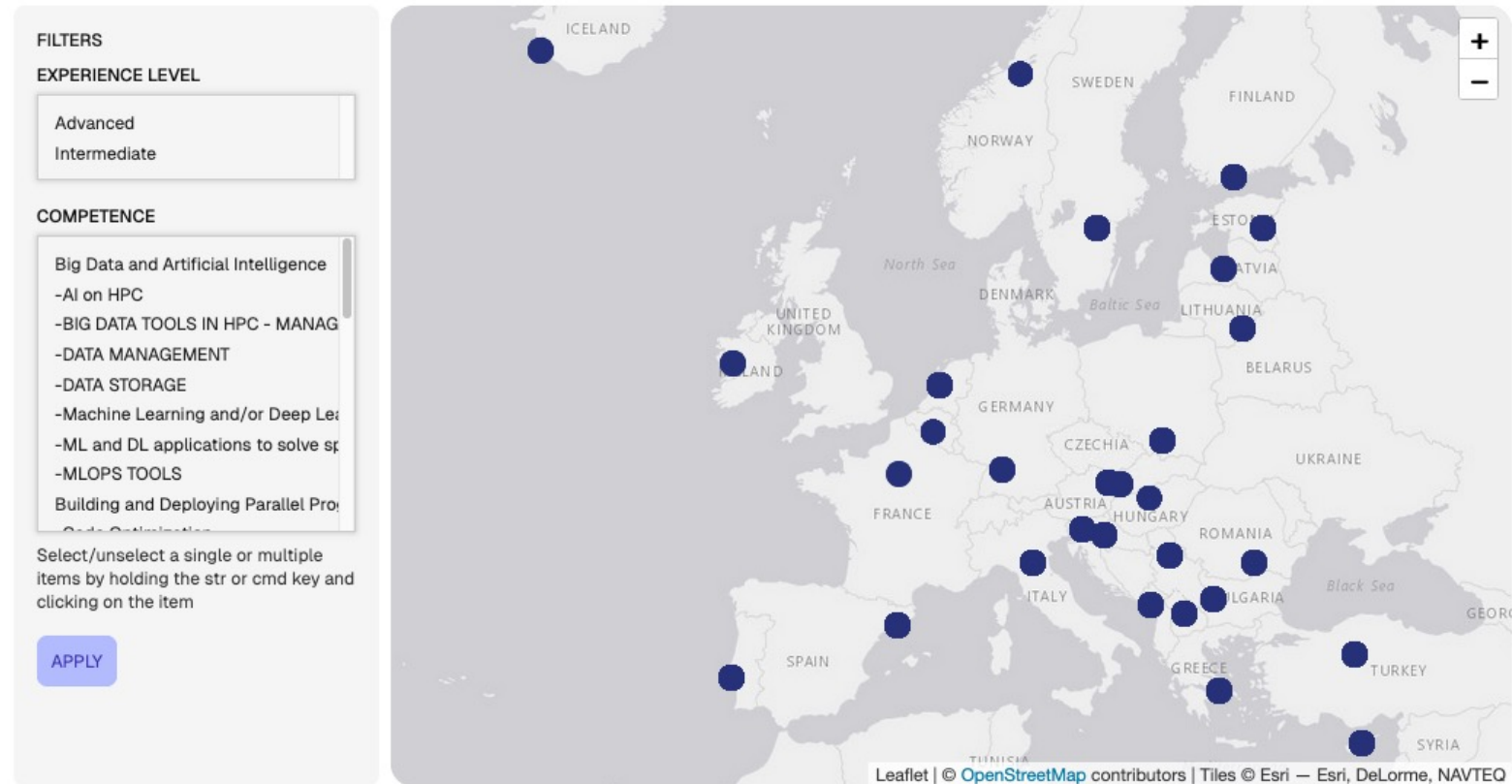
This course is targeted at researchers with basic knowledge in numerical simulation, who would like...

[READ MORE](#)

# Codes & Competences

## COMPETENCE MAP

Changes will be visible when competences are selected. Please see explanations below.





# Use cases, Videos, Tutorials, Best-Practice Guides

## BEST PRACTICES

### DO'S AND DON'TS INDUSTRY WORKSHOP: ORIGINAL WAYS TO ENGAGE WITH INDUSTRY (PART 2)

PRESENTED BY: 🏢 CASTIEL 2: COORDINATION AND SUPPORT ACTION

DOWNLOAD

## SUMMARY OF WORKSHOP

### SUMMARY || COE DESCRIPTIONS [COES/CASTIEL 2]

DOWNLOAD

## BEST PRACTICES

### DO'S AND DON'TS INDUSTRY WORKSHOPS [EUROCC 2/CASTIEL 2]

DOWNLOAD

## BEST PRACTICES

### PORTFOLIO (PER SECTOR) || INDUSTRY USE CASES [EUROCC 2/CASTIEL 2]

DOWNLOAD

## BEST PRACTICES

### PORTFOLIO (ALPHABETICAL) || INDUSTRY USE CASES [EUROCC 2/CASTIEL 2]


DOWNLOAD

## BEST PRACTICES

### BOOKLET || SUCCESS STORY BOOKLET VOL. 2 [EUROCC 2/CASTIEL 2]

DOWNLOAD


VIDEO



WEBINAR || 3RD "INDUSTRY SECTOR OF THE MONTH" ABOUT "...  
WEBINAR || 3rd "Industry Sector of the Month" about "Manufacturing & Engineering" [NCC Portugal and NCC Bulgaria / CoEs / CASTIEL 2 / CASTIEL 2]

READ MORE

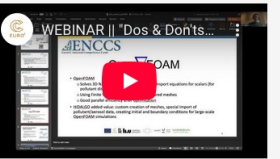
VIDEO



WORKSHOP || CODE OF THE MONTH VOL. 13 [PLASMA PEPSC/CASTIEL 2]  
WORKSHOP || Code of the Month vol. 13 [PLASMA PEPSC/CASTIEL 2]

READ MORE


VIDEO



WEBINAR || "DOS & DON'TS" WORKSHOP VOL. 6 [NCCS / COES / ...  
WEBINAR || "Dos & Don'ts" workshop Vol. 6 [NCCS / CoEs / CASTIEL 2]

READ MORE

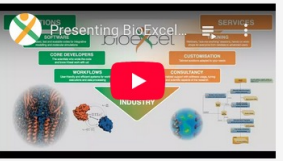
COE CEEC VIDEO



ABOUT THE COE || CEEC  
About the CoE || CEEC

READ MORE


VIDEO



INTRODUCTIONS TO THE COES [CASTIEL 2, BIOEXCEL, CEEC, CHEESE, EoCoE, ESIWACE...  
Introductions to the CoEs [CASTIEL 2, BioExcel, CEEC, CHEESE, EoCoE, ESIWACE, EXCELLERAT, HIDALGO, MaX, MultiXscale, POP]

READ MORE

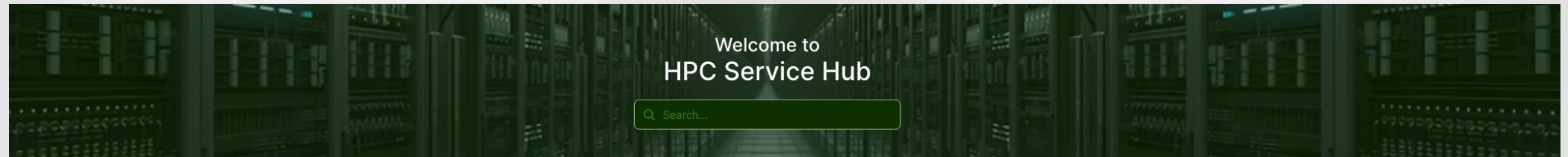
VIDEO



WORKSHOP || IDENTIFY SKILLS AND TRAINING NEEDS FOR QUANTUM COMPUTING - INDUSTRY...  
WORKSHOP || Identify Skills and Training Needs for Quantum Computing - Industry Viewpoint [EuroCC 2 / CASTIEL 2]

READ MORE

# HPC Service Hub



Applications



Application Support



Consultancy and Expertise



Infrastructure



[hpcservicehub.eu](https://hpcservicehub.eu)

# Get in touch with your NCC



Ask them for support on

- training
- access to the EuroHPC machines
- access to knowledge & expertise
- utilising HPC in the best way possible
- ...

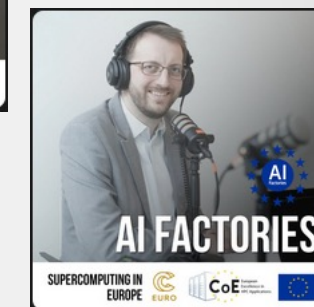


[hpc-portal.eu/nccs](https://hpc-portal.eu/nccs)





# Supercomputer in Europe Podcast



Spotify: <https://lnkd.in/ewiUzxUE>

Apple podcasts: <https://lnkd.in/enRtbWGa>

*and many more episodes*

# Thanks!



**Co-funded by  
the European Union**



**EuroHPC**  
Joint Undertaking

These projects have received funding from the European High Performance Computing Joint Undertaking (JU) and Germany, Bulgaria, Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovenia, Spain, Sweden, France, Netherlands, Belgium, Luxembourg, Slovakia, Norway, Türkiye, Republic of North Macedonia, Iceland, Montenegro, Serbia, Bosnia and Herzegovina under grant agreement No 101101903 and No 101191697.

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Baden-Württemberg