



# EuroHPC Summit Week 2022



**Opportunities for Research & Innovation**

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Programme Officer R&I

From **22 to 24 March 2022** | Paris, France

**#EHPCSW #PRACEdays**

# Strategic R&I – Mission

*Develop a European HPC ecosystem on the basis of as much indigenous HPC technology as possible towards strategic autonomy and digital sovereignty*

- The HPC market is currently dominated by suppliers outside Europe
- Europe has a leading position in HPC applications
- Europe has a strong HPC user community and high demand for HPC resources
- Support technology transfer in Europe and strengthen participation from industry and small and medium size enterprises in a **Public-Private Partnership**



# Advisory Board appointed on

~~10/03/2022~~

Industrial and Scientific  
Advisory Board



Research & Innovation  
Advisory Group  
(RIAG)

Infrastructure  
Advisory Group  
(INFRAG)

RIAG members  
& observers

Multiannual strategic  
programme

INFRAG members

EuroHPC Governing Board

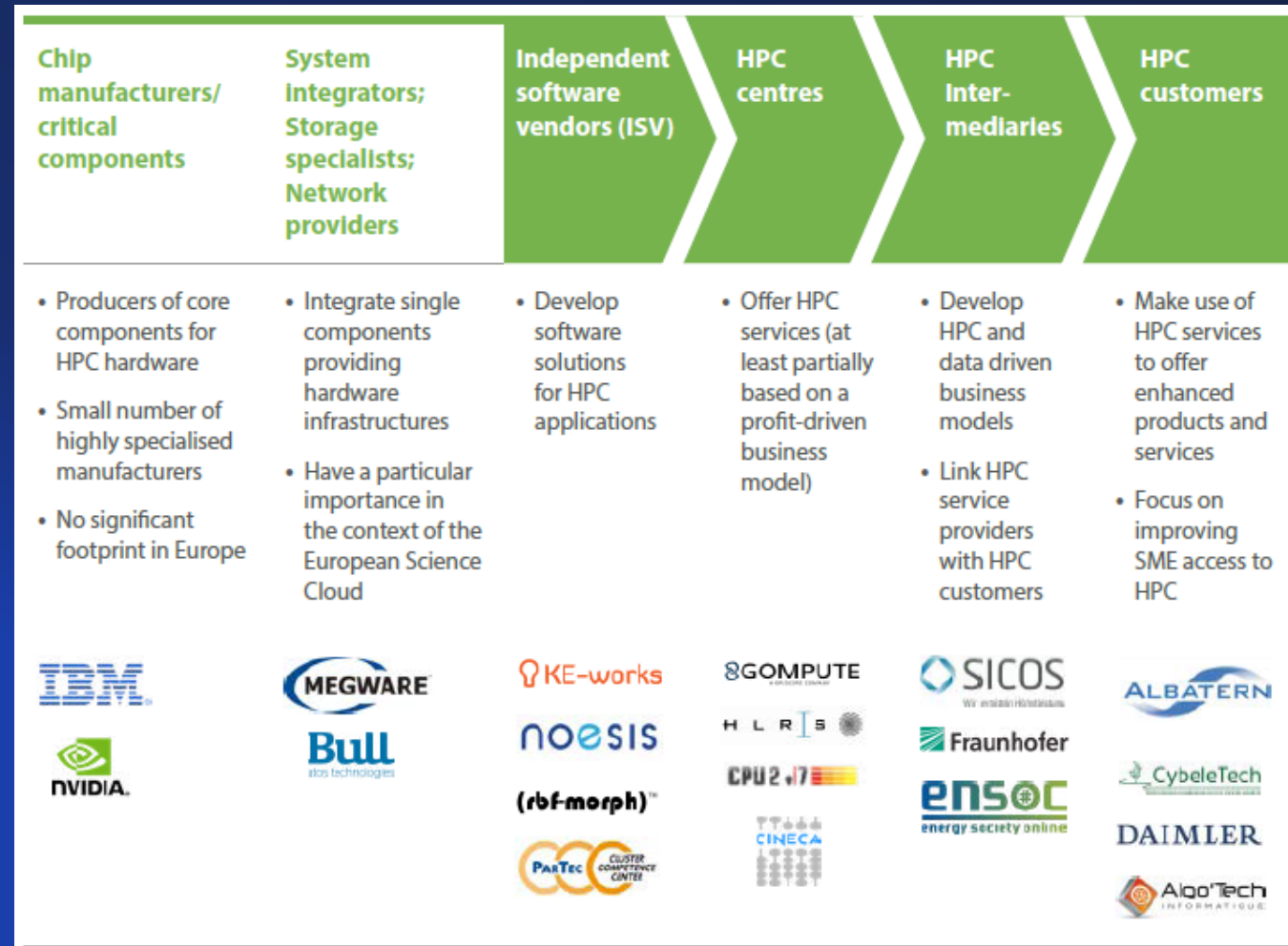


European  
Commission



Participating States

# Overview of the HPC Value Chain



“Financing the future of supercomputing” EIB Advisory Services, 2018

# Strategic R&I – Intervention Areas

## **Leadership in Use & Skills**

Competence Centres and training programmes in HPC commensurate with the labour market

## **Applications and Algorithms**

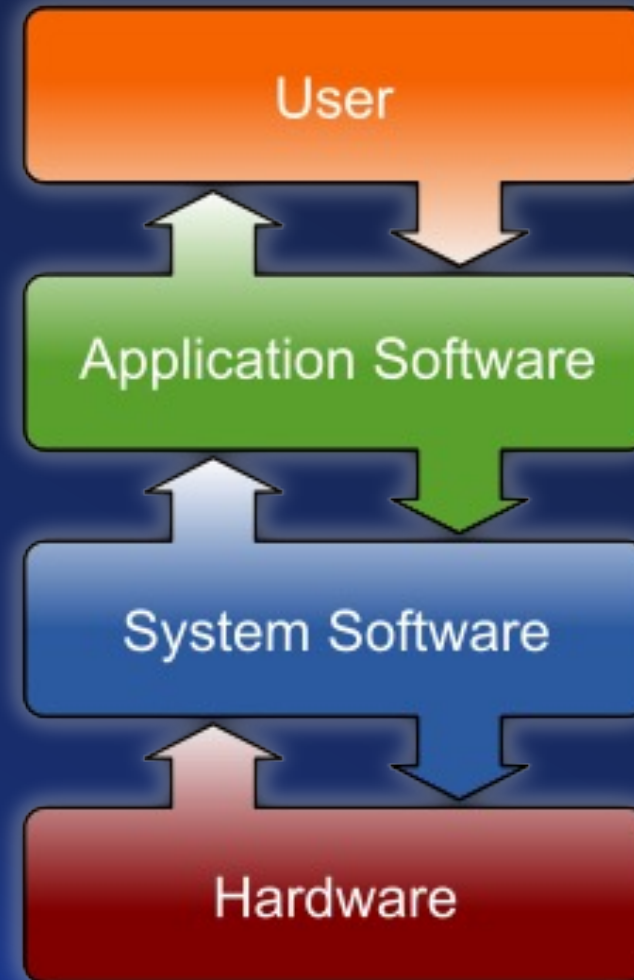
Centres of Excellence for HPC Applications and new algorithms for European exascale technology

## **European Software Stack**

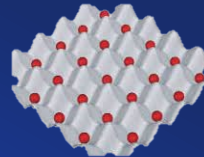
Software and algorithms, programming models and tools for exascale and post exascale systems

## **European Open Hardware**

Ecosystem for the low power high-end general purpose processor and accelerator



# HPC Hardware and Software – Opportunities & Participation



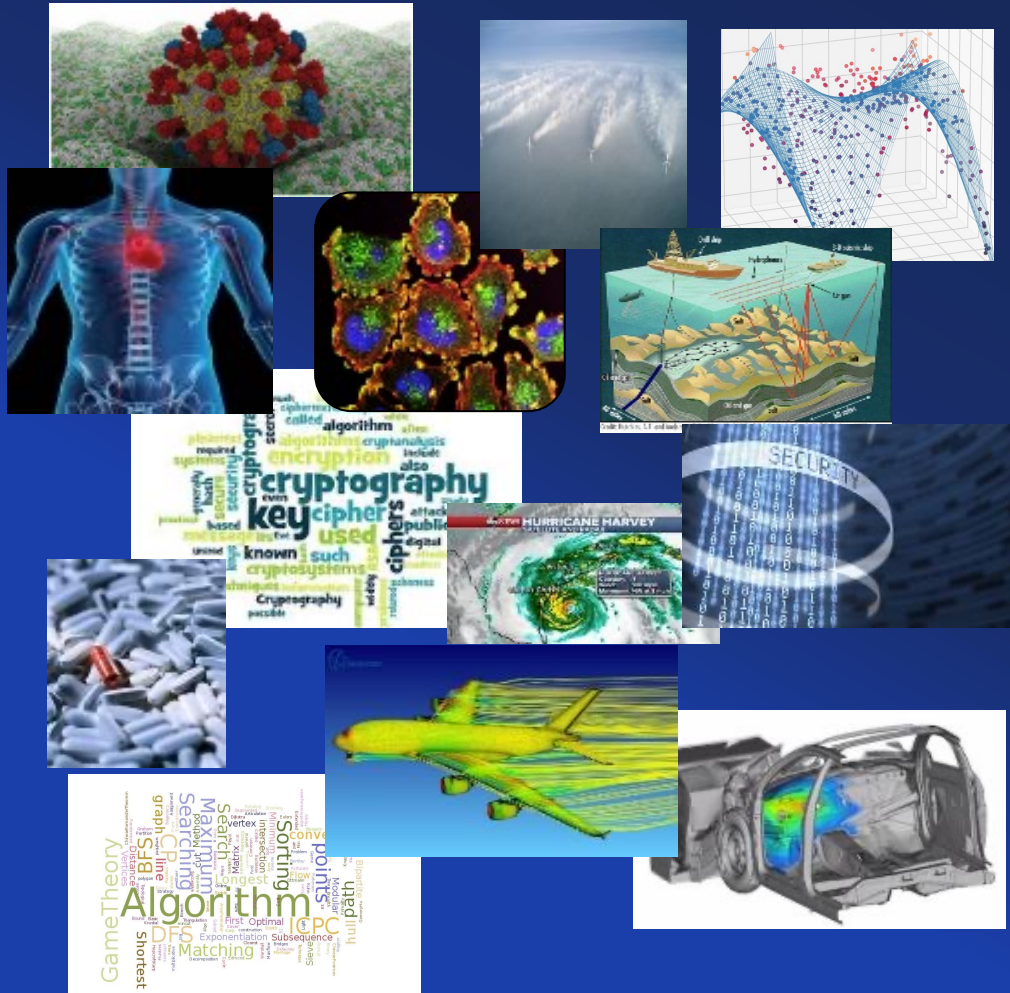
- **European Pilot for Exascale – EUPEX**  
Early Access Programme for organisations that are not part of the EUPEX consortium
- **European Pilot for Exascale – The EUPILOT**  
Pilot system for a European Accelerator (EPAC) with focus on open hardware and software
- **Pilot on quantum simulator – HPCQS**  
50% of the available compute time will be provided to European users (peer-review process)
- **EuroHPC quantum computing infrastructure**  
Procurement of a quantum computer infrastructure integrated into European supercomputers  
JU will provide 50% of compute time to European users

Exascale computing architectures

*Wed, 23/03/2022, 14:30-16:00h*

*Parallel Track 5*

# Applications – Opportunities & Participation



## Centres of Excellence for HPC Applications

- Centres of Excellence preparing applications in the Exascale era
- Centres of Excellence for supporting supercomputing applications for Science and Innovation



Call open until 06 April 2022 17:00:00 Brussels time

## New algorithms for applications on European exascale supercomputers

- Cascaded grant – selected consortium will provide small grants for algorithm developers
- Bottom-up: open topic, focus on impact



Launch of call expected in the next few weeks

# Leadership in Use & Skills – Opportunities & Participation

## ■ National Competence Centres for HPC 2020-2022

- Gateway for SMEs, industry and academia to European HPC expertise, services and funding opportunities
- Training offers addressing the specific needs of local and national communities
- Results from open calls awarding grants to SMEs for HPC adoption demonstrate impact of NCCs: most grants were awarded to applications with involvement of NCCs

## ■ Next generation of Competence Centres from 2023

- Focus on activities where local support is important and most effective (SMEs, regional HPC stakeholders)
- Strengthen coordination and networking as well as collaboration with European initiatives such as European Digital Innovation Hubs and Centres of Excellence

**Launch of call expected in the next few weeks**





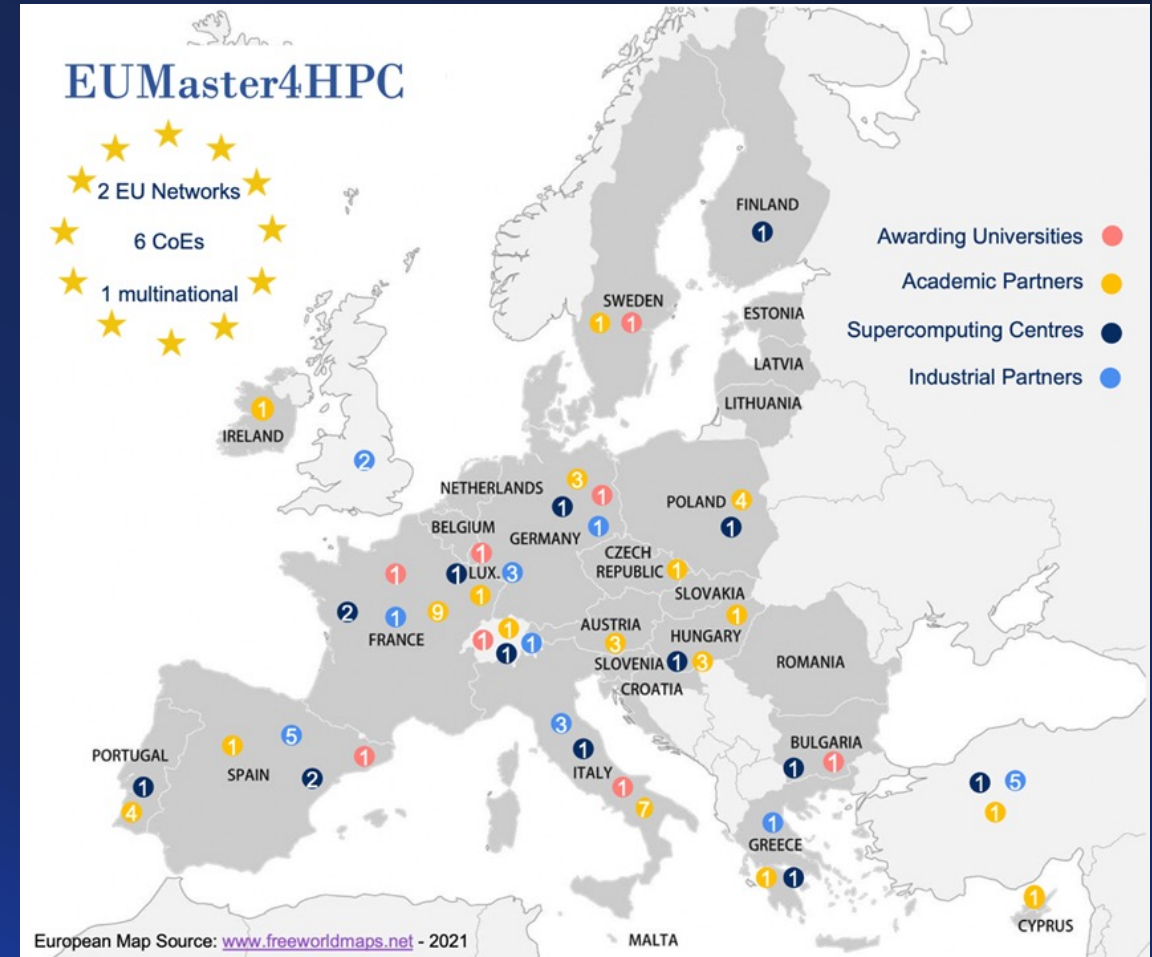
# Leadership in Use & Skills – Opportunities & Participation

- **European MSc Programme for HPC**
  - Design of a common European master reference curriculum in HPC and its implementation in a pilot education programme
  - Catalyse HPC adoption by educating the next generation of HPC talents for industry, academia and entrepreneurship
- **Create an open & sustainable network of stakeholders**
  - Higher education institutions
  - Public organisations with interest in HPC
  - Private companies operating in an HPC context

- **Open for applications until 15 May 2022**

<https://eumaster4hpc.uni.lu/>

Meet the EUMaster4HPC consortium:  
 Wed, 23/03/2022, 16:30-18:00h, Parallel Track 5



# Outreach & Feedback to Policy – User Forum Initiative

- Establish effective feedback mechanisms between JU and users
- Support a demand-oriented and user-driven HPC ecosystem
- Ensure user requirements are met by EuroHPC infrastructure
- Connect stakeholders from HPC user communities with policy makers and funding authorities, beyond academia and traditional HPC technology providers and operators
- Include new and underrepresented user communities to address their requirements and support HPC uptake

**Process for the establishment of the User Forum is in a very early stage, but contributions and suggestions are welcome.**



Panel discussion on user requirements: *Thu, 24/03/2022, 14:30-16:00h, Parallel Track 2*

# THANK YOU



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