



**EuroHPC**  
Joint Undertaking

# **Infrastructure Activities State-of-play**

## **Hyperconnectivity study**

**EuroHyPerCon online Workshop  
22 Nov 2023**

# Contents





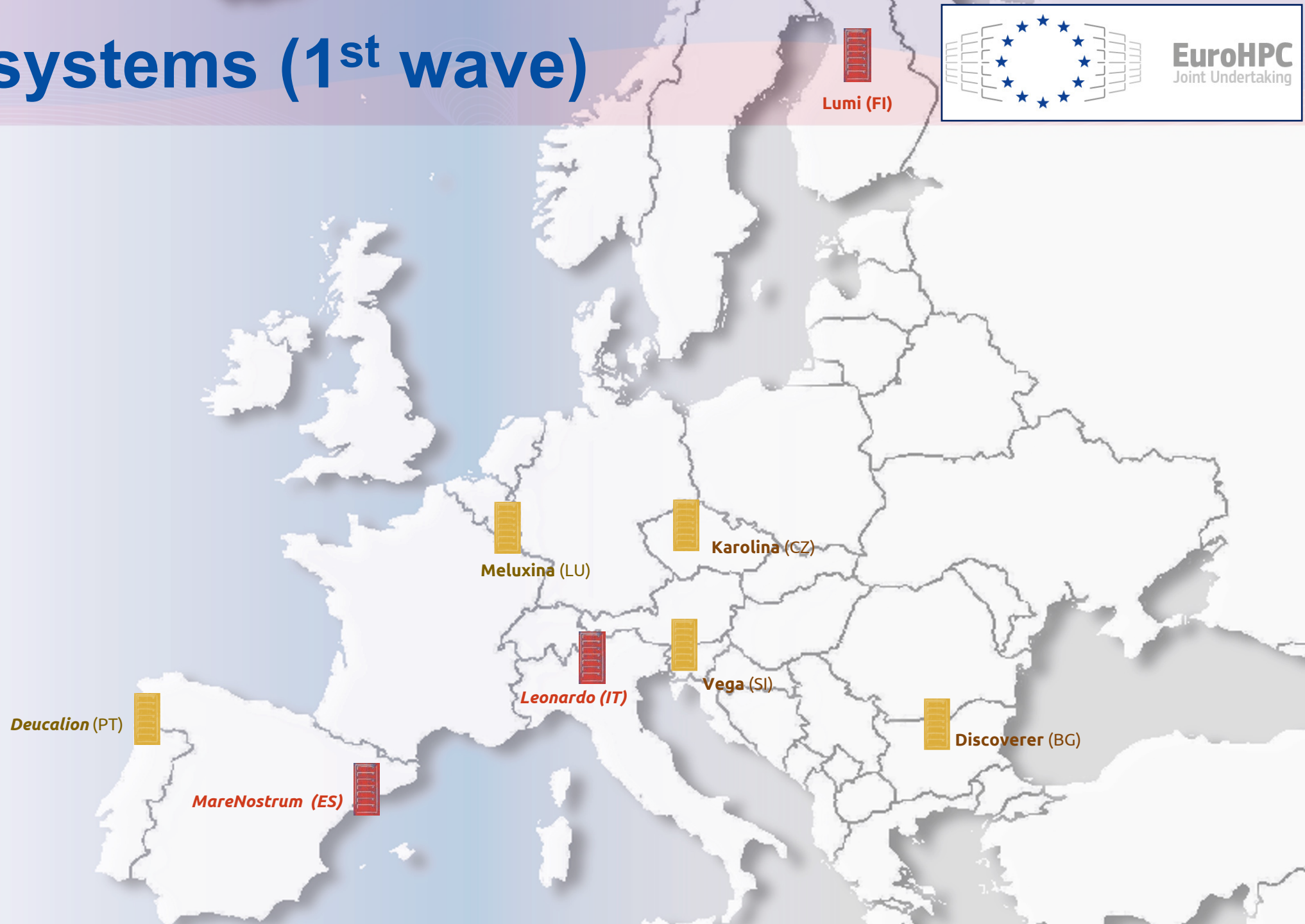
**EuroHPC**  
Joint Undertaking

- EuroHPC Systems (Current and projected)
- Federation of supercomputers and quantum computers
- Hyperconnectivity study
- Application Support action

# EuroHPC systems (1<sup>st</sup> wave)



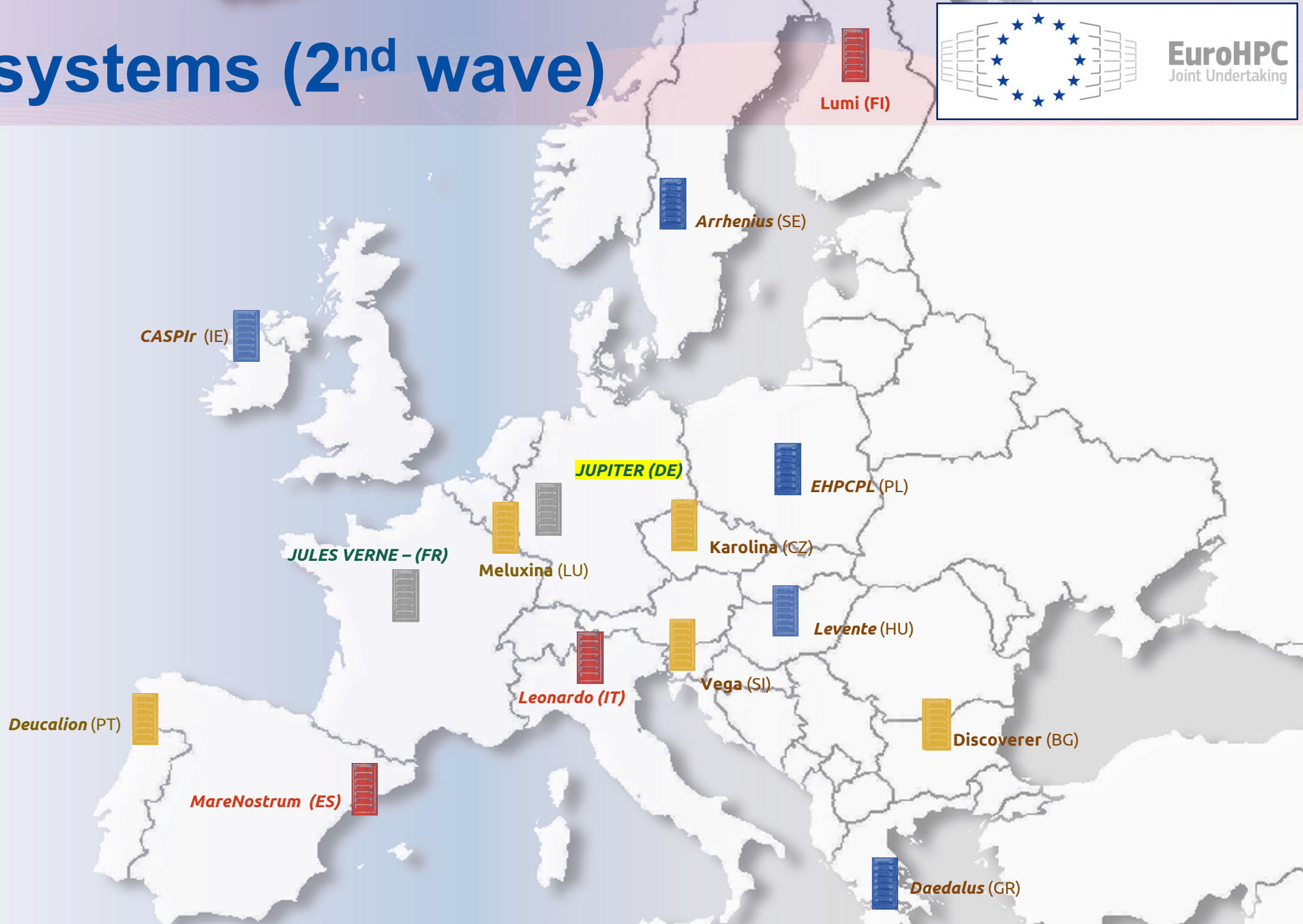
-  Pre-exascale
-  Petascale



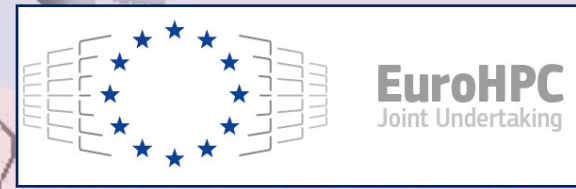
# EuroHPC systems (2<sup>nd</sup> wave)







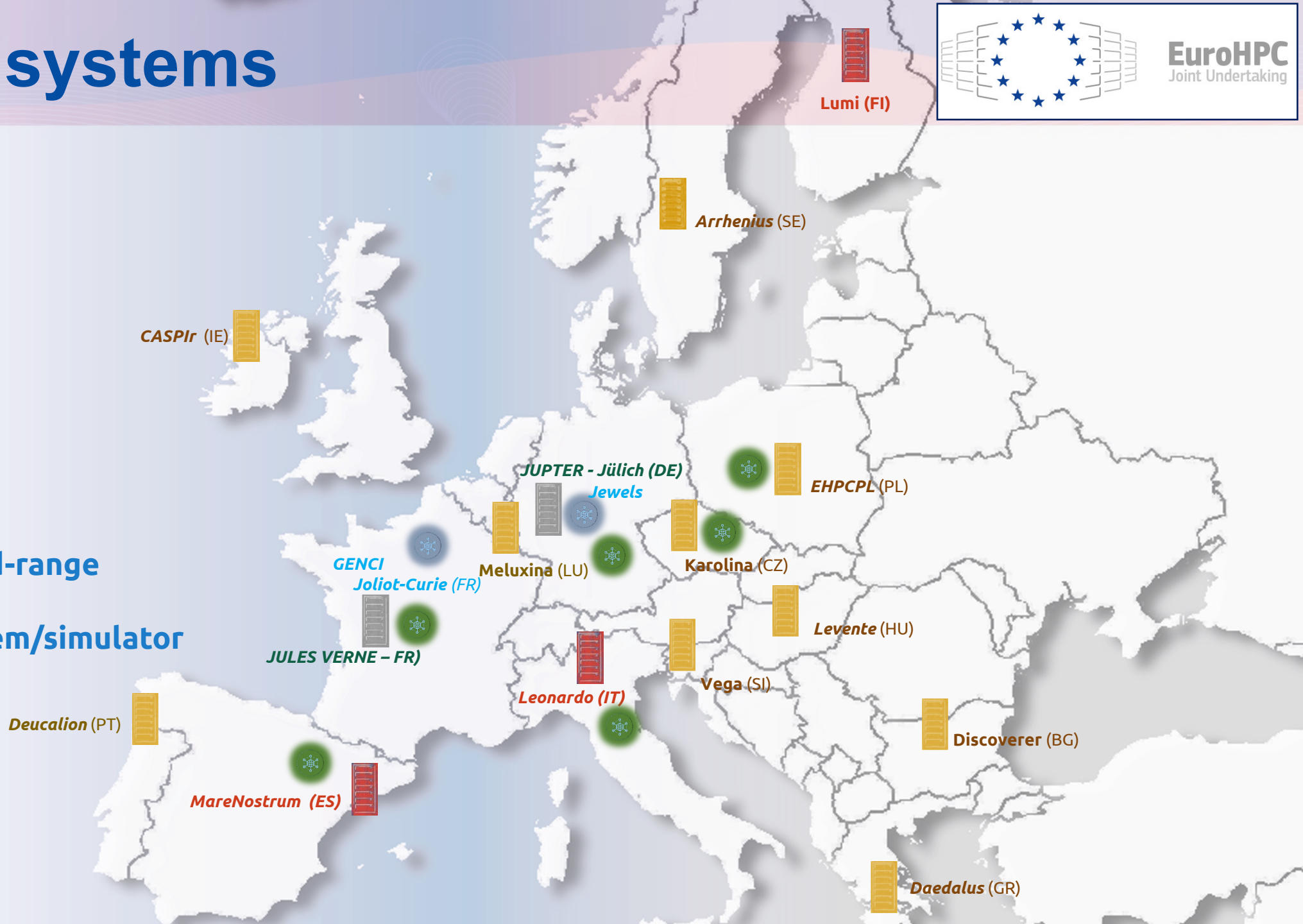
-  Exascale
-  Pre-exascale
-  Petascale
-  Mid-range

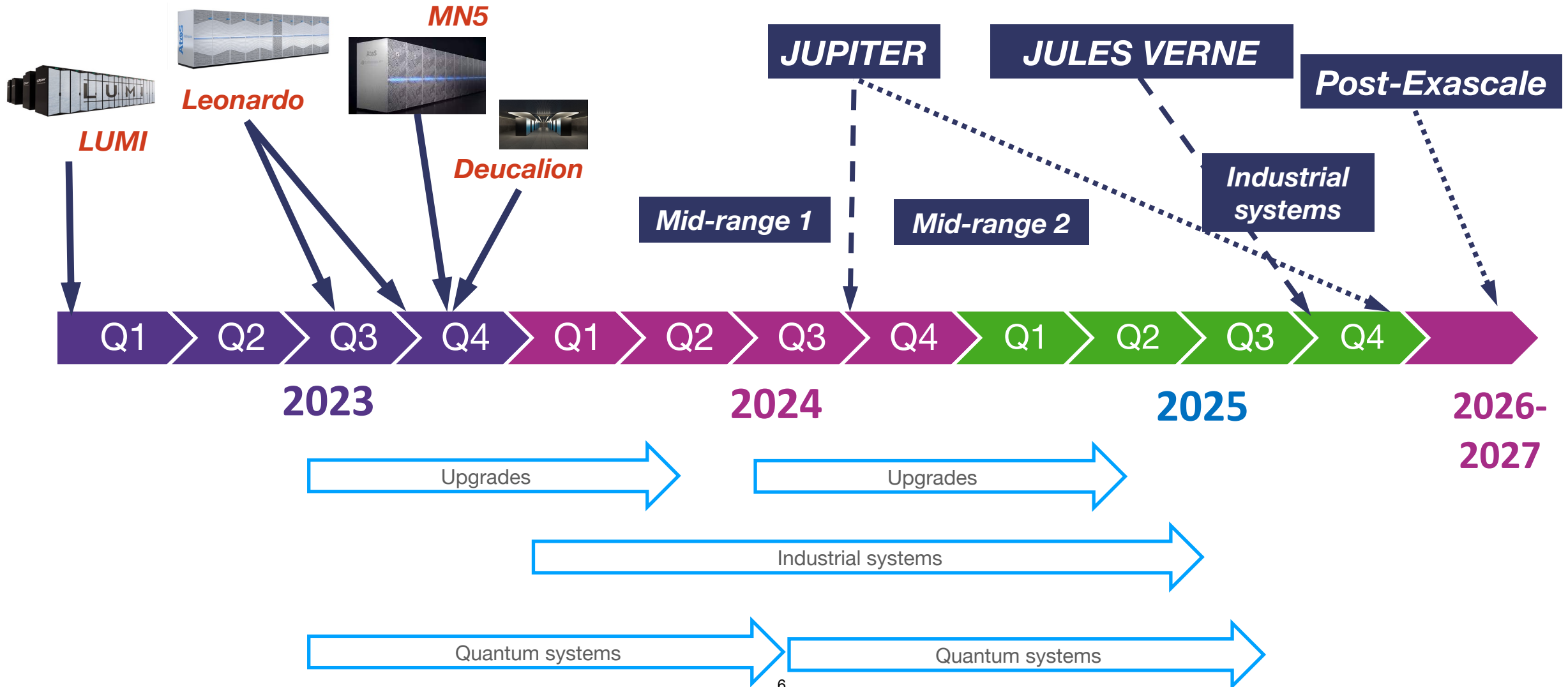


# Quantum systems



-  Exascale
-  Pre-exascale
-  Petascale / mid-range
-  Quantum system/simulator

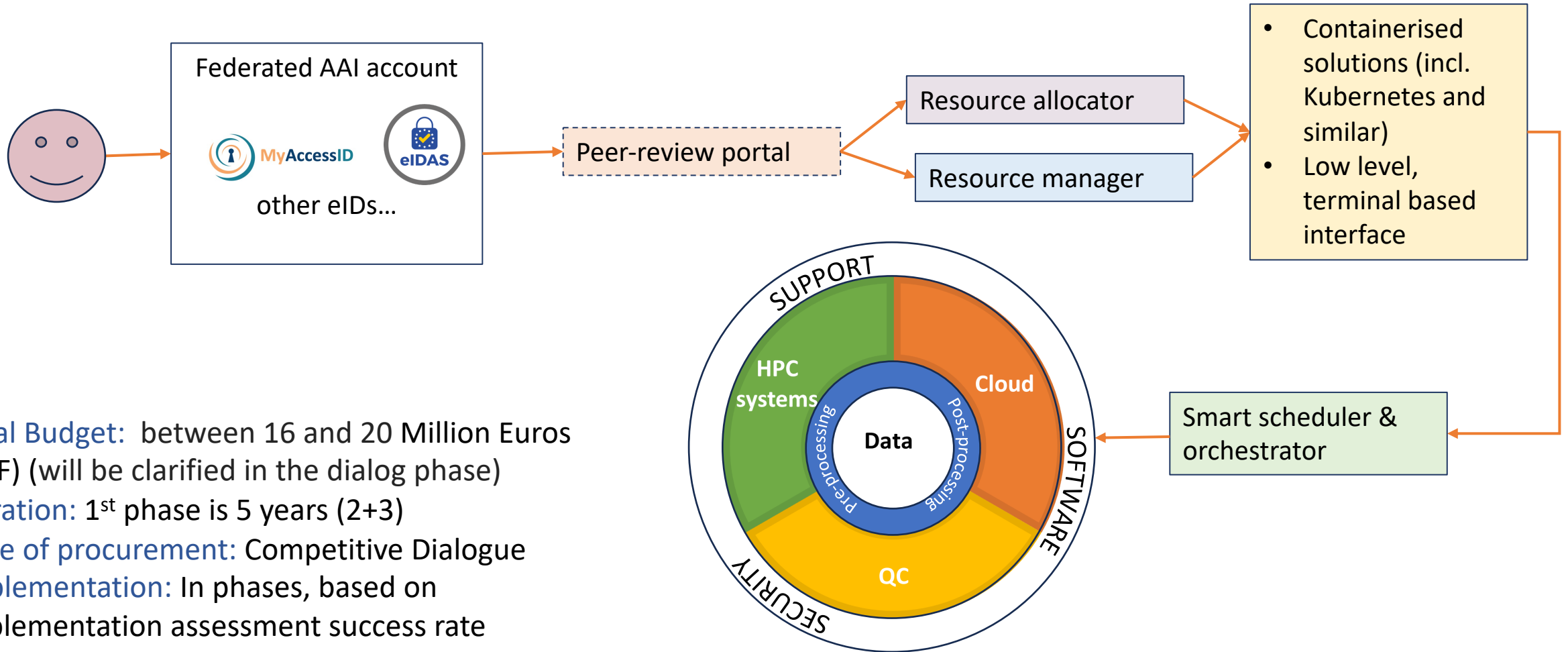






## **Federation call: Scope and Planning**

# Federation: Overall concept



**Total Budget:** between 16 and 20 Million Euros (CEF) (will be clarified in the dialog phase)

**Duration:** 1<sup>st</sup> phase is 5 years (2+3)

**Type of procurement:** Competitive Dialogue

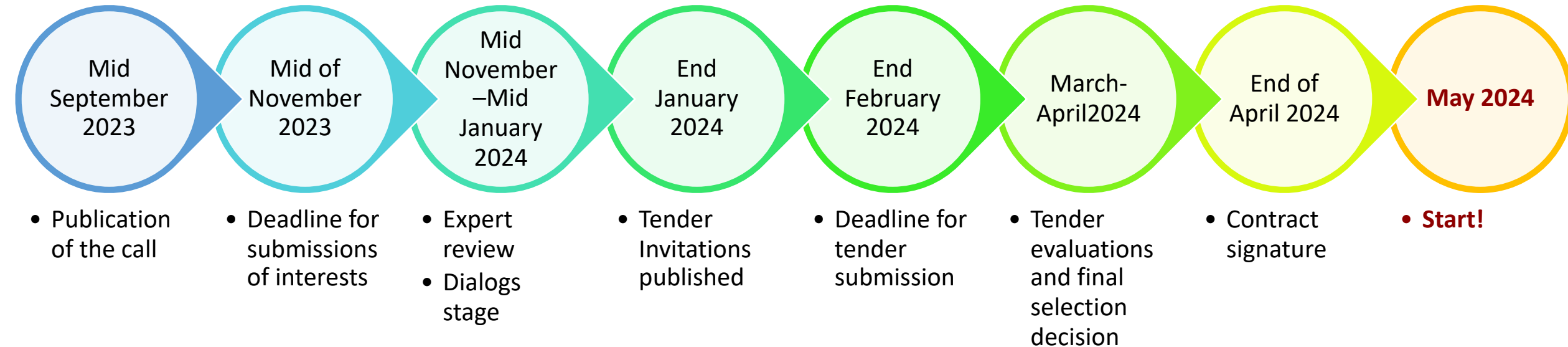
**Implementation:** In phases, based on implementation assessment success rate



## Main components

- Common Authentication and Authorisation Infrastructure (AAI)
- Common resource allocation and management
- Enhanced user interface for any type of user
- Common harmonisation of security and software
- Federation of pre- and post- processing environment
- Connection to data spaces, lakes, warehouses and repositories

# Federation: Procurement timeline





**EuroHPC**  
Joint Undertaking

# **Study for hyper-connectivity for HPC resources**

# Scope of the study



- Exhaustive analysis of the **communication and/or connectivity needs** for the EuroHPC HPC and other relevant European and national supercomputing and data infrastructures (e.g. European common data spaces), available technology and service providers, and user landscape.
- **Facilitate an informed view of the implementation options**, including the description of services to be provided, network architecture, implementation instruments, and budgeting.
- Provide the **detailed specifications** for the provisioning of the hyper-connectivity services to be provided to the EuroHPC JU.

The project-study started on **3 October 2023**

Duration: **9 months**

## Expected outcome (Tender Specifications - Technical part)



**EuroHPC**  
Joint Undertaking

### **Strong commitment:**

“The result of the study should provide an exhaustive analysis of the communication and/or connectivity needs for the EuroHPC HPC and other relevant European and national supercomputing and data infrastructures (e.g. European common data spaces), available technology and service providers, and user landscape. It should facilitate an informed view of the implementation options, including the description of services to be provided, network architecture, implementation instruments, and budgeting. Finally, the study should provide the detailed specifications for the provisioning of the hyper-connectivity services to be provided to the EuroHPC JU.”



**EuroHPC**  
Joint Undertaking

# **Application Support action**



- Establishment and four-year operation of a distributed European-wide high- performance computing application support service.
- The selected project should bring together **Application Support Teams (AST)** established (primarily) in **current or future EuroHPC Hosting Entities**, operating the **EuroHPC supercomputers**.
- ASTs will work closely with the EuroHPC JU Peer Review Office managing the evaluation and allocation of access time to European HPC supercomputers
- Applications to be supported will be primarily selected by the **peer-review process** managed by the EuroHPC JU.
- Provide support to a **selected number of flagship/lighthouse** which have been allocated time in the context of the EuroHPC JU Extreme Scale and Regular Access calls.

- Call budget (EU contribution): **EUR 5 000 000**
  - ✓ budget might be increased by maximum 20%
- Expected duration: **48 months**
- Call opened: **1/2/2023**, closed: **3/5/2023**

- **EPICURE** proposal successfully passed evaluation process
- Consortium led by **CSC**
- **15 beneficiaries** including **all operational HEs** and **future exascale sites**.
- Currently in **Grant Agreement Preparation (GAP)** Phase



**EuroHPC**  
Joint Undertaking

**Thank you for your attention**