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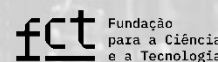


GPU access and projection

MareNostrum 5 resources and BSC AI Factory

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BSC AI Factory Partners



Affiliated entities



MareNostrum 5 (MN5)



The acquisition and operation of the EuroHPC supercomputer is funded jointly by the EuroHPC Joint Undertaking, through the European Union's Connecting Europe Facility and the Horizon 2020 research and innovation programme, as well as the Participating States Spain, Portugal and Türkiye.



Hosting Consortium:



EuroHPC
Joint Undertaking



Spain



Portugal



Türkiye



MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES



Generalitat de Catalunya
Departament de Recerca i Universitats



UNIVERSITAT POLITÈCNICA DE CATALUNYA
BARCELONATECH



Plan de Recuperación, Transformación y Resiliencia



UNIÓN EUROPEA
Fondo Europeo de Desarrollo Regional

EuroHPC supercomputer

- GPP (General Purpose Partition) **6480 nodes**
- ACC (Accelerated Partition) **1120 nodes**
 - 2x Intel Xeon Platinum 8460Y+ 40C 2GHz (**80 cores per node**)
 - **4x** NVIDIA Hopper H100 **64GB**
 - 16x DIMM 32GB 4800MHz DDR5 (**512GB per node**)

[MN5 documentation](#)

[MN5 interactive map](#)

Access to MareNostrum 5 Resources



Two Main Options



RED ESPAÑOLA DE
SUPERCOMPUTACIÓN

[Access to HPC & AI activities](#)



EuroHPC
Joint Undertaking

[Open Calls for Proposals](#)

RES



RED ESPAÑOLA DE
SUPERCOMPUTACIÓN

PI of the team can be of an institution from EU and associated countries. **Strongly recommended** at least one team member from a Spanish organization.

- **HPC & AI activities call**

- Bi-annual calls with 2 deadlines (September and March)
- No strict min or max requested node-hours, more than 240,000 node-hours need a specific justification

- **HPC & AI test call**

- Always open
- Reduced computing time and special support

EuroHPC



Different typologies of call granting access time and node-hours according to their scope. Each call has maximum amount of guaranteed resources. **Always monitor [EuroHPC portal](#)**.

- **Supercomputers Access Calls (Individuals)**

- Regular access, Extreme Scale access, Benchmark access, Development access
- [AI for Science and Collaborative EU Projects](#)
6 months, 20,000 to 90,000 node-hours

- **AI Factories Access Calls (Organizations)**

- AI for Industrial Innovation: Playground Access, Fast Lane Access, Large Scale Access

BSC AI Factory



AI Factories

- **Computing power** and **customised support** for AI projects implementation
- **19 AI Factories** across 17 Member States and two EuroHPC Participating States
- Overall investments in supercomputing infrastructures and AI Factories in the EU will reach **EUR 10 billion** over 2021-2027
- AIFs will be **interconnected** and establish a collaborative framework for effective networking



Who is the AI Factory for?



Startups

Innovative, AI-focused
companies



SMEs

Small and medium-sized
enterprises



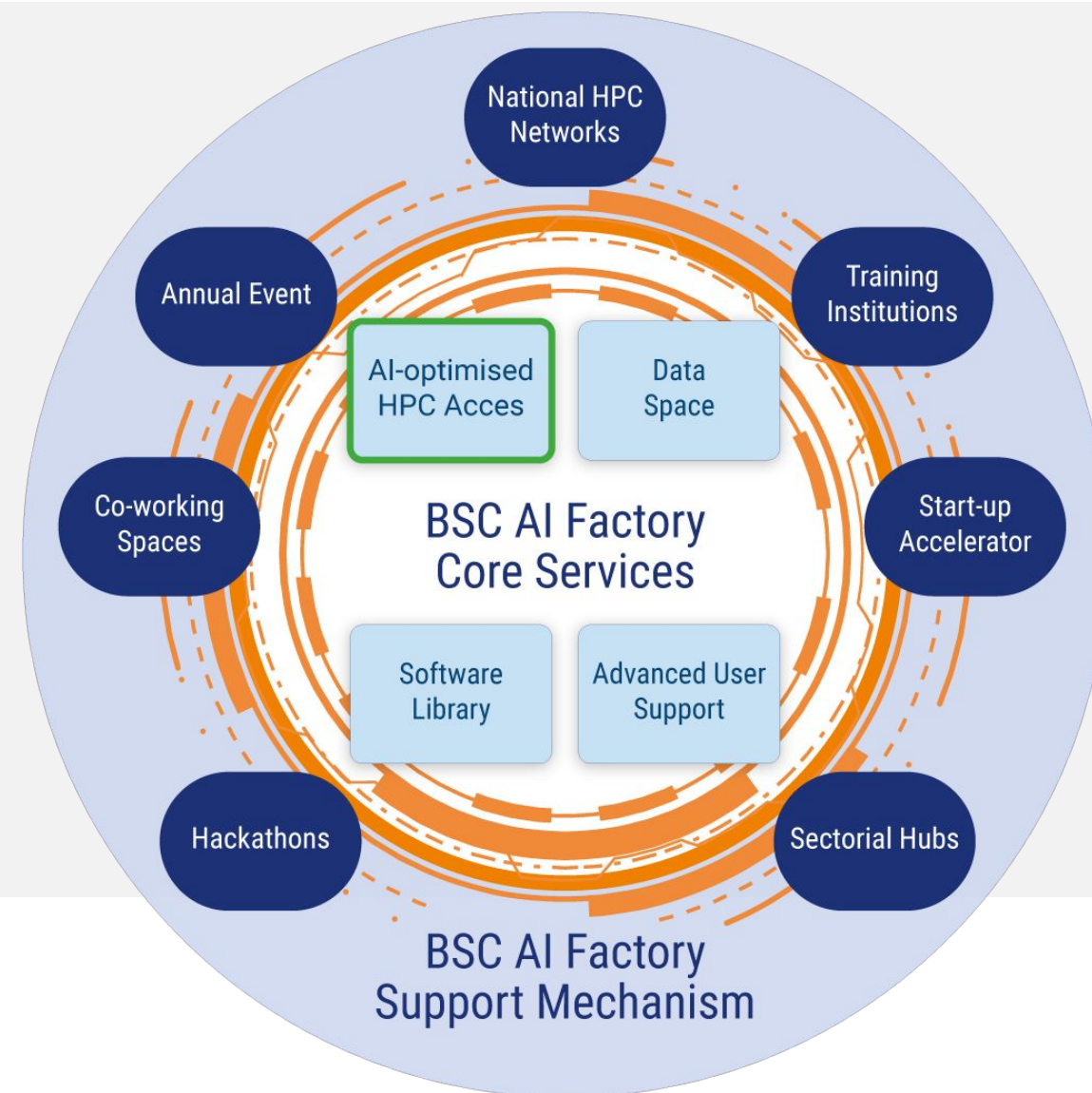
Public organizations

Research institutes,
universities, national services

BSC AI Factory (BAIF)



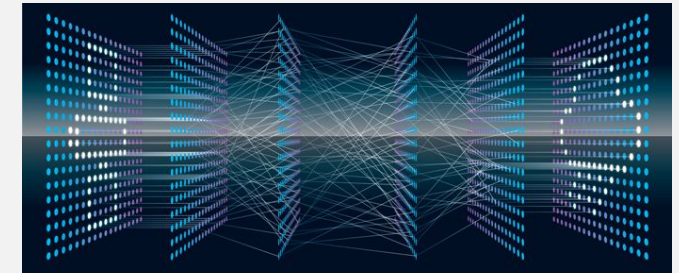
4 main core services and 8 supporting mechanisms



Why MLWP cares about AI Factory?

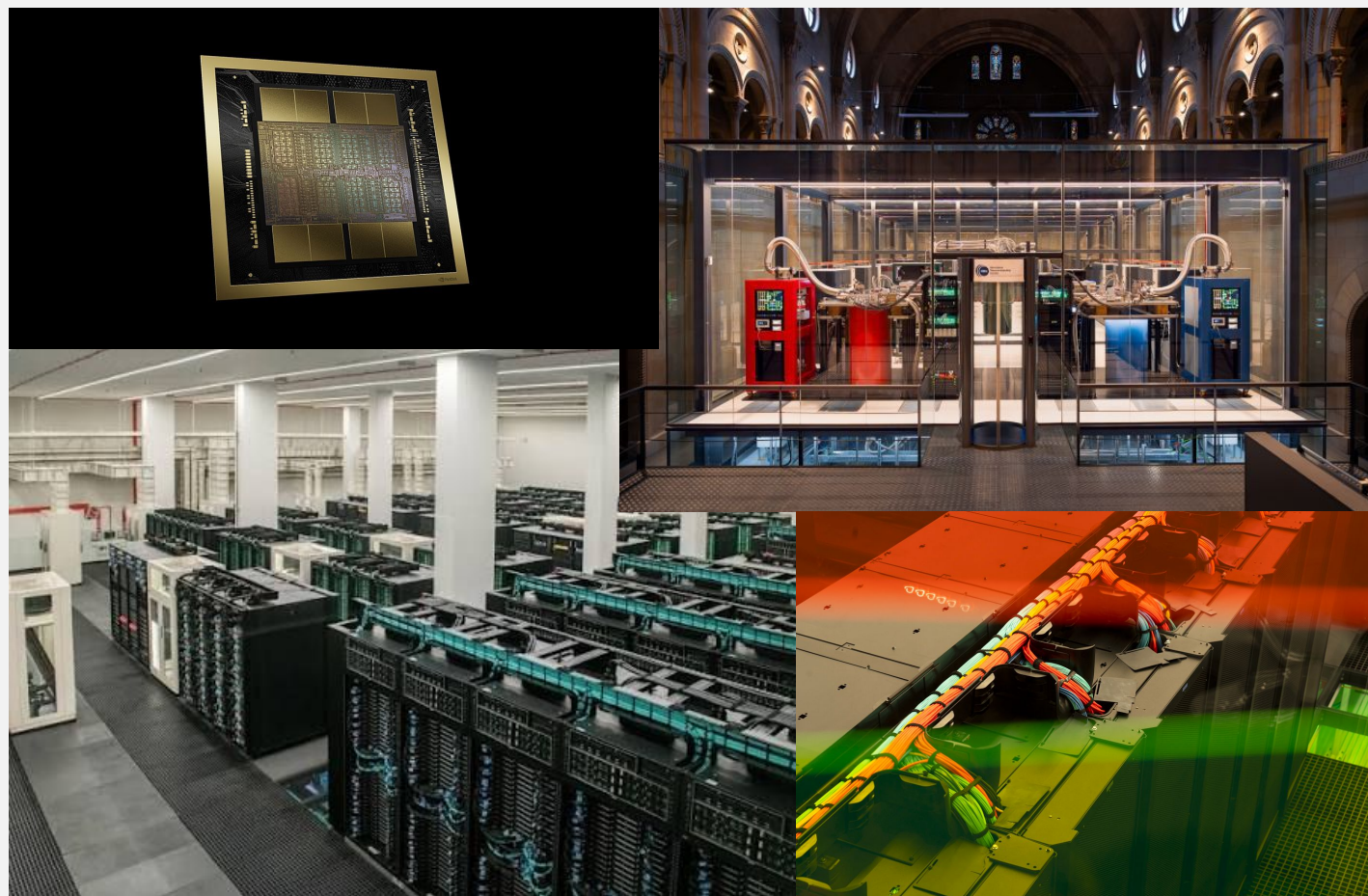
- **MN5 AI partition**
 - AIF exclusive
 - **2x MN5 ACC** capacity
- AI for Industrial Innovation **Access Calls**
!For Startups, SMEs and Public Organizations!
- **Technical support**
- **AIF services**

Let's be
Friends!!



MN5 AI partition

- **2x MN5 ACC capacity**
 - 474 nodes with sota processors
- **Optimised for AI workflows**
 - Training and large-scale inference
 - Agents and LLM development, deep learning, data-intensive applications
- 2 sub-partitions, one with **internet access**
- **Same disk system** of MN5



AI for Industrial Innovation Access Calls

Playground Access

- Always open
- Up to **3 months**
- Access within 2 working days
- Small computation needs



Fast Lane Access

- Always open
- Up to **3 months**
- Access within 4 working days
- Max **50,000** node-hours



Large Scale Access

- 2 calls per month
- Up to **12 months**
- Access within 10 working days
- More than **50,000** node-hours



Data and Software Catalogues

1. Anemoi Catalogue



2. BAIF Data Catalogue

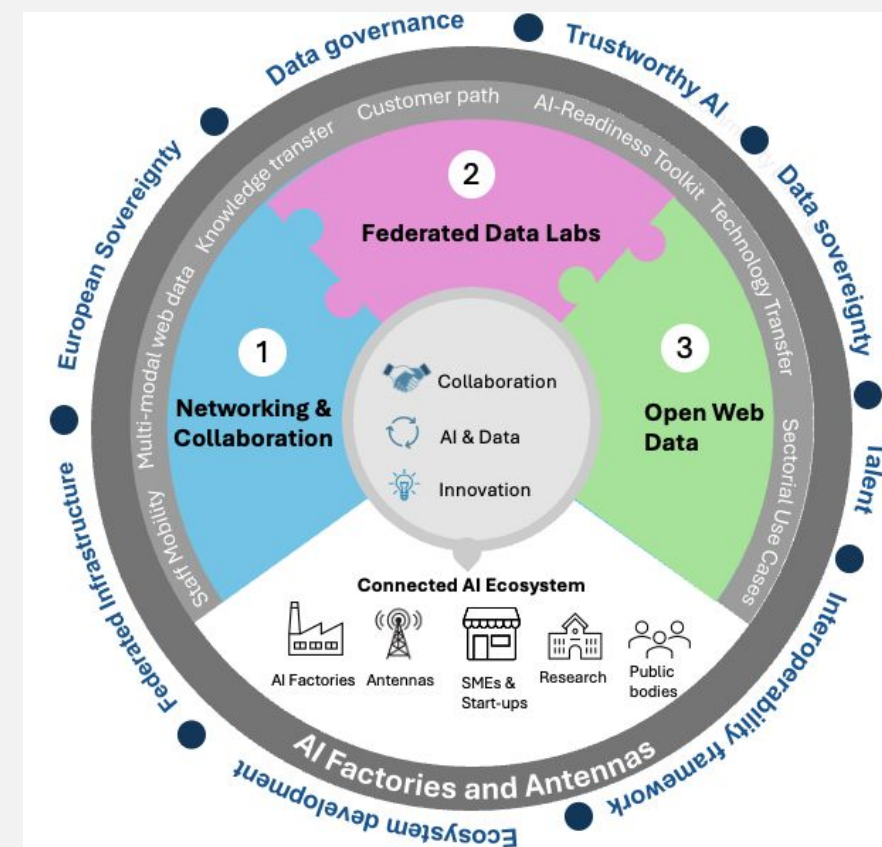


BSC Anemoi data pipelines



DataLabs

- **Sectoral mechanisms** to provide structured, interoperable, and compliant **data services**
- Part of **EuroHPC proposal** to federate seven sectoral datalabs, including one on **climate and environmental modelling**
- Structured around **case studies** to support the national and European communities
 - Several **focus on atmospheric data** (reanalysis, observations) and support the weather forecast community



Questions?

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Affiliated entities



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