



**Welcome back to
Barcelona, Build vs. Buy for HPC Summit
(3B4HPC)
Day 2**



**Barcelona
Supercomputing
Center**

Centro Nacional de Supercomputación

Overview

- Goals
- Logistics
- Program

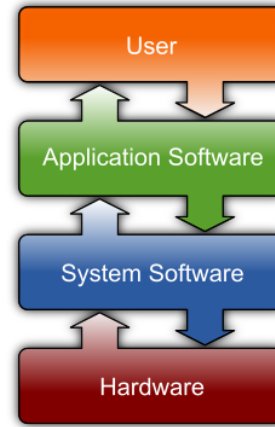
Summit Goals

- Bringing together European HPC Centers, EuroHPC, EC, and Industry
- Start the conversation about EU HPC Digital Sovereignty
- Understand where we are today with 4 use cases
 - Automotive, Life Science, Engineering & Weather/Climate
- Discuss what we need for the future with these 4 use cases
- General discussion about the future of EU HPC
- Start to define the future roadmap
- Rinse and Repeat


<https://www.bsc.es/news/events/barcelona-build-vs-buy-hpc-summit-3b4hpc>

Thursday Summary

- Update from the JU:
 - 32 participants (Serbia is a new member)
 - Exascale site (JSC) + 4 mid-range sites selected
 - Quantum in HPC
 - Updating the procurement strategy
- Retrospective on Fugaku
 - 10 year development cycle
 - Focused on Real App performance improvements
 - There is a dark-side to co-design: overfitting causes performance cliffs
 - RAS is critical with 160K nodes
 - Based on slight modifications to Fugaku technology, could do up to 3 ExaFLOPs in 20 MW
 - Next machine around 2029



Setting the stage with 4 Use Cases

- 4 HPC use cases: Automotive, Engineering, Life Science and Weather
 - Research  Production SLAs and expectations
 - Still room for significant micro and macro scaling in the applications
 - Micro: Cloud features in weather and genomic interactions in cells
 - Macro: “digital twin” of the earth or human body
 - Moving Beyond BigData → Datasets continue to grow
 - Positive CoE collaborations
 - Bridging the TRL **CHASM** between 5-7
 - Solutions
 - Software
 - Silicon
 - Systems
 - Skills
 - New ways of procuring systems, multiple phase instead of every 5 years?

The View from the IT Industry

- How do we define European added value?
 - Designed in Europe?
 - Made in Europe?
 - Head count in Europe?
- EU Digital Sovereignty has two (related) components
 - Freedom (from embargo)
 - Sustainable development in the EU
- In other regions, HPC is a strategic asset, why not in Europe?
- Research and Industry
 - Research collaborations
 - Co-design
 - Co-development
- No more Top500 as the main system spec.
- What about the cloud?

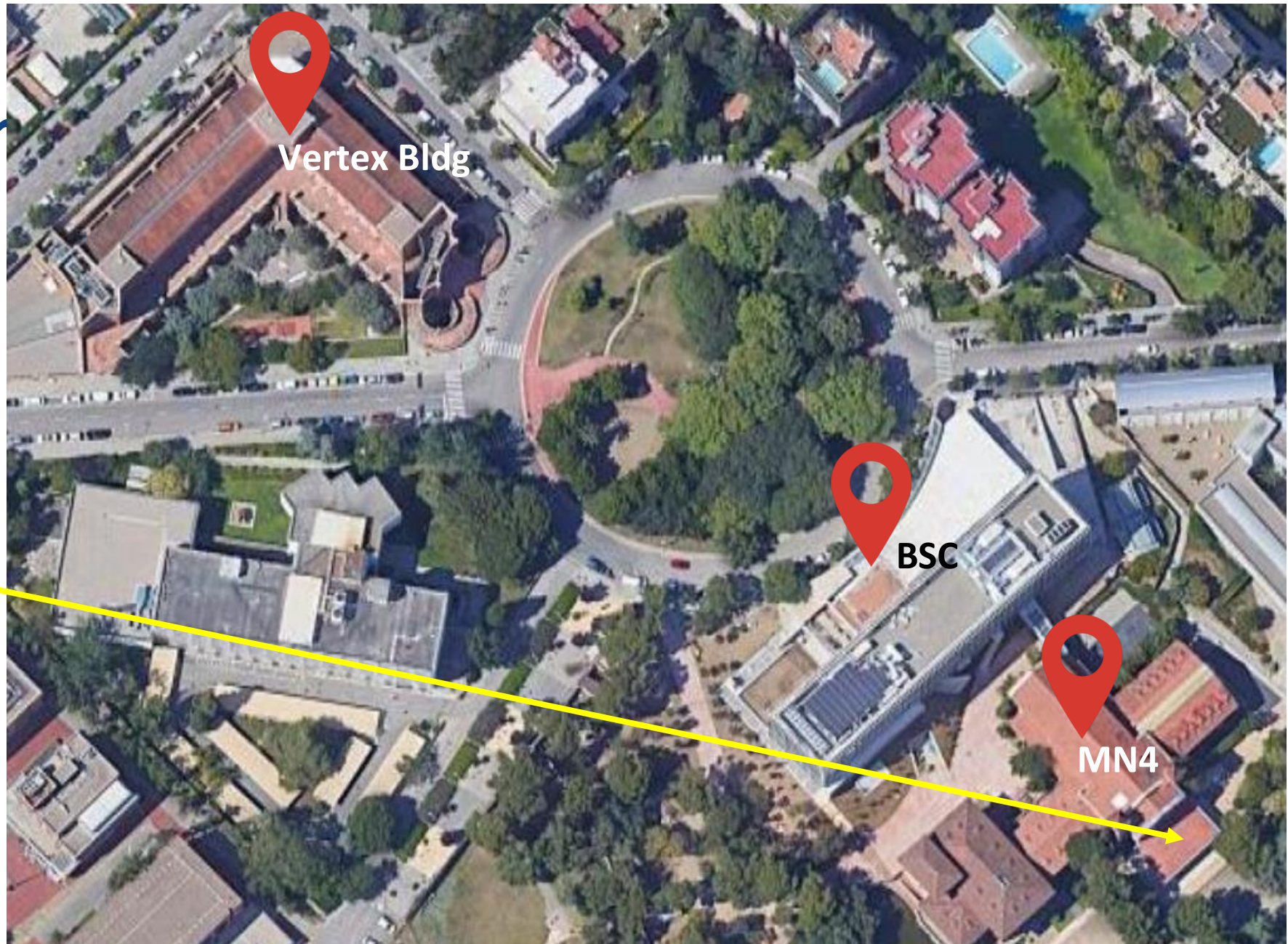
Friday Morning Agenda

Time	Title	Speakers
<u>9:00 to 9:30</u>	Introduction/Recap	<u>John Davis (BSC)</u>
<u>9:30 to 10:00</u>	EPI GPP: SiPearl <u>"How a European Research and Innovation project has become a successful industrial story"</u>	<u>Jean-Marc Denis (Sipearl)</u>
<u>10:00 to 10:30</u>	EPI EPAC: <u>RISC-V "accelerator" in EPI</u>	<u>Jesús Labarta (BSC)</u>
<u>10:30 to 11:00</u>	Quantum Computing in EU <u>"Towards EuroQCS – the European Quantum Computer and Simulation infrastructure"</u>	<u>Kristel Michielsen (Juelich)</u>
<u>11:00 to 11:30</u>	Break	LOCATION: Vertex Garden
<u>11:30 to 13:00</u>	<u>HPC Center HW Panel</u>	<u>Alfonso Valencia (BSC), Bastian Koller (HLRS) , Chris Kitchen (ECMWF), Estela Suarez (Jülich)</u>
<u>13:00 to 14:30</u>	Lunch	LOCATION: Vertex Garden



Friday Afternoon Agenda

Dinner Today



More to come in the afternoon discussion

- RISC-V and Open Source Hardware
 - Laboratory for Open Computer Architecture and systems (LOCA)
 - RISC-V International: Special Interest Group for HPC
- New HPC System Development Model



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Thank you all for coming!!

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Thank you

- Organizing Committee:
 - Rosa Badia, Jose Ramon Calvo, Lourdes Cortada, Fabrizio Gagliardi, Sergi Girona, Thomas Lippert, Natasa Przulj, Elisenda Raserio, Nuria Saavedra, Andrea Sansano, Thomas Schulthess, Mateo Valero
- Helpers (in the blue BSC shirts):
 - Teresa Cervero, Elias Perdomo, Angela Salom
- Who to Blame 😊
 - John D. Davis