

Public-private partnerships in HPC: *European relevance*

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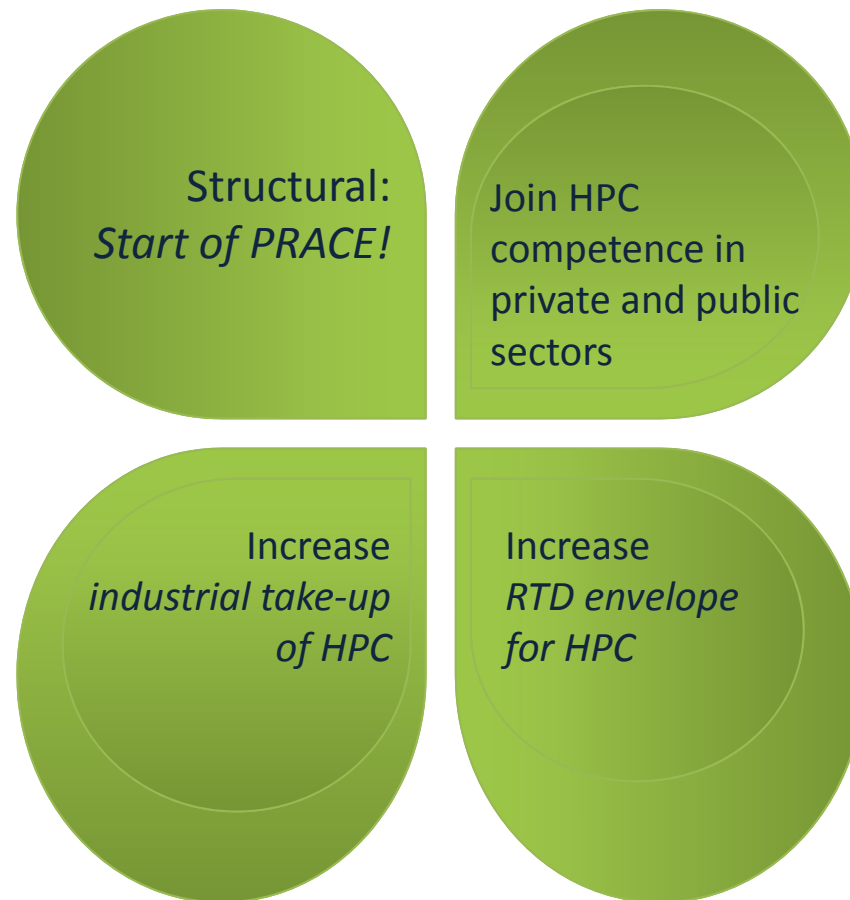
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Contents

- context of this initiative
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- benefits versus costs
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The 4-leaf clover for HPC technology!



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And here we are ...

**PROSPECT's European Platform
High-performance Computing**



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Why?

- Allow members to directly influence research priorities and address areas with the most competitive relevance
- Address the fragmentation of the HPC research base in Europe by providing a forum for collaborative research projects
- Stimulate the growth of the HPC supply chain in Europe and enable it to compete globally
- Define technological barriers to the use of HPC to stimulate innovation and productivity

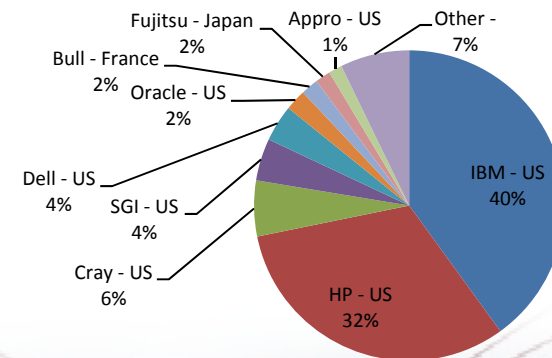
Taking a look at the HPC supply chain...

The partnerships aim to correct a **market failure** in Europe.

The HPC market is dominated by overseas players.

This is **not** due to globalisation.

Key issue: European **fragmentation**



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Members

HPC vendors:

Bull, Eurotech, ClusterVision, MegWare, T-Platforms, IBM, Cray, HP, Dell, Intel, Nvidia, SuperMicro, Micron Semiconductor, Mellanox, DataDirect Networks, NumaScale, ParTec CCC, T-systems, NanoSolstice, ENEA C.R. Casaccia, Oracle Sun Microsystems, Voltaire, Q-Logic

HPC users and HPC centres:

DWD and DKRZ, Univ Heidelberg, Univ. Chemnitz and Univ. Jena
FZJ/JSC, LRZ-BAdW, BSC, HLRS, CSC, EPCC, KIT, NCF,

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What?

We envisage a Europe in which industries that leverage HPC will **contribute to growth** with a 2% increase to the total EU's GDP.

HPC-based simulation will reduce time and resources in prototyping, thus stimulating **innovation** and **productivity** in Europe's most competitive areas.

In addition, HPC technologies will become more **accessible**. This will contribute an additional 1% to the total Europe's GDP.

Finally, access to HPC resources is **open** simplifying complex procurement procedures.

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More precisely ...

1. Europe leads in terms of the number of inventions due to the successful exploitation of HPC resources.
2. HPC increases the accuracy of predictions and enables to be more reactive to sporadic and long-term events with impact on European citizens.
3. Europe has the know-how and skills to master the development of HPC technology and its exploitation for business purposes.
4. The HPC resources designed in Europe features the highest delivered computing performance per unit of energy amongst peers.
5. The knowledge obtained using HPC applications enables an efficient use of energy across products and utility networks.

Assuming a good 2020 vintage ...

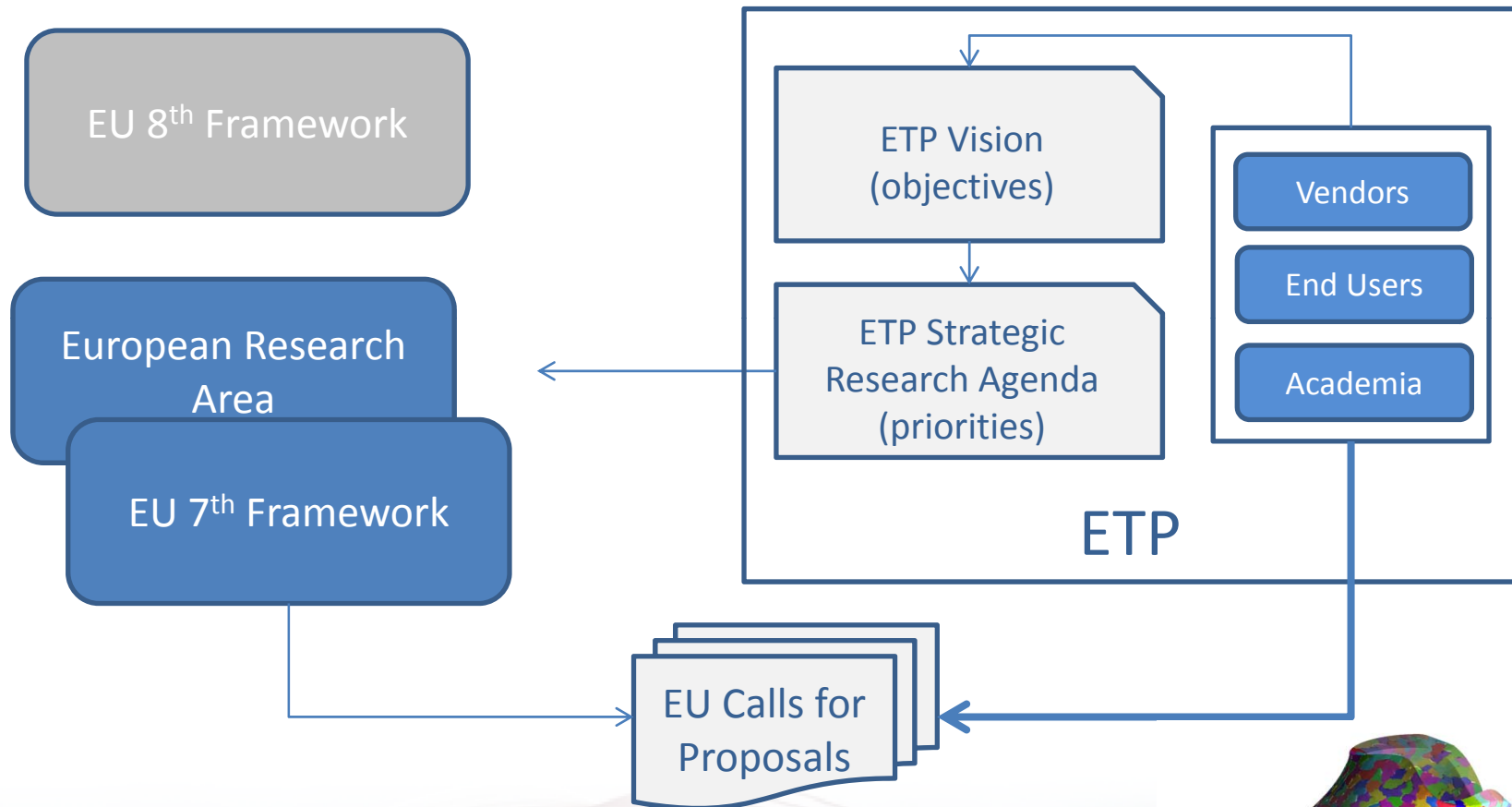
**This is however not the real
added-value
of HPC for Europe!
Compared with
mastering HPC tools for
business and society**

Whom are the stakeholders?

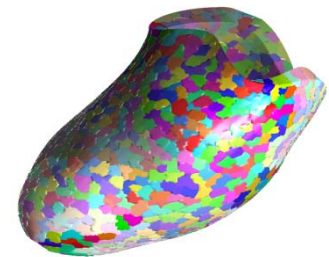


What is in it for you?

R&D support



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What is in it for the HPC manufacturer?

- An opportunity to **influence** European research priorities
 - you will be able to influence how European money is spent on research
 - you will benefit from those investments
- Access to **knowledge** about HPC technologies
 - your company will increase its competitiveness within your technical field of interest
- **Networking** in order to create synergies and market opportunities
 - Your company will meet other companies with common interests

What is in it for the HPC user?

- A pressure group to influence **HPC manufacturers** to produce solutions that are suited to your needs
- A pressure group to influence the **political stakeholders** in Europe on the need for R&D investment in HPC
- A pressure group towards **academic stakeholders** in Europe to educate more young professionals in HPC.
 - Your company will have a larger choice to recruit HPC expertise
- Access to **know-how and skills** on HPC technologies
 - Your company will use it for new product development purposes
- **Networking** and exchange of expertise with other HPC users
 - Your company will meet other companies with common interests and you can share experiences on HPC exploitation

What is in it for research organisations?

- An opportunity to **voice** their needs and **promote** their capabilities
- An opportunity to participate in the definition of suitable **R&D programmes** for HPC in Europe
- **Networking** and collaboration with other researchers, industry and end-users in order to form partnerships and alliances

Steps ahead

- involve similar associations in Europe (e.g Ter@tec, Planet HPC, ISC conference)
- launch and analyse an on-line users' survey
- incorporate in position/vision paper
- agree on governance
- produce roadmap for research investments for next 5 years taking into account work of EESI

Other ideas, comments, recommendations?

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Become a member?

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