September 2015: A new ambition

"Our goal is for Europe to become one of the top 3 world leaders in high-performance computing by 2020."

Jean-Claude Juncker, 27 October 2015

April 2016: NEW EC communication

Digitising European Industry

Commissioner for Digital Economy and Society

#DigitalSingleMarket
DIGITISING EU INDUSTRY

European open science cloud
European data infrastructure
Widening access and building trust

DE LA RECHERCHE À L'INDUSTRIE

cea

Jean GONNORD
HPC adviser of CEA CEO

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**High-Performance Computing
Europe's place in a Global Race**
Neely Kroes, Commissionner for Information Society
and Vice-President of the European Commission

Communication of Feb. 2012

http://ec.europa.eu/information_society/newsroom/cf/document.cfm?action=display&doc_id=891

☐ *Provide a world-class European HPC infrastructure, benefitting a broad range of academic and industry users, and especially SMEs,*

☐ *Ensure independent access to HPC technologies, systems and services for the EU;*

☐ Infrastructure: PRACE

☐ Technologies and Applications
a Private Public Parnership (cPPP = "structured dialogue") between the EC and ETP4HPC + now Centres of Excellence – 700M€ 2014-2020

The cPPP yields calls for projects, based on the SRA of ETP4HPC, in the different H2020 Work Programmes:
- WP2014-2016 First call , 19 FETHPC + 8(9) CoE projects running
- WP2016-2017 call issued
- WP2018-2020 under discussion

Declaration approved by Council of Competitiveness of May 26

12. WELCOMES the ambitious goals towards a European Exascale high-performance computing (HPC) capability; RECOGNISES the need to support the technology, infrastructure and applications and build on EU strengths and existing initiatives to develop a HPC ecosystem relevant for all Member States, with the ambition of placing the EU among the top supercomputing powers in the world by 2022 and strengthen competitiveness; and ACKNOWLEDGES the launch of the Important Project of Common European Interest on HPC and Big Data enabled applications. WELCOMES the discussion on the Commission's proposal to prepare for the launch of an ambitious flagship initiative in close cooperation with Member States and relevant stakeholders to unlock the full potential of quantum technologies and accelerate their development and take-up in commercial products.

- foster an HPC ecosystem capable of developing new European technology such as **low power HPC chips;**[49]

The Commission and participating Member States should develop and deploy a large scale European HPC, data and network infrastructure, including:	2016-2020
– the acquisition of two co-designed, prototype exascale supercomputers and two operational systems which will rank in the top three of the world;	as of 2018

https://ec.europa.eu/digital-single-market/en/news/study-high-performance-computing-eu-progress-implementation-european-hpc-strategy-final-report

6) **Ensuring a level playing field,** in particular regarding inequalities in HPC market access and exploitation obligations regarding intellectual property rights of HPC results generated in Horizon 2020.

- Europe has long been the world's most open HPC market. Government HPC markets in the U.S., Japan and China all present barriers to non-domestic HPC suppliers, although the private-sector markets in these countries are more open and both government and private-sector markets are generally open to non-domestic commercial software. A large majority of European HPC stakeholders IDC interviewed for this study agreed that European scientists and engineers should continue to have access to the world's best supercomputer systems, no matter where in the world they come from. Specific market asymmetries should be address at a government (EC)-to-government level and not made part of Europe's HPC strategy.

2015

**High Performance Computing in the EU:
Progress on the Implementation of the
European HPC Strategy**

Final Report

A study prepared for the European Commission
DG Communications Networks, Content & Technology by:

IDC

Digital
Agenda
for Europe

Market still asymmetric:

Independent access – fair share of the market WHY?
- Some countries do not share the objectives,
- R&D budget not adapted to large scale projects,
- No explicit budget for infrastructure
- **Uneffective funding instruments**

**Necessity of a new tool: Important Project of Common European Interest (IPCEI)**

The IPCEI can act as a project management office to achieve the HPC ambition expressed in the EC communication and by Member States
objective important enough so that some regulations can be overridden

The IPCEI allows:
- **To start a EU project with a few countries sharing the same vision together with the Commission**
- **To pool fundings from different sources: H2020, structural funds, "JUNCKER" funds, national funds - and avoid fragmentation…**
- **State aids regulation,**
- **Competition regulations**
- **More Members States sharing the objectives to join in**

A project led by Luxembourg organised in 3 pillars:

Project Pilot   LUXEMBOURG

Technology
FRANCE

Infrastructure
SPAIN

Large scale pilots
ITALY
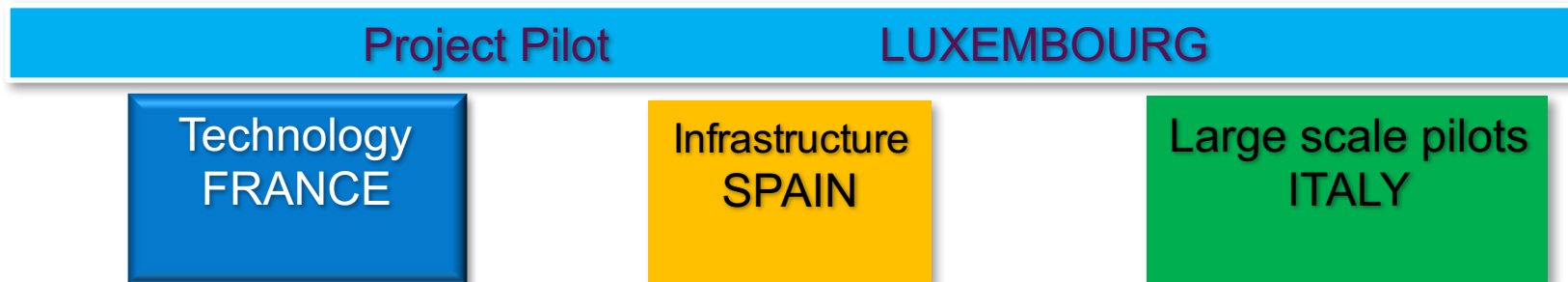
Conclusion

- A really moving EU landscape, good momentum, more research/industry interaction all along the value chain

- More hard work ahead of us - make IPCEI work!

- Align H2020/FETHPC with IPCEI, EOSC, EDI

- Go on fostering industry/research interaction
Technology supply side + usage side

- Not forgetting wider, international collaborations