

LUG2014

EOFS Update

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Miami, April
2014

- EOFS activities
- ETP4HPC update and Horizon2020
- Current participation in projects
 - National and EU funded projects

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Activities in 2013

- **LUG 2013 in San Diego**
- **ISC 2013 in Leipzig**
Joint Booth, BoF('s)
- **LAD'13, Lustre Workshop 2013 in Paris**
Two day's session
- **3rd Lustre Developers Summit in Paris**
- **SC 2013 in Denver**

Activities in 2014

- **LUG 2014 in Miami**
- **ISC 2014 in Leipzig**
Joint Booth, BoF('s)
- **LAD'14, Lustre Workshop 2014 in Paris**
Two day's session
- **4rd Lustre Developers Summit in Paris**
- **SC 2014 in New Orleans**

2013 EU Events

- LAD'13
 - Over 100 attendees (more than 20 as last year)
- 3rd Lustre Developers Summit
 - Very good/technical discussions
- ISC'13
 - Breakfast panel was successful (120+ attendees)
 - Tendency quite good
 - Lustre BOF

- from June 23th until June 26th, 2014
- EOFS/OpenSFS Lustre joint booth (# 820)
- EOFS/OpenSFS Breakfast panel on June 25th, 2014
from 7:30 until 8:45 am

LUSTRE ADMINISTRATOR & DEVELOPPERS WORKSHOP 2014

Like in 2013, Paris will be the place of a 2-day event dedicated to Lustre administration and Development.

➤ September 2014

+ 4rd Lustre Developers Summit



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Europe achieving leadership in HPC

- ***Importance and impact of HPC***
- ***3 axes :***
 - Development of HPC technology
 - Existence of world-class HPC e-infrastructure
 - Development of HPC application and use
- ***3 key success factors***
 - Coordination
 - Education and training
 - Focus on SMEs
- ***(c)PPP could leverage all the stakeholder actions***
- ***Budget for HPC technology R&D of 150 M€/year***



What are the main topics covered?

- Architecture evolution
- Energy driven HPC
- Extreme parallelism
- Resiliency
- System Software
- Scaling I/O and storage with processing
- New storage solutions for big data
- Evolution of HPC workloads

Organization of the ETP4HPC

- Meeting of the „Founding Fathers“ of the Joint ETP on October 18th 2011
- Incorporated as a Dutch association on December 12th 2012
- Open membership for organizations having R&D based in Europe
- **Managed by a Steering board with 15 members representing:**
 - Research centres (5)
 - European SMEs (3)
 - European controlled corporations (5)
 - International companies with R&D in Europe (2)
- **Steering board organization**
 - Chairman
 - 2 Vice chairmen for PRACE coordination and HPC development
 - Secretary-Administrator
 - Treasurer
- **Virtual office**
 - BSC, CEA, Cineca+Eurotech, ParTec

Election of the new Steering Board

- **on September 20th 2013 in Paris**
 - Research Organizations (5):
 - BSC, CEA, CINECA, FHG, FZJ/JSC
 - Global Organisations (2):
 - IBM, Intel
 - European Corporate Organizations (5):
 - ARM, Bull, Eurotech, STMicroelectronics, Xyratex
 - SMEs (3):
 - Allinea, CAPS, ParTec
 - LRZ as non-voting member of the SB
- **Current number of members: 52**

- **Vision Paper**
- **Strategic Research Agenda**
- **cPPP proposal**
- **Working groups:**
 - Education & Training
 - Led by Xyratex
 - SMEs
 - Led by ParTec
 - Exploitation and IP rights
 - Led by Intel
 - KPIs
 - Led by Fraunhofer/scapos
 - CoEs
 - Led by Research Centres (JSC and BSC)
 - Work programme 2016/2017
 - To be set up very soon

What is in it for European HPC?



Done in duplicate at Brussels on 17 December 2013.

FOR ETPHP* ASSOCIATION

FOR THE EUROPEAN COMMISSION


Philippe VANNIER
Board Representative


Neelie KROES
Vice-President in charge
of Digital Agenda

Sanzio BASSINI
Board Representative




EUROPEAN COMMISSION
PRESS RELEASE

Brussels, 17 December 2013

EU industrial leadership gets boost through eight new research partnerships

The European Commission today launched eight contractual Public-Private Partnerships (PPPs) of strategic importance for European industry. The partnerships will leverage more than 100 billion of investments to be allocated through calls for proposals under Horizon 2020, the new EU programme for research and innovation. Each euro of public funding is expected to trigger additional investments of between three and 10 euro to develop new technologies, products and services which will give European industry a leading position on world markets (2013/0137/ISS).

European Commissioner for Research, Innovation and Science Maire Geoghegan-Quinn said: "Europe needs industry to innovate to create income and jobs. New technologies and products, such as green cars, smart buildings and smarter manufacturing processes, are essential to address our challenges such as climate change, energy and resource efficiency. The eight new contractual PPPs will have a substantial impact on the competitiveness of the EU industry, on sustainable economic growth and the creation of new high-skilled jobs in Europe."

Vice-President Neelie Kroes, Commissioner responsible for the Digital Agenda, said: "This is a great opportunity for Europe. These PPPs will maintain our global lead in robotics, photonics, high performance computing, telemedicine and give a head start in smart cities, intelligent transport, education, entertainment, media and other economic markets. Combined with a comprehensive industrial strategy, the PPPs will ensure vigorous European leadership and a better future for all."

- The eight contractual Public-Private Partnerships are:
- **Factories of the Future (FoF)**, to support the manufacturing industry through the development of sustainable production technologies and systems ([Link to factbase](#));
 - **Energy-efficient Buildings (EeB)**, to increase the competitiveness and energy efficiency of the construction industry ([Link to factbase](#));
 - **European Green Vehicles Initiative (EGVI)**, to develop a competitive and resource-efficient transport system with significantly less CO2 emissions ([Link to factbase](#));
 - **Sustainable Process Industry (SPIRE)**, to make the process industry more resource- and energy-efficient ([Link to factbase](#));
 - **Photomare**, one of the key enabling technologies for our future prosperity and an essential element of many sectors, from energy and health, to everyday products like DVD players and mobile phones ([Link to factbase](#));
 - **Robotics**, a key driver of industrial competitiveness and essential to address key societal challenges in areas such as demographic change, health and well-being, food production, transport and security ([Link to factbase](#));
 - **High Performance Computing (HPC)**, which plays a pivotal role in stimulating Europe's economic growth and advancing European science ([Link to factbase](#));
 - **Advanced 5G networks for the Future Internet (5G)**, to optimise the development of network-enabled infrastructure to ensure advanced ICT services for all sectors and users ([Link to factbase](#));

The contracts setting up the PPPs were signed today by the Commission and chairpersons of specially-created industrial research and innovation associations, representing more than 1,000 large and small enterprises across Europe.

cPPP day in Paris

- Organized by ETP4HPC and the European Commission (DG CONNECT)
 - on behalf of the Public-Private Partnership (cPPP) on HPC
 - with the local support of TERATEC
- Wednesday, April 9th, 2014 – Paris
- Venue : Institut de Physique du Globe - 1 Rue Jussieu, 75005 Paris

This Info Day is the first public event within the charter of the PPP on HPC. The Programme includes the PPP's objectives, the European HPC strategy, and the Calls for Proposals related to HPC in the Work Programme 2014-2015 of the Excellent Science pillar of Horizon 2020 (Future and Emerging Technologies (FET) and e-infrastructures).

- ***Work programme 2014 – 2015***

Call FET-Proactive - towards exascale high performance computing

- FETHPC 1 - 2014: HPC Core Technologies, Programming Environments and Algorithms for Extreme Parallelism and Extreme Data Applications
 - *94 Mio €*
- FETHPC 2 - 2014: HPC Ecosystem Development
 - *4 Mio €*
- FETHPC 3 - 2014: Targeted Opening with Russia
 - *2 Mio €*

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- **FAST**
 - Find a Suitable Topology for Exascale Applications –
Dynamische Topologien in höchstskalierenden
Umgebungen
 - Coordinated by André Brinkmann,
Johannes Gutenberg-Universität Mainz
 - Duration 3 years
 - Started in January 2014
 - 7 partners

Participation in EU funded projects

- ***DEEP www.deep-project.eu***



- Dynamical Exascale Entry Platform
- One of the three Exascale projects funded by the EU 7th framework programme
- Coordinated by Forschungszentrum Juelich
- Duration 36 months
- Funding from the European Commission 8.03 Mio €
- 16 partners

The DEEP consortium will develop a novel, Exascale-enabling supercomputing architecture with a matching SW stack and a set of optimized grand-challenge simulation applications.

Participation in EU funded projects

- ***DEEP-ER www.deep-er.eu***



- DEEP – Extended Reach
- Coordinated by Forschungszentrum Juelich
- Duration 36 months
- Funding from the European Commission 6.43 Mio €
- 14 partners (Exascale 10 = formerly ELOW as one of the partners involved)

The proposed project DEEP-ER (DEEP-Extended Reach) addresses two significant Exascale challenges:

the growing gap between I/O bandwidth and compute speed, and the need to significantly improve system resiliency.

Thank you!