EUROPEAN TECHNOLOGY PLATFORM FOR HIGH PERFORMANCE COMPUTING

Dear Partners,

We would like to wish you an excellent 2017. We hope that this year will bring you much success and joy in your personal and professional lives.

During the last Steering Board meeting, Jean-Pierre Panziera was elected as Chairman of the ETP4HPC to replace Jean-François Lavignon who has left Bull. We both would like to send you this New Year message.

Regarding ETP4HPC, and before looking at what challenges 2017 has in store for us, let us look back on our main achievements during 2016.

Our ecosystem has continued to grow with more members joining our association (80 end of 2016 compared to 70 end of 2015) and to develop its activities. The first HPC Summit was organised in Prague with some interesting meetings involving the FETHPC projects and the Centres of Excellence. We have, once again, been successful in organising a well-attended BoF at SC'16 to disseminate European activities and to generate potential international interaction. The relationship with BDVA (Big Data Value Association) has been developed with new technical interlocks and discussions on potential joint actions involving HPC technologies addressing Big Data challenges.
However, the most notable activity in 2016 has been the elaboration of the recommendations to the European Commission for the Work Programme (WP) 2018-2020. There was very good participation with more than 200 experts attending the calls to discuss the research priorities for forwarding to the EC. We have also developed the concept of Extreme Scale Demonstrators that will, on one hand, provide opportunities in demonstrating new technologies, helping them to reach the market, and, on the other hand, delivering platforms that will be an exceptional instrument for research in system and application software.

All this has been possible thanks to the EXDCI support action funded by the European Commission, your involvement in the association's activities and the professional work of the people of the ETP4HPC Office. We would like to thank EC, you and our Office team for all these 2016 accomplishments.

Once again, we foresee important milestones for 2017. Firstly, we will have the task of preparing the third Strategic Research Agenda, which will be used for the WP2018-2020 as a detailed technical reference for the coming calls. We now have a well-established process and we expect, once more, a strong participation from you in this essential activity. There will also be a September deadline for FETHPC 2017 project submission. Our communities need to mobilise themselves to prepare excellent projects that will show the liveliness of the European research on HPC technologies. The publication of the WP2018-2020 will open new calls in 2017 that we will need to

consider. We anticipate early deadlines in 2018 for two calls related to Centres of Excellence and Extreme Scale Demonstrators. It will be mandatory for the success of these calls that our ecosystem prepares itself in being able to build good proposals.

In 2017, ETP4HPC will continue working closely with the ecosystem, strengthening links with all the actors of the HPC value chain, whilst continuing work at the same level of excellence as in previous years.

Once again, we need to call on you as members of ETP4HPC to put energy into achieving these objectives and we have the greatest confidence in our community being able to work in this direction in 2017.

We wish you an excellent year 2017 and we look forward to working with you all, in achieving the above objectives.

Merry Christmas and Happy New Year to you all.

Jean-François Lavignon   Jean-Pierre Panziera
Former ETP4HPC Chair   New ETP4HPC Chair

Table of Contents

CompBioMed Kick-Off Meeting, October 3-4, 2016, London

07/10/2016

CompBioMed is a new user-driven Centre of Excellence (CoE) in Computational Biomedicine, which nurtures and promotes the uptake and exploitation of high performance computing within the biomedical modelling community. They held their kick-off meeting on October 3-4 in London.

The meeting was opened with an address by Professor David Price, UCL Vice-Provost (Research) who underlined UCL's commitment to working with scientists in Europe and during the launch of this new CoE, Peter Coveney, its head, said that Big data needs big theory. One of many presentations was given, with Hugo Falter, Vice-Chair of ETP4HPC, delivering a presentation on our association.

The project runs for three years from 1st October 2016.

http://www.etp4hpc.eu/en/news/105-compbiomed-kick-off-meeting-october-4016-lond.html

6th cPPP for HPC Meeting, November 8, 2016, Brussels

15/11/2016

The contractual Public-Private Partnership (cPPP) for High-Performance Computing held their sixth meeting at Beaulieu, Brussels, on November 8th, where ETP4HPC's Steering Board (the EC's partner in the cPPP) and representatives from 8 Centres of Excellence (CoEs), plus PRACE as guest, met with members of the EC.

Thomas Skordas, of the DG for communication networks, content and technology (DGCNECT) for the EC, started the meeting. During his presentation many topics were presented, and amongst them were: HPC is a high priority for the directorate now, along with quantum technologies; an eminent announcement of a working document 'Initiative expands beyond H2020' will be made; pre-exasclae and exascale systems are planned to be deployed in the
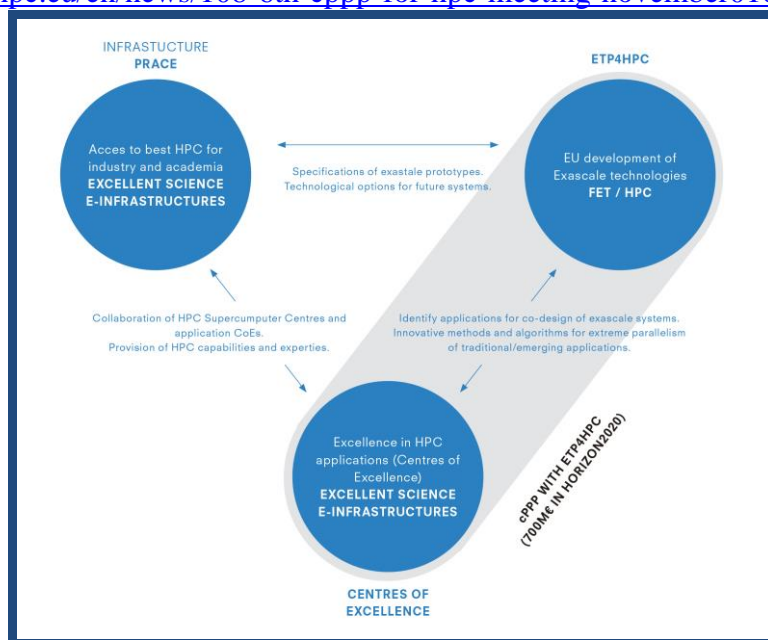
timeframe respectively of 2020 and then of 2022; the importance of strong collaboration between the HPC and Big data PPP and international cooperation and, impact assessment.

The main discussion during the meeting was based on the definition of Work Programme 2018-20:

- the need for continued technological R&D, so-called FETHPC programme fed by ETP4HPC Multi-annual roadmap

- the need for Extreme-scale Demonstrators (EsDs) re-using FETHPC R&D, with a discussion on the number of these prototypes, which would be necessary to obtain a variety of architectures for different use cases, with co-design of building blocks versus co-design of architecture. A timeline of this is being laid down. Further discussions between the EC and ETP Working Groups will be held within several weeks.

- The future of Centres of Excellence, again with discussion on funding, topics and how to articulate with existing CoEs

The next cPPP meeting will be held during the European HPC Summit Week, 15th to 19th of May, 2017, in Barcelona.

http://www.etp4hpc.eu/en/news/108-6th-cppp-for-hpc-meeting-november016-brussels.html

ETP4HPC drafting proposal for the next (2018-20) EC Work Programme

15/12/2016

ETP4HPC is working on a draft for the proposal of the next (2018-20) EC Work Programme. This document will be delivered to the European Commission in January 2017 and will form the basis of the text for the next HPC Work Programme and related calls for proposals in the area of HPC technology, HPC system prototypes and HPC applications.

http://www.etp4hpc.eu/en/news/111-etp4hpc-drafting-proposal-for-the-next-2018-2.html

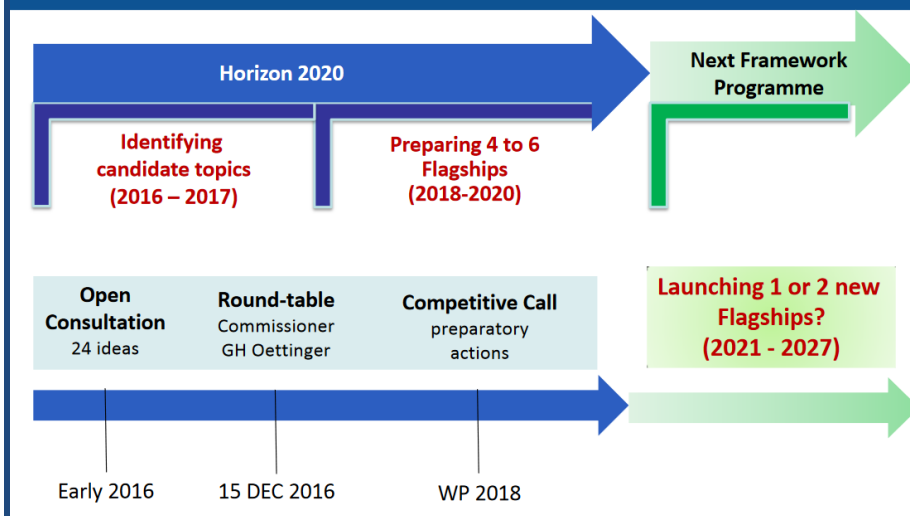# Round Table on Future FET Flagships, December 15, 2016, Brussels

20/12/2016

ETP4HPC was invited to join the Round Table on Future FET Flagships, which took place in Brussels on December 15th, 2016. The initiative of this high level round-table was to get the view of the main stakeholders on candidate topics for future Flagships, with member states representatives (and associated countries as observers), industry representatives and industry associations, and large research organisations as well as EU academic associations. ETP4HPC was represented at this round table by Dr. Bourgoin from CEA, who presented ETP4HPC views. This was the occasion to acknowledge the importance of more flagships, with ambitious societal and economic objectives. The central role of ICT technologies and methods (including high performance computing and data-centric computing) was emphasised as well as the importance in addressing both R&D for ICT and ICT for R&D.

This roundtable was a step towards the preparation of the FET WP2018-2020-Call for 4 to 6 Flagship preparatory actions.

http://www.etp4hpc.eu/en/news/113-round-table-on-future-fet-flagships-december5.html

Preparing Future Flagships

Horizon 2020

Next Framework Programme

Identifying candidate topics (2016 – 2017)

Preparing 4 to 6 Flagships (2018-2020)

Open Consultation 24 ideas

Round-table Commissioner GH Oettinger

Competitive Call preparatory actions

Launching 1 or 2 new Flagships? (2021 - 2027)

Early 2016

15 DEC 2016

WP 2018
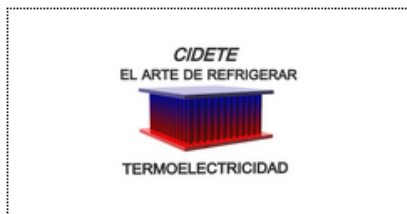
New Members - October-December 2016

Since the end of September 2016 we have one new member.

Associated member:

- CIDETE Ingenieros SL- SME

CIDETE Ingenieros SL, is a European leading manufacturer of Thermoelectric cooling devices for electronic applications and telecommunications. CIDETE has over 35 years' experience in manufacturing Nano technologies.

http://www.etp4hpc.eu/en/new-members.html

The International CAE Conference, October 17-18, 2016, Parma, Italy

21/10/2016

The International CAE Conference 2016

This year's annual International CAE Conference took place on September 17-18 in Parma. This flagship for "Simulation based Engineering and Sciences" is organised by EnginSoft, (one of ETP4HPC's members). Their CEO, Stefano Odorizzi, gave the welcoming speech for this event.

CINECA, one of ETP4HPC's members, who had a booth at this two day conference, represented our association. Raffaele Ponzini of CINECA gave a presentation on the project "Caeses and OpenFOAM for Automatic Optimal Hull Design on HPC Platforms". Other ETP4HPC members were also present such as E4 Computer Engineering.

http://www.etp4hpc.eu/en/news/106-the-international-cae-conference-october7-180.html

E-CAM General Assembly, November 7, 2016, Paris-Saclay, France

09/11/2016

ETP4HPC was invited to E-CAM Centre of Excellence's General Assembly in Saclay on November 7th, to give an overview of the European HPC Landscape and of ETP4HPC's role and activities. JP Nominé, ETP4HPC Office expert, gave this overview, and was accompanied by Maike Gilliot, also from the ETP4HPC Office.

The meeting proved to be an opportunity to inform E-CAM of the on-going discussions regarding Work Programme 2018-2020, which is in preparation under Horizon 2020 Programme, and also to collect feedback from experts in the area of computational material sciences.

http://www.etp4hpc.eu/en/news/107-e-cam-general-assembly-november016-paris-sacl.html

ETP4HPC at SC'16, November 15-18, Salt Lake City, Utah

17/11/2016

The International Conference for High Performance Computing, Networking, Storage and Analysis (SC'16) has been a hive of activity since November 13th and continues until the 18th of November 2016, with over 30 of ETP4HPC's members exhibiting this year. We held another Birds-of-a-feather session, which took place on the morning of Wednesday 26th. This was organised on behalf of EXDCI. There was a great attendance of 130 people this year, and the name of the BoF was 'European Exascale Projects and Their International Collaboration Potential'. Many of these HPC technology and application projects were there to showcase their work, aiming at seeding new collaborations with international partners, and to accelerate progress in exascale in R&D.

Jean-François Lavignon, ETP4HPC chair, started the BoF by giving a brief summary of the development of European HPC and its Technology/Application eco-system and was followed by presentations by: Peter Hopton, Iceotope Project; The key successes and achievements of the European HPC technology projects; Guy Lonsdale, Scapos AG, An overview of the international collaboration opportunities created by the European HPC Technology Projects; Thomas Eickermann, Jülich Supercomputing Centre, Extreme-Scale Demonstrators; and, Jesus Labarta, Barcelona Supercomputing Center, An overview of the European Centres of Excellence for Computing Applications (CoEs).

A lively panel discussion followed, which proved to be very informative, with the following panel discussion members participating:

1. MODERATOR: François Bodin – the Scientific Director of EXDCI
2. Luis C. Busquets Pérez - The European Commission
3. Paul Messina – US Exascale Computing Project Director
4. Mitsuhisa Sato – Riken of Japan
5. Alison Kennedy – Hartree Centre Director
6. Jesus Labarta – BSC – Leader/member of a number of HPC technology projects
7. Jean-Pierre Panziera – Bull/Atos
8. Sai Narasimhamurthy – Seagate
9. Christian Simmendinger – T-Systems
10. Eric Van Hensbergen – ARM

11. Mark Asch – BDEC (Big Data and Exa-scale Computing)

ETP4HPC would like to thank all the participants of this BoF, contributing to its success.

You may view all the presentation slides here.

http://www.etp4hpc.eu/en/news/109-etp4hpc-at-sc16-november5-18-salt-lake-city-u.html

ETP4HPC at BDVA Summit, Nov 29 - Dec 2, 2016, Valencia

05/12/2016

The BDVA Summit 2016 took place in Valencia from November 29th to December 2nd 2016 with ETP4HPC being represented at the summit by Marcin Ostasz, ETP4HPC Office expert, who is based at BSC, Barcelona. Any entity interested in the field of Big Data was welcome to attend.

The aims of the summit were: to drive forward the Big Data Value ecosystem and improve visibility of BDVA and BDV PPP; to get real needs from users and data owners; understand the state of the art in Big Data Technologies and the new challenges; continue working on main themes from previous summits and EDF conference; and, to provide the means for idea incubation and consortium building for 2017 calls.

Marcin Ostasz, took part in a panel on collaboration with other European initiatives, giving a presentation on the importance of HPC. The other panelists were:

- Jean-Marie Spaus, IPCEI initiative on High Performance Computing and Big Data enables Applications, Ministry of Economy Luxembourg

- Martine Sindelar, COPERNICUS User Uptake Unit, DG for Internal Market, Industry, Entrepreneurship and SMEs Space Data for Societal Challenges and Growth, European Commission

- Ad ten Berg, ARTEMIS Industry Association, Office Director

Marcin also took part in the Parallel Session/Working Group titled 'High Performance Data Analytics: Big Compute and Big Data Working Together For European Success' where the objectives were: One of Europe's main challenges in the coming years will be to seize the opportunities of the digital economy. Europe must identify the strategic assets that need to be further developed to remain competitive on a global scale. Looking at such priorities, the development of high-performance computing (HPC) infrastructures and expertise in big data are of essential importance to the modernisation and the continued competiveness of European industries.

The speeches included:

- Title: The benefits of increased collaborations between BDVA and ETP4HPC PPPs

- Speaker: Jim Kenneally, Intel Corporation and BDVA BoD member.

- Overview: 'The BDVA (Big Data Value Association) and the ETP4HPC (European Technology Platform for High-Performance Computing) recently announced an increase in collaborations to strengthen Europe's position in these two domains. Jim highlighted how cooperation between ETP4HPC and BDVA will exploit all the synergies between them including influencing of respective technical roadmaps regarding interdependencies and complementary aspects. Additionally, the collaboration will facilitate joint interactions between both communities such as joint supportive actions (e.g. Lighthouse Projects, Centre of Excellences, Extreme Scale Demonstrators, etc), workshops, conferences and so forth'.

- Title: European HPC Technology Roadmap

- Speaker: Marcin Ostasz, ETP4HPC Office Expert

- Overview: 'Marcin presented the European HPC Exa-scale technology roadmap (Strategic Research Agenda, www.etp4hpc.eu/sra) and how it relates to the Big Data area. Marcin also talked about European HPC prototypes (Extreme-Scale Demonstrators, EsDs) which will serve the purpose of integrating and validating the European HPC technologies and allowing users (e.g. the Big Data Community) to participate in the design of the future HPC systems. The talk concluded with highlighting the main developments in the European HPC eco-system and its overall ambitions'.

- Title: High Performance Computing and Big Data Enabled Applications (IPCEI-HPC-BDA)

- Speaker: Jean-Marie Spaus, Minister of Economy Luxembourg, coordinator of the IPCEI initiative on High Performance Computing and Big Data.

- Overview: 'HPC, big data and ultra-fast internet access are enabling technologies for all European industrial sectors. Europe has a unique opportunity to act now and invest in the development and deployment of HPC technology, Big Data and Applications. Failure to do so will seriously undermine European competitiveness and Europe will miss an important opportunity to ensure its industries compete on a global level. In order to address these European e-infrastructure challenges, to provide a springboard for new economic growth, Luxembourg, Italy and France have initiated an Important Project of Common European Interest on High Performance Computing and Big Data enabled Applications. This talk shared insights on the IPCEI-HPC-BDA three pillars, in support of the above objectives'.

- Title: High-Performance Modelling and Simulation for Big Data Application (cHiPSet)

- Speaker: Horacio González-Vélez, cHiPSet Vice Chair

- Overview: 'This presentation will demonstrate how one of the largest COST Actions in Horizon 2020 (encompassing partners in 38 countries) is creating a long-lasting, sustainable, reference network of research and innovation links amongst the HPC and the multiple Modelling and Simulation research communities addressing Big Data problems. This talk demonstrate how this Action is systematically fostering interconnected research on Big Data through the organisation of meetings, workshops, visits, and summer schools with the participation of HPC and Modelling & Simulation researchers from Europe and overseas. The talk concluded with overview of the four cHiPSet working groups (infrastructure, programming, life sciences, and physical/social sciences)'.

ARM: On the Road to HPC (Mont-Blanc Project), January 16-17, 2017, UPC, Barcelona

From 16/01/2017 to 17/01/2017

ARM: On the Road to HPC

Abstract

Started in 2011, the Mont-Blanc project leverages the fast growing market of mobile technology for scientific computation. During the project, several ARM-based computational platforms have been deployed and configured as production systems for HPC. Also, a complete software stack has been developed and consolidated in order to allow the execution of most complex parallel codes. The Mont-Blanc project has paved the way for enabling ARM in HPC and with this event the Mont-Blanc project wants to promote and encourage the exchange of experiences and knowledge amongst all the major players who contribute to make ARM-based scientific computing a reality.

http://www.etp4hpc.eu/en/events/arm-on-the-road-to-hpc-mont-blanc-project-jan_366.html

Information and Networking Days on Horizon 2020 Big Data Public-Private Partnership topics 2017, January 17-18, Luxembourg

From 17/01/2017 to 18/01/2017

The event Information and Networking Days on Horizon 2020 Big Data PPP topics, organised by the Unit Data Policy and Innovation (CNECT G1), will take place on 17 and 18 January 2017

Luxembourg Congrès, in Luxembourg. **The registration is now open.** You are invited to register on line on the Event page.

The registration will **close on 9th January 2017 at midday** (or earlier, if the maximum number of participants is reached).

Objective of the event

The aim of the two days event is to inform and guide prospective proposers preparing project proposals, to facilitate sharing of ideas and experiences. It will give participants the chance to network and to find partners for their projects.

The two days event will focus on the call for proposals H2020-ICT-2016-2017 addressing the following topics:
ICT-14: Big Data PPP: Cross-sectorial and cross-lingual data integration and experimentation
ICT-15: Big Data PPP: Large Scale Pilot actions in sectors best benefitting from data-driven innovation
ICT 16: Big Data PPP: research addressing main technology challenges of the data economy
ICT 17 b: Big data PPP: Support, Industrial Skills, Benchmarking and evaluation

http://www.etp4hpc.eu/en/events/information-and-networking-days-on-horizon020_367.html

ETP4HPC General Assembly, March 2016, Munich

ETP4HPC next General Assembly will be held during the 3rd week of March, 2016, Munich.

More details to follow soon.

http://www.etp4hpc.eu/en/events/etp4hpc-general-assembly-march016-munich_370.html

European HPC Summit Week 2017, May 15-19, Barcelona

From 15/05/2017 to 19/05/2017

The second edition of the European HPC Summit Week will take place in Barcelona, Spain

ETP4HPC will be participating in this event by facilitating a workshop on the SRA – The Strategic Research Agenda – the European HPC Technology Roadmap - with a final discussion on the contents of the SRA with all European stakeholders.

More details coming soon at: https://exdci.eu/events/european-hpc-summit-week-2017

Venue

Vertex Building, Campus Nord UPC
Plaza Eusebi Güell
Barcelona, Spain (Map)

International Supercomputing Conference (ISC'17), June 18-22, Frankfurt

From 18/06/2017 to 22/06/2017

The 32nd conference in the ISC High Performance series will be held from June 18 – June 22, 2017. The city of Frankfurt remains the preferred location.

ETP4HPC will be present at this conference at booth K-419. Come join us there!