



BUILDING GLOBALLY COMPETITIVE EUROPEAN HPC TECHNOLOGY

ETP4HPC NEWSLETTER

JANUARY – MARCH 2017

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2 INTRODUCTION

Dear ETP4HPC Partners,

The first quarter of 2017 was quite eventful for our HPC community. It culminated on 23rd March, with the signature of the EuroHPC agreement in Rome. All European stakeholders, including ETP4HPC, attended the launch of EuroHPC, an initiative which will create an integrated world-class HPC infrastructure in Europe.

In the first quarter of 2017, our organisation focused on the consolidation of the input to the EC Work Programme 2018-2020 in the area of HPC Technology and Applications. We delivered a draft of this Programme to the EC in January and we are continuing the discussion on the exact shape of this last part of Horizon 2020.

As an important milestone in the life of our organisation, we began work on our next Strategic Research Agenda 2017 (SRA 3), which is our main deliverable. We organised a kick-off meeting in Munich on the 20th of March, where working group leaders and selected HPC eco-system and other stakeholders participated. We are now inviting our members to partake in, through the working groups, the preparation of SRA 3.

We were also involved in many events since the beginning of January, with participation in: ARM: On the road to HPC, Mont-Blanc (FP7) project event at BSC, Barcelona; 1st European Stakeholder Forum on Digitising European Industry in Essen, the 64th HPC User Forum which took place at HLRS/University of Stuttgart; The Big Data and Extreme-Scale Computing (BDEC) held their 5th closed workshop in Wuxi, China; Study visit to Brussels on Big Data for Transformation of the Industry in Brussels, and, 39th ORAP Forum at CNRS, Paris.

We held close contact with our members during our 7th General Assembly in Munich in March. This event was an opportunity for receiving an update from the EC on Europe's strategy in the area of HPC. On this occasion, we also launched our new visual identity.

To conclude: a lot of work is ahead of us in the remaining part of 2017. We count on the support of our members and we hope to deliver solid results through the structure of our Association.

ETP4HPC Chairman
Jean-Pierre Panziera

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3 NEW EU HPC DEVELOPMENTS

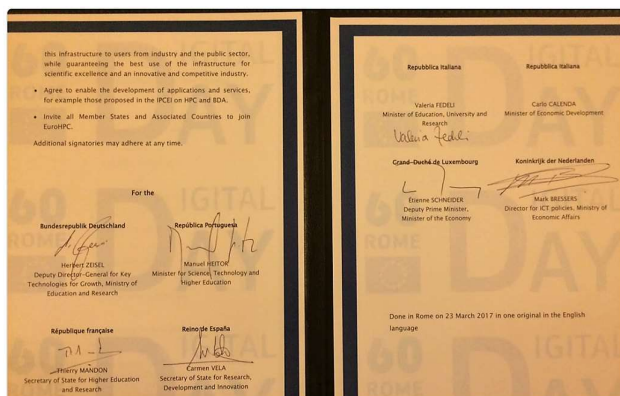
3.1 DIGITAL DAY, MARCH 23, ROME

24/03/2017

"Europe as a global player in High Performance Computing"

This event was organised as part of the sixty years' celebration of the Treaty of Rome. The High Performance Computing (HPC) session took place in the morning of 23 March, and highlighted the strategic importance of HPC as a key enabler to embrace digital technologies for socio-economic growth. There were 300 attendees, with over 40 ministers representing all of the member states. You can read the agenda [here](#) and also view a video of the morning session [here](#).

There was a signing of a declaration to collaborate on HPC by 7 countries (France, Germany, Italy, Luxembourg, Netherlands, Poland and Spain). You can read the declaration [here](#).



signed by seven countries



Representatives of the seven countries who signed the declaration

The session was then centered on two panel discussions. The first panel was focused on the areas where HPC and data infrastructures can raise Europe's scientific capacity, industrial competitiveness and help address societal challenges; while the second discussed how Europe can become one of the top supercomputing powers in the world and why this is important. You can read details on this panel discussion 'How Europe Can Attain World Leadership in HPC' [here](#) and you can also view a video of the morning session [here](#), which includes the signing of the declaration and also the two panel discussions.

In the afternoon of 23 March, there was a workshop on*HPC governance*. Europe needs to set up adequate governance mechanisms to define, deploy and in the long term run world-class computing and data infrastructures and to ensure their wide



The first panel discussion was focused on the areas where HPC and data infrastructures can raise Europe's scientific capacity, industrial competitiveness and help address societal

use by scientific, industrial and public stakeholders. The workshop was an opportunity for a discussion with the participating stakeholders on requirements and suitable governance structures. You can read more [here](#).

The event was by invitation only. Jean-Pierre Panziera, Atos/Bull & ETP4HPC Chair, and Hugo Falter, ParTec & ETP4HPC secretary attended this event.

<http://www.etp4hpc.eu/en/news/126-digital-day017-march3-rome.html>



The second panel discussed how Europe can become one of the top supercomputing powers in the world and why this is important.

4 ETP4HPC ACTIVITIES AND MEMBERS

4.1 FUTURE AND EMERGING TECHNOLOGIES (FET) - WORK PROGRAMME 2018-2020 PREPARATION

25/03/2017

The preparation of the FET Work Programme 2018-2020 under H2020 started in the beginning of 2016 with various inputs been collected, mainly during this year, from a wide range of stakeholders. This document will be used by the EC to define the details of the calls in this part of the programme.

In the last quarter of 2016, the European Commission approached ETP4HPC with a request to develop a draft of the next Work Programme in the area of HPC, covering the period from 2018 to 2020 ('WP18-20' – the third phase of Horizon 2020). As in the case of High Performance Computing, input from the European Technology Platform for High Performance Computing (ETP4HPC) will be used, and in particular its Strategic Research Agenda 2017 (SRA). ETP4HPC launched a number of Working Groups (WG) reflecting the current structure of its SRA.

Whilst the WP18-20 document mirrors the directions included in the current issue of the SRA 2 issued in November 2015, it also paves the way towards the next issue (SRA 3, due in Q3 2017) by revising and updating all of the research areas.

These WGs were:

- HPC System Architecture
- System Software and Management
- Programming Environments
- I/O for data-centric extreme scale computing
- Energy Efficiency and Resiliency at Exascale
- Big Data Use Models
- Focused research on mathematical methods and algorithms
- Extreme-scale Demonstrators (EsDs)

All members of ETP4HPC were invited to take part in the work of these groups, which attracted more than 150 participants. The Office managed the writing of the WP18-20 document, and a series of Working Group calls and a workshop with the EC were organised during its writing. The document was initially approved by the ETP4HPC Steering Board on 15th December, 2016 (at its meeting in Munich) and was sent to the EC as a draft. The final



delivery took place on 31st January, 2017, following further work with the EC, and since then ETP4HPC gave its comments on the WP2018-20 feedback from the EC on 15th of March, 2017.

Apart from being based on the contents of SRA 2, this document reflects the work carried out on the EsDs. The final version of the EsD proposal, included within the document, has been shaped through a number of workshops involving ETP4HPC members, FETHPC Projects, HPC users (Centres of Excellence in Computing Applications (CoEs) and Big Data Value Association (BDVA), HPC integrators, and the EC - as the funding body. The WP18-20 draft also includes the text of the next CoE call. This was developed by a group of representatives of current CoEs.

Furthermore, we had worked with BDVA in order to synchronise our respective roadmaps of proposals. The outcome of this work is the following structure of the HPC calls:

- EsDs covered by two calls:
 1. 2018 with a focus on technological excellence towards Exascale
 2. 2020 with a focus on expanding the deployment space of HPC
- Centres of Excellence in 2018
- Research and Innovation Actions with two project sizes in 2019
 1. Major system level co-design projects involving significant hardware investments
 2. Large software development project or projects focusing on specific research topics
- HPC ecosystem development and international collaboration (CSA – Coordination and Support Action) in 2019

This effort will be furthered and will be detailed into the next SRA (SRA 3 is being developed now – a kick-off meeting took place on March 20th, Munich, which will serve as the reference for future related calls in the Work Programme 2018-2020).

[Slides on WorkProgramme](#)

[Slides on SRA kick-off meeting](#)

<http://www.etp4hpc.eu/en/news/130-future-and-emerging-technologies-fet--work-pr.html>

4.2 STRATEGIC RESEARCH AGENDA 2017 (SRA) PREPARATION

26/03/2017

The ETP4HPC Strategic Research Agenda (SRA) is our key deliverable. It is a document that outlines a roadmap for the achievement of exa-scale capabilities by the European High-Performance Computing (HPC) ecosystem. The milestones set in the SRA are used to define the contents of the HPC Technology R&D Work Programmes managed by the European Commission.

The second edition of our Strategic Research Agenda and Multi-annual Roadmap (SRA 2) had been completed by the end of 2015. It was printed, disseminated and open for comments in early 2016. ETP4HPC then carried out further work, in particular in the area of Extreme scale Demonstrators ('EsDs': prototypes of the future European HPC systems, building on the H2020-funded R&D).

In the last quarter of 2016, the European Commission approached ETP4HPC with a request to develop a draft of the next Work Programme in the area of HPC, covering the period from 2018 to 2020 ('WP18-20' – the third phase of Horizon 2020). This document will be used by the EC to define the details of the calls in this part of the programme. ETP4HPC launched a number of Working Groups (WG) reflecting the current structure of its SRA.

Whilst the WP18-20 document mirrors the directions included in the current issue of the SRA 2, it also paves the way towards the next issue (SRA 3, due in Q3 2017) by revising and updating all of the research areas, which have the following Work Groups:

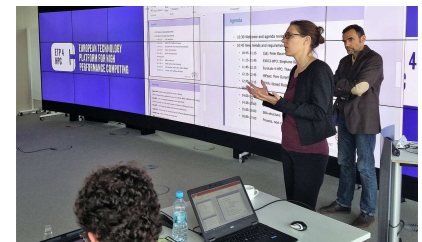
- HPC System Architecture
- System Software and Management
- Programming Environments
- I/O for data-centric extreme scale computing
- Energy Efficiency and Resiliency at Exascale
- Big Data Use Models
- Focused research on mathematical methods and algorithms
- Extreme-scale Demonstrators (EsDs)

ETP4HPC organised a Strategic Research Agenda (SRA) kick-off meeting for their next issue, (SRA 3), with SRA work group leaders and with several invited HPC experts attending. The agenda was as follows:

- 10:30 Welcome and agenda review
- 10:45 New trends and requirements
- 10:45-11:15 BDVA: Sonja Zillner, Nenad Stojanovic



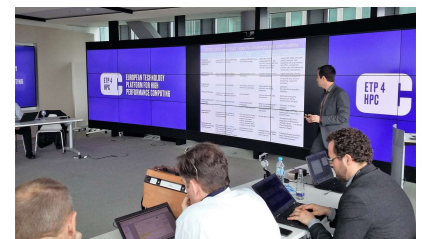
Dr Michael Malms, ETP4HPC SRA project leader, welcoming participants



Sonja Zillner and Nenad Stojanovic representing BDVA



Peter Bauer, ECMWF, giving a presentation on CoEs



Stephane Requena, PRACE, giving a presentation on EXDCI-WP3

- 11:15-11:45 CoE: Peter Bauer
- 11:45-12:15 EXDCI-WP3: Stephane Requena
- 12:15-12:45 EuroLab-4-HPC: Paul Carpenter, Theo Ungerer
- 12:45-13:15 HiPEAC: Marc Duranton

Working Lunch

- 14:00-14:30 BDEC: Mark Asch
- 14:30-15:00 IPCEI-road-map (Jean Gonnord)
- 15:00-16:00 SRA-structure: what is new, what to change?
- 16:00-17:00 Process, next meetings, next steps

Presentations can be consulted [here](#).

ETP4HPC is inviting all its members to partake in the writing of the next issue of the SRA and upcoming events related to the preparation of SRA 3 are as follows:

- 18th May: EsD – Round-table during HPC summit
- 19th May: SRA 3 Workshop - Developing SRA Strategic Analysis and High-Level Technical Analysis (FETHPC projects, CoE, HPC centers, system integrators, technology providers)
- 22nd June: Workshop at ISC with industrial users (“how to benefit from EsDs?”)
- March-June: writing, interlock with workgroups
- July: integration, tuning, review
- 31st July: completion target
- 15th September: release and distribution after WP17 call closure

[Slides on WorkProgramme](#)

[Slides on SRA 3 kick-off meeting](#)

<http://www.etp4hpc.eu/en/news/131-strategic-research-agenda017-sra-preparation.html>



Mark Asch, EXDCI, presenting BDEC project



Jean Gonnord, CEA, presenting the IPCEI road-map

4.3 2.3 ETP4HPC 7TH GENERAL ASSEMBLY, MARCH 21, MUNICH

22/03/2017

ETP4HPC's 7th General Assembly was held on 21st of March to which all members were invited. IBM hosted this event at the new Watson IoT Center in Munich. Invited speakers at this event were: Gustav Kalbe, DGCNECT, who gave a presentation on 'High Performance Computing European timeline overview'; Jean-François Lavignon (former ETP4HPC chair) who gave a report on the BDEC March 2017 Closed Workshop in Wuxi, China; Will Schilders, TU Eindhoven, who gave a short presentation on EU-MATHS-IN, and, Gordon Wollgam, Roland Berger, who presented a HPC Business case study for the European Investment Bank (EIB).

Jean-Pierre Panziera, the new ETP4HPC Chair, gave an overview of the life of ETP4HPC since the last general assembly in March 2016 and forthcoming 2017 activities.

Resolutions approving 2016 Activity and Financial Reports, and membership fees for 2017-18 were passed. The ETP4HPC's new visual identity was officially launched.

Dr Michael Malms, ETP4HPC SRA project leader, presented ETP4HPC recommendations for HPC R&D priorities in the second half of H2020 – Work Programme 2018-2020; then Dr Gustav Kalbe, Head of the new HPC & Quantum Technologies DGCNECT Unit, presented a 'High Performance Computing European timeline overview'. A rich discussion with the audience followed, on the new EC HPC ambitions, following April 2016 communications on the Digital Single Market and European Cloud Initiative, and on what synergies it could produce with the activities of ETP4HPC and how it can be implemented in Horizon 2020 second part – Work Programme 2018-2020.

At the end of the day it was concluded that what is at stake now is on moving forward, leveraging, amplifying and accelerating the recent EC-funded HPC efforts, grasping H2020 opportunities to catch up and keep in pace within the global race.

The agenda for this event can be consulted [here](#).

Presentation slides:

- Subpart 1: [Introduction, reports from the association](#)
- Subpart 2: [HPC in Work Programme 2018-2020](#)
- Subpart 3: [Other presentations on SMEs, KPIs, HPC Software, Maths, Business case study](#)
- Subpart 4: [New Members' presentations](#)



Jean-Pierre Panziera, ETP4HPC Chair, welcoming members to the 7th General Assembly



Dr Michael Malms, ETP4HPC SRA project leader, presenting ETP4HPC recommendations for HPC R&D priorities



Discussion with Dr Gustav Kalbe, Head of the new HPC & Quantum Technologies DGCNECT Unit



More details

Jean-Pierre Panziera, ETP4HPC Chair, welcomed members and thanked Oliver Droske, IBM, for hosting the General Assembly, which proceeded with a presentation on the new Watson IoT Center.

The Chair gave an overview of the life of ETP4HPC by looking back over activities, events and achievements since the last general assembly in March 2016, and also, looking forward to what is in store in the future. He started by thanking Jean-François Lavignon, formerly Bull/ATOS & ETP4HPC Chair (until Dec. 2016), for his work with ETP4HPC. He continued by giving an overview of members' statute and the main activities and work of the association:

- the Strategic Research Agenda (main deliverable for 2017) with a kick-off meeting for "SRA3" (2017 version) taken place the previous day
- Work Programme 2018-2020 expert recommendations from eight ETP4HPC working groups and through interlocks with Centres of Excellence, PRACE, BDVA, HiPEAC, and Eurolab-4-HPC; delivered to the EC end of 2016 already
- HPC cPPP: contractual Public Private Partnership dialogue with the EC (DGCNECT)
- involvement with European eXtreme Data and Computing Initiative (EXDCI) for HPC ecosystem development in close collaboration with PRACE

He also touched on some highlights of events: SRA and EsD workshops; conferences and exhibitions; joint events with EXDCI and PRACE, and, participation in EC events; links with CoEs; and some events, which connected ETP to HiPEAC; BDVA (cPPP) and BDEC.

Also, ETP4HPC's new visual identity was officially launched, and then resolutions passed, with voting on the 2016 Activity and Financial Reports and on Membership Fees for 2017/2018.

The assembly continued with presentations from Dr Michael Malms, ETP4HPC SRA project leader, on ETP4HPC vision of priorities; and from Dr Gustav Kalbe, on 'High Performance Computing European timeline overview'. A rich discussion with the audience followed on the new EC HPC ambitions, following April 2016 communications on the Digital Single Market and European Cloud Initiative and on what synergies it could produce with the activities of ETP4HPC and how it can be implemented in Horizon 2020 second part – Work Programme 2018-2020.



Oliver Droske, IBM, presenting the new Watson IoT Center.



Jean-Pierre Panziera presenting ETP4HPC's new visual identity



Hugo Falter, ParTec & Frank Van der Hout, ClusterVision giving a presentation on the SME Working Group



Dr Jean-Philippe Nominé, CEA, presenting KPIs and the cPPP report



Prof. Mark Parsons, EPCC HPC Software Work Group

After the lunch break, ETP4HPC Office and Steering Board members gave more presentations on:

- SME Work Group - Hugo Falter, ParTec and Frank Van der Hout, ClusterVision
- KPIs and cPPP report – Dr Jean-Philippe Nominé, CEA
- HPC Software Work Group – Prof. Mark Parsons, EPCC

Then invited speakers:

- Will Schilders, TU Eindhoven, on EU-MATHS-IN, a new initiative to boost mathematics for industry in Europe
- Gordon Wollgam, Roland Berger, on a HPC Business case study for the European Investment Bank (EIB).

The final presentations were given by new members who provided a brief description on their organisation's activities/work related to HPC.

The assembly came to a close with ETP4HPC Chair thanking members for their attendance and for also being part of ETP4HPC, acknowledged to gain more momentum as an industry-led think tank and advisory group, whilst gaining visibility and interest throughout the European HPC community and in other continents. But at the end of the day it was concluded that what is at stake now is on moving forward, leveraging, amplifying and accelerating the recent EC-funded HPC efforts, grasping H2020 opportunities to catch up and keep in pace within the global race.

<http://www.etp4hpc.eu/en/news/123-etp4hpcth-general-assembly-march1-munich.html>



Jean-François Lavignon (former ETP4HPC chair) giving a report on the BDEC March 2017 Closed Workshop in Wuxi, China



Will Schilders, TU Eindhoven, presenting EU-MATHS-IN, a new initiative to boost mathematics for industry in Europe



Gordon Wollgam, Roland Berger, presenting a HPC Business case study for the European Investment Bank (EIB)

4.4 SME WORKING GROUP WORKSHOP, FEBRUARY 7, HAARLEM-AMSTERDAM

08/02/2017

The ETP4HPC SME Working Group met on the 7th Feb 2017 (a workshop organised by ClusterVision in Haarlem) to discuss its strategy for the coming years. Action items were identified, aimed at increasing the visibility of the SME providers of HPC technology, their access to HPC projects and systems, and their networking capabilities.

<http://www.etp4hpc.eu/en/news/118-sme-working-group-workshop-february-haarlem-a.html>



Members of the SME Working Group during their workshop



4.5 LAUNCHING OF ETP4HPC NEW VISUAL IDENTITY

22/03/2017

ETP4HPC launched their new visual identity during their 7th General Assembly on the 21st of March in Munich. This new branding, which was designed towards the end of 2016, is now fully implemented and visible throughout ETP4HPC's dissemination and communication resources.

This revamping was undertaken to put new impetus and energy into the image of ETP4HPC. The identity has a fresh and simple image, which can give a clear message for the European HPC ecosystem to all European and international HPC.

ETP4HPC's new branding can be seen below through our: Symbol, Logo and Acronym



ETP4HPC members networking before the start of the General Assembly



[ETP4HPC Flyer](#)

[Presentation 'ETP4HPC in a Nutshell'](#)

<http://www.etp4hpc.eu/en/news/124-launching-of-etp4hpc-new-visual-identity.html>

4.6 NEW ROUND OF NETWORKING AT ETP4HPC, MARCH-APRIL, 2017

15/03/2017

ETP4HPC has launched a new round of networking, enabling our members and HPC stakeholders to collaborate together.

We recognise the need for networking within the entire European HPC Community. As the Horizon 2020 Programme is now in full swing, organisations continue to look for partners in order to collaborate within research projects.

You may partake in this networking process externally by filling out the form on our [Networking](#) web page. Closing date is the 21st of April. We will then collate all the forms into a Networking handbook and share it with all ETP4HPC members.

<http://www.etp4hpc.eu/en/news/121-new-round-of-networking-at-etp4hpc-march-apri.html>



4.7 NEW MEMBERS - JANUARY-MARCH 2017

Since the beginning of 2017 we have one new member.

Associated member:

DCX - SME

DCXperts has established a concept of developing a HPC/Data Center direct liquid cooling system characterized by modular design, two-phase liquid cooling, application of hot-flux dielectric engineering fluids, reuse of heat generated by the infrastructure for various purposes, allowing low PUE when installed.

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



5 3. RECENT EVENTS

5.1 ARM: ON THE ROAD TO HPC (MONT-BLANC PROJECT) JANUARY 16-17, 2017, BARCELONA

20/01/2017

The “ARM - On the Road to HPC” event, which was hosted by Mont-Blanc, a European Exascale project, and coordinated by Barcelona Supercomputing Center, took place on 16th and 17th of January, on UPC campus, Barcelona. The scientific committee were: Mateo Valero, Jesus Labarta, Eduard Ayguadé, Miquel Moreto, Marc Casas, Leonardo Bautista-Gomez, Filippo Mantovani, with the local committee of Filippo Mantovani and Renata Gimenez.

‘The Mont-Blanc project, which started in 2011, 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.’

On Day 2, ETP4HPC was represented by Jean-Pierre Panziera, Chair, who gave a presentation on ETP4HPC’s involvement and support in the development of HPC in Europe ‘in a nutshell’.

There were over 130 HPC experts registered at this event, the target audience being:

- ARM SoC manufacturers, integrators and providers - The privileged position gained by the Mont-Blanc project during these 5 years of activity allows to gather, besides the industrial project partners ARM and Bull, several industrial players that have shown increasing interest in the ideas of the Mont-Blanc project.
- End-Users - Members of the Mont-Blanc End-User Group as well as other companies that have shown their interest during the Mont-Blanc project in testing the ARM based solutions deployed in the past 5 years.
- Academic and research entities - Starting from the Mont-Blanc partners, the event will involve other H2020 projects adopting ARM as compute platform, PRACE members, data centres and universities.



Mateo Valero, Director of
Barcelona Supercomputing
Center



Jean-Pierre Panziera (Chair of
ETP4HPC) giving a presentation on
ETP4HPC’s involvement and support in
the development of HPC in Europe ‘in a
nutshell’.

You can get a feel for this two day event by watching the following videos:

- [Day 1: ARM - On the Road to HPC](#)
- [Day 2: ARM - On the Road to HPC](#)

The topics covered over these two days were:

- High Performance Computer architectures - The architecture of innovative ARM-based HPC solutions will be presented and discussed.
- System software ecosystem for ARM - A complete software stack for performing scientific computing on ARM-based systems, including compilers, performance libraries and performance analysis tools is needed to be a valuable solution on the market.
- Energy efficient solutions - Traditional sensitivity to power consumption of embedded devices together with the desperate need of power efficiency and energy proportionality of future HPC systems will be discussed.
- Heterogeneity - How to efficiently exploit the increasing number of heterogeneous computational devices that are integrated in modern SoC?
- Scientific applications - Applications driven machines are most probably not an ideal solution for modern data centres, but how to run old and new codes on modern parallel systems?
- Resiliency - Can we really survive with system noise and hardware failures on future large exascale systems, or should we fight them?

And the objectives were:

- Get a comprehensive view of the ARM-based platforms available on the market.
- Understand and promote the current coverage of the ARM system software ecosystem.
- Discover the contributions of the biggest players that are contributing in making ARM technology key for the future of HPC and datacentres.
- Create connections among scientists, technologists, engineers and companies gravitating around emerging technologies for scientific computing.

<http://www.etp4hpc.eu/en/news/115-arm-on-the-road-to-hpc-mont-blanc-january6-17.html>



Over 130 HPC experts were registered at this event

5.2 1ST EUROPEAN STAKEHOLDER FORUM ON DIGITISING EUROPEAN INDUSTRY, JANUARY 31 TO FEBRUARY 1, ESSEN

02/02/2017

The [1st European Stakeholder Forum](#) on [Digitising European Industry](#), took place at the Grand Hall in Kokereiallee, Essen, between the 31st of January and the 1st of February, 2017.

‘The Stakeholder Forum is a yearly public event co-organised by the EC and the Member States and the pivotal European conference to address, interlink and consult with stakeholders from the entire digital value chain. It is an essential part of the coordination framework between the various actions on the digitisation of the industry at national, regional and EU level known as the “European Platform of National Initiatives”. ‘

This event was set-up by Max Lemke, Head of the unit of “Technologies and Systems for Digitising Industry” within the directorate of the Digital Industry of DGCNECT.

ETP4HPC was represented at this Forum by Eugene Griffiths from BSC.

On the first day, high-level policy debates highlighted different aspects of the digitisation of the industry and Industry 4.0, and during the second day focused on national initiatives for the digitisation of the industry and Industry 4.0 and included workshops on digital innovation hubs, digital industrial platforms, standardisation, skills for the digital age, IT security and regulatory challenges.

Khalil Rouhana stood in for Roberto Viola and talked about the EC role in: sharing experiences, assuring a digital single market, consider areas where we need to pool resources to achieve a critical mass, ensuring connection and networking of partners along the innovation chain.

A workshop on Digital Innovation Hubs explained the concept of: one stop shop providing services to companies in the region through multi partner cooperation.

The thinking behind the Digitising Industry Strategy is: Industry is one of the pillars of the European economy – the manufacturing sector in the European Union accounts for 2 million enterprises, 33 million jobs and 60% of productivity growth. We are standing on the brink of a new industrial revolution, driven by new-generation information technologies such as the Internet of Things (IoT), cloud computing, Big Data and data analytics,



Keynote 1(K1): Digitising European Industry: State of the Initiative - Speaker: Khalil Rouhana, Deputy Director-General, European Commission, DG Connect



Keynote 2 (K2): Panel (P3) Highlights from national initiatives: success stories, best practices and EU-level cooperation: Mario Buisán, Director General of Industry and SMEs, Spanish Ministry of Economy, Industry and Competitiveness

robotics and 3D printing. These open new horizons for industry to become more adventurous and efficient, to improve processes and to develop innovative products and services. Recent studies estimate that digitisation of products and services can add more than €110 billion of the annual revenue in Europe in the next five years.

HPC is an important enabler in this very wide scope of Digitising European Industry.

Examples of already existing actions are FORTISSIMO projects (under I4MS) for the democratisation of HPC for SMEs.

An exhibition area offered the possibility of getting more information on national and European initiatives, and in showcasing successful examples of the use of digital technologies. The conference had a specific focus on SMEs.

Photo references:

- Photo 1: Keynote 1(K1): Digitising European Industry: State of the Initiative Speaker: Khalil Rouhana, Deputy Director-General, European Commission, DG Connect
- Photo 2: Keynote 2 (K2): Panel (P3) Highlights from national initiatives: success stories, best practices and EU-level cooperation: Mario Buisán, Director General of Industry and SMEs, Spanish Ministry of Economy, Industry and Competitiveness
- Photo 3: Final Keynote: Günther H. Oettinger, EU Commissioner in charge of Budget and Human Resources

<http://www.etp4hpc.eu/en/news/117-1st-european-stakeholder-forum-on-digitising-.html>



Final Keynote: Günther H. Oettinger, EU Commissioner in charge of Budget and Human Resources

5.3 HPC USER FORUM, FEBRUARY 28 TO MARCH 1, STUTTGART

28/02/2017

The 64th HPC User Forum took place at HLRS/University of Stuttgart, between February 28th and March 1st, with more than 100 attendees.

IDC, in close partnership with users and vendors in the technical high-performance computing (HPC) industry, created the HPC User Forum, a unique service that identifies buyer/user requirements and vendor capabilities within this market. This forum promotes the interests of HPC users worldwide in industry/commerce, government, and academia. The HPC User Forum is an extension of IDC's long-standing commitment to the global HPC community.

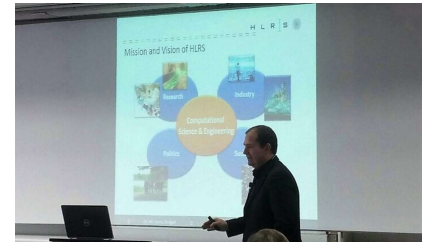
Dr Michael Malms, our SRA expert at ETP4HPC, made a presentation on our association and its work on the SRA. He was accompanied by Maïke Gilliot, our Expert for Start-up and SME development.

Gustav Kalbe, DGCNECT, presented 'HPC and Quantum Technologies in Europe' saying "We now move away from just supporting science. We support research while also creating industrial policy".

Bastian Koller, HLRS, gave an update on his centre and also a presentation on 'Toward a center of Excellence in Engineering'. Mark Parsons, EPCC, gave his presentation on 'Partnering with SMEs in Fortissimo', and Andreas Wierse, SICOS, presented 'HPC for SMEs' showing how SICOS helps SMEs handle Big Data.

The agenda can be read [here](#).

<http://www.etp4hpc.eu/en/news/119-hpc-user-forum-february8-to-march-stuttgart.html>



Bastian Koller giving an update on his centre (HLRS/University of Stuttgart)



Dr Michael Malms giving a presentation on ETP4HPC and its work on the SRA



Gustav Kalbe, DGCNECT presenting 'HPC and Quantum Technologies in Europe'

5.4 BDEC 2017 CLOSED WORKSHOP, MARCH 8-10, WUXI, CHINA

15/03/2017

The [Big Data and Extreme-Scale Computing \(BDEC\)](#) held their 5th closed workshop from March the 8th to the 10th in Wuxi, China. BDEC brings together experts from the U.S.A., Japan and Europe on Big Data and exascale developments. This year's workshop allowed experts to get an update on the different Exascale initiatives worldwide and especially in China (the host country).

The workshop on [Big Data and Extreme-scale Computing \(BDEC\)](#) was premised on the idea that we must begin to systematically map out and account for the ways in which the major issues associated with Big Data intersect with, impinge upon, and potentially change the national (and international) plans that are now being laid for achieving exascale computing.

ETP4HPC was present at this workshop, with Jean-Pierre Panziera, Bull & ETP4HPC Chair, giving a presentation on the '[European Union Overview](#)' on the 9th of March. Also, Jean-François Lavignon, TS-JFL & former ETP4HPC Chair, and Hugo Falter, ParTec & ETP4HPC Secretary, attended this workshop.

HPC experts were able to visit the supercomputer Sunway BaihuLight system, which is No.1 system on the top500 listing, with 93 petaflop/s.

<http://www.etp4hpc.eu/en/news/120-bdec017-closed-workshop-march-10-wuxi-china.html>



Jean-Pierre Panziera, Bull & ETP4HPC Chair, giving a presentation on the '[European Union Overview](#)'

5.5 SRA 3 KICK-OFF MEETING, MARCH 20, MUNICH

21/03/2017

ETP4HPC organised a Strategic Research Agenda (SRA) kick-off meeting for their next issue, (SRA 3), with SRA work group leaders and with several invited HPC experts attending. The agenda was as follows:

- 10:30 Welcome and agenda review
- 10:45 New trends and requirements
- 10:45-11:15 BDVA: Sonja Zillner, Nenad Stojanovic
- 11:15-11:45 CoE: Peter Bauer
- 11:45-12:15 EXDCI-WP3: Stephane Requena
- 12:15-12:45 EuroLab-4-HPC: Paul Carpenter, Theo Ungerer
- 12:45-13:15 HiPEAC: Marc Duranton
- Working Lunch
- 14:00-14:30 BDEC: Mark Asch
- 14:30-15:00 IPCEI-road-map (Jean Gonnord)
- 15:00-16:00 SRA-structure: what is new, what to change?
- 16:00-17:00 Process, next meetings, next steps

Presentations can be consulted [here](#).

Upcoming events related to the preparation of SRA 3 are as follows:

- 18th May: EsD – Round-table during HPC summit
- 19th May: SRA 3 Workshop - Developing SRA Strategic Analysis and High-Level Technical Analysis (FETHPC projects, CoE, HPC centers, system integrators, technology providers)
- 22nd June: Workshop at ISC with industrial users (“how to benefit from EsDs?”)
- March-June: writing, interlock with workgroups
- July: integration, tuning, review
- 31st July: completion target
- 15th September: release and distribution after WP17 call closure

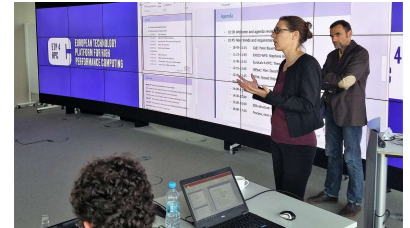
The ETP4HPC Strategic Research Agenda (SRA) is our key deliverable. It is a document that outlines a roadmap for the achievement of exa-scale capabilities by the European High-Performance Computing (HPC) ecosystem. The milestones set in the SRA are used to define the contents of the HPC Technology R&D Work Programmes managed by the European Commission.

You can read our publications [here](#).

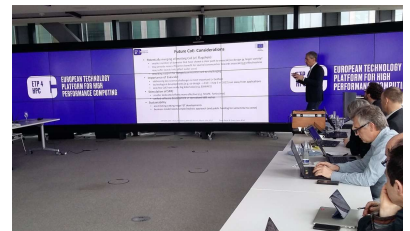
<http://www.etp4hpc.eu/en/news/122-sra-kick-off-meeting-march0-munich.html>



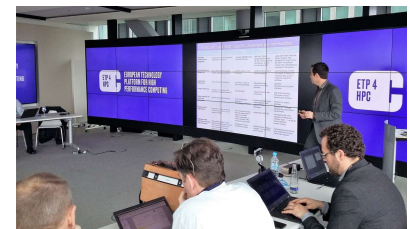
Dr Michael Malms, ETP4HPC SRA project leader, opening the workshop



Sonja Zillner & Nenad Stojanovic, presenting BDVA



Peter Bauer, ECMWF, presenting CoEs



Stephane Requena, PRACE, presenting EXDCI-WP3:



Mark Asch giving a presentation on BDEC



Jean Gonnord giving a presentation on IPCEI road map

5.6 STUDY VISIT ON BIG DATA, MARCH 21-22, BRUSSELS

23/03/2017

Study visit to Brussels on Big Data for Transformation of the Industry, March 21-22, Brussels

A study visit was organised by the Polish National Contact Point in collaboration with the Embassy of the Republic of Poland to the Kingdom of Belgium, the Permanent Representation of the Republic of Poland to the EU, Polish Ministry of Development (tbc), Polish Ministry of Digital Affairs (tbc) Polish Ministry of Science and Higher Education and the Polish Science Contact Agency PolSCA. This event took place at the Embassy of the Republic of Poland to the Kingdom of Belgium, Brussels.

This event was addressed at Polish companies and research institutions active in Big Data related areas, which have the potential to enter the Big Data Value Association (BDVA) and other cPPPs and PPPs, or be part of consortia realizing the projects in H2020 calls; European stakeholders active in Big Data consortia; Belgian companies and research institutions active in Big Data related areas.

The objectives were to present Polish potential in Big Data to the European Commission, Big Data Value Association; to familiarise Polish industry and research institutions with HORIZON 2020 rules of the game; to facilitate and enhance cooperation between Polish and Belgian partners from the Big Data sector. Also, an impact was have new and strengthened links between PL, BE and other EU stakeholders resulting in an increased number of PL participations in the Horizon 2020 Big Data initiative and projects related to Big Data.

Activities that took place were working meetings with the European Commission representatives, which included; a matchmaking event with representatives of the Belgian Big Data sector (companies and research institutions); informal meetings with PL representatives in EU institutions (including MEPs); informal meetings with thematic organisations, associations active in Brussels in area of R&D&I; and, the presentation of the Polish potential in Big Data for transformation of the industry.

Marcin Ostasz, ETP4HPC Office Expert, gave a presentation on 'European HPC Technology and its role in Big Data development' on Wednesday morning, the 22nd and a number of Polish companies and organisations show interest in joining our ETP and the Office will follow up on these leads.

<http://www.etp4hpc.eu/en/news/125-study-visit-on-big-data-march1-22-brussels.html>



Panel on how to facilitate and enhance cooperation between Polish and Belgian partners from the Big Data



Polish companies amongst the attendees



Marcin Ostasz, ETP4HPC Office Expert, gave a presentation on 'European HPC Technology and its role in Big Data development'

5.7 39TH ORAP FORUM, MARCH 28, CNRS, PARIS

29/03/2017

The [39th ORAP Forum](#): 'Emerging and Future Architectures for HPC in the World // HPC Input-Output and Storage', took place on the 28th of March at CNRS, Paris.

This ORAP Forum explored two topics. International (China, Japan) and European Mont-Blanc projects presentations were an opportunity to emphasize the rising interest for ARM-based HPC architectures, among other considerations and visions delivered by large players - including HPC and big data convergence. This latter topic was then further explored in a second part of the event, where trends in I/O and storage for HPC were highlighted by academic or industrial experts, from technology to applications, emphasising also new concepts and software organisation aspects.

These two topics are not disconnected: usage evolution in all domains is questioning an increasingly intertwined vision of computing and data processing. This was illustrated by the different technical, scientific or strategic presentations, and we were able to discuss how more and more crucial data movement and storage features and capabilities must be globally envisioned.

- Dr Jean-Philippe Nominé, CEA/ETP4HPC Office Expert, gave a short talk on EU HPC landscape and then chaired a session on Storage and IO with two salient H2020-funded European Exa-scale Projects:
- SAGE percipient storage, Malcolm Muggeridge & Sai Narasimhamurthy – Seagate, <http://www.sagestorage.eu/>
- NEXTGenIO – non-volatile memory for next generation I/O, Michele Weiland, EPCC, <http://www.nextgenio.eu/>

Find more information on this forum and its agenda [here](#).

<http://www.etp4hpc.eu/en/news/128-39th-orap-forum-march8-cnrs-paris.html>



Dr Jean-Philippe Nominé, CEA/ETP4HPC Office Expert, giving a presentation on EU HPC landscape



Etienne Walter, presenting Mont-Blanc project

