PPI4HPC

Public Procurement of Innovations
for High Performance Computing

Overview of the PPI4HPC Project

Dirk Pleiter, JUELICH, Coordinator

Open Dialogue Event
September 6, 2017 - Brussels

The PPI4HPC project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement Nº 754271

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Disclaimer

For the avoidance of doubt this presentation is solely made for the purpose of informing the market and of initiating a technical dialogue with the market in order to prepare a joint procurement procedure.

It does not signify the beginning of a procurement procedure or constitute a commitment by the public procurers involved in the presentation to undertake such exercise at a later stage.

The final form of the procurement could differ from the form presented during this meeting.

Participation in this open dialogue event is not a precondition for responding to the planned procurement procedure.

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Project Overview

- Objective: Execution of a Public Procurement of Innovative Solutions for procuring next generation of supercomputers and/or storage
  - Joint procurement of production systems
    - Not test systems or demonstrators
  - 4 public procurers
- Effort is co-funded by European Commission
  - EU funding of € 26 million
  - The total investment is planned to be about € 73 million
- Joint evaluation of the deployed solutions as well as the joint procurement process
  - Evaluation results and lessons learned will be made publicly available

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Public Procurement of Innovative Solutions

[Lieve Bos, 2014]

- When
  - Challenge requires solution which is almost on the market (or already on the market in small quantity) but not meeting public sector requirements for large scale deployment yet
- What
  - Public sector acts as launching customer / early adopter / first buyer for innovative products and services that are newly arriving on the market (not widely commercially available yet)
- How
  - Public sector acts as facilitator establishing a buyers group with critical mass that triggers industry to scale up its production chain

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Barcelona Supercomputing Center
Centro Nacional de Supercomputación

PPI4HPC Partners

- BSC
  - Spanish national HPC centre
- CINECA
  - Italian national HPC centre
- GENCI/CEA
  - French national HPC centre
- JUELICH
  - Member of GCS = German national HPC centre

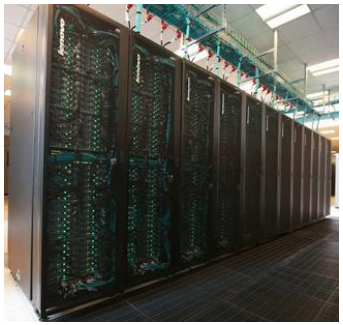
GENCI

DE LA RECHERCHE À L'INDUSTRIE
cea

All sites are hosting PRACE Tier-0 systems

JÜLICH
FORSCHUNGSZENTRUM

CINECA



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Goals of the Project (1/2)

- Foster science and engineering applications in Europe by providing more computing and/or storage resources
  - A significant fraction of the new resources will become available through PRACE
- Promote R&I on HPC architectures and technologies in Europe
  - Pursuing incorporation of innovative solutions
  - Requesting strong relationship and possibly collaboration between the procurers and the suppliers for large scale testing, tuning and maturation

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Goals of the Project (2/2)

- A greater weight and more impact on common topics of innovation and on the design of the solutions according to the need of scientists and engineers in Europe by a coordinated approach
  - Jointly setting technical priorities by means of
    - Aligning future roadmaps and coordinating deployment of supercomputers and/or storage
    - Executing a joint procurement

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Joint Procurement Overview

- Joint procurement
  - Executed in a common legal framework
  - Organised in 4 separate lots, one lot per country
- Actors
  - 1 lead procurer - GENCI
  - 4 public procurers (one per lot) - BSC, CINECA, GENCI, JUELICH
- Common versus local parts of the procedure
  - Common call for tender
  - Competitive dialogue phase for each lot at local level

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Common Technical Topics

- Opportunity to jointly work towards common technical goals
  - Endorsed by all public procurers
  - Will be actively pursued by all
- Opportunity to shape the future infrastructure towards the need of European scientists
  - Benchmarks include elements of the Unified European Benchmark Suite of PRACE
  - Provide similar advanced development and execution environment

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Overview on Common Technical Topics

- Energy efficiency and power management
- Data management
- Programming environment and productivity
- Data centre integration
- Maintenance and support
- System and application monitoring
- Security
- Evaluation taking Total Cost of Ownership (TCO) into account

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Alignment with Roadmap of the European Commission

[Leonardo Flores, 2017]

- European Cloud Initiative → European Data Infrastructure
  - Development and deployment of large-scale European HPC, data and network infrastructures
  - Including a full HPC ecosystem for European technology
- Objectives related to the European Data Infrastructure
  - Coordinated acquisition of supercomputers
  - Interconnection and federation of national and European HPC resources
  - Establishment of an European HPC ecosystem
  - Joint demonstration and testing of technology performance

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Project Organisation

- WP1 Management (Dirk Pleiter, JUELICH)
- WP2 Coordinated Procurement (François Robin, CEA)
  - Preparation of technical specifications and evaluation criteria
  - Launch of the joint call for tenders
- WP3 Local Procurements (Paola Alberigo, CINECA)
  - Procurement and system deployment
- WP4 Evaluation and Dissemination (Javier Bartolomé and Renata Gimenez, BSC)
  - Evaluation of the PPI process
  - Communication and dissemination

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Overview Agenda

10:00 - 10:15	Welcome and introduction
10:15 - 11:15	**Overview of the PPI4HPC Project**
11:15 – 11:45	Procurement process
11:45 – 12:15	Questions and answers on process
12:15 – 13:30	Lunch
13:30 – 15:10	Technical requirements
15:10 – 15:50	Questions and answers on technical aspects
15:50 – 16:00	Next steps

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Questions and Feedback

- Slides will be made available on the PPI4HPC web site shortly after this meeting
- Questions and feedback are welcome
  - Ask today or submit questions (by October 16) via https://ppi4hpc.eu/contact-us
  - Provide feedback today or submit this (by October 16) via https://ppi4hpc.eu/contact-us
  - One-to-one meetings will provide another opportunity to ask questions and provide feedback
- Answers and clarifications will be published via the PPI4HPC web site

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