EU HPC Roadmap and the EXDCI Initiative

Sergi Girona
Partnership for Advanced Computing in Europe
Francois Bodin
Institute for Research in Computer Science and Random Systems

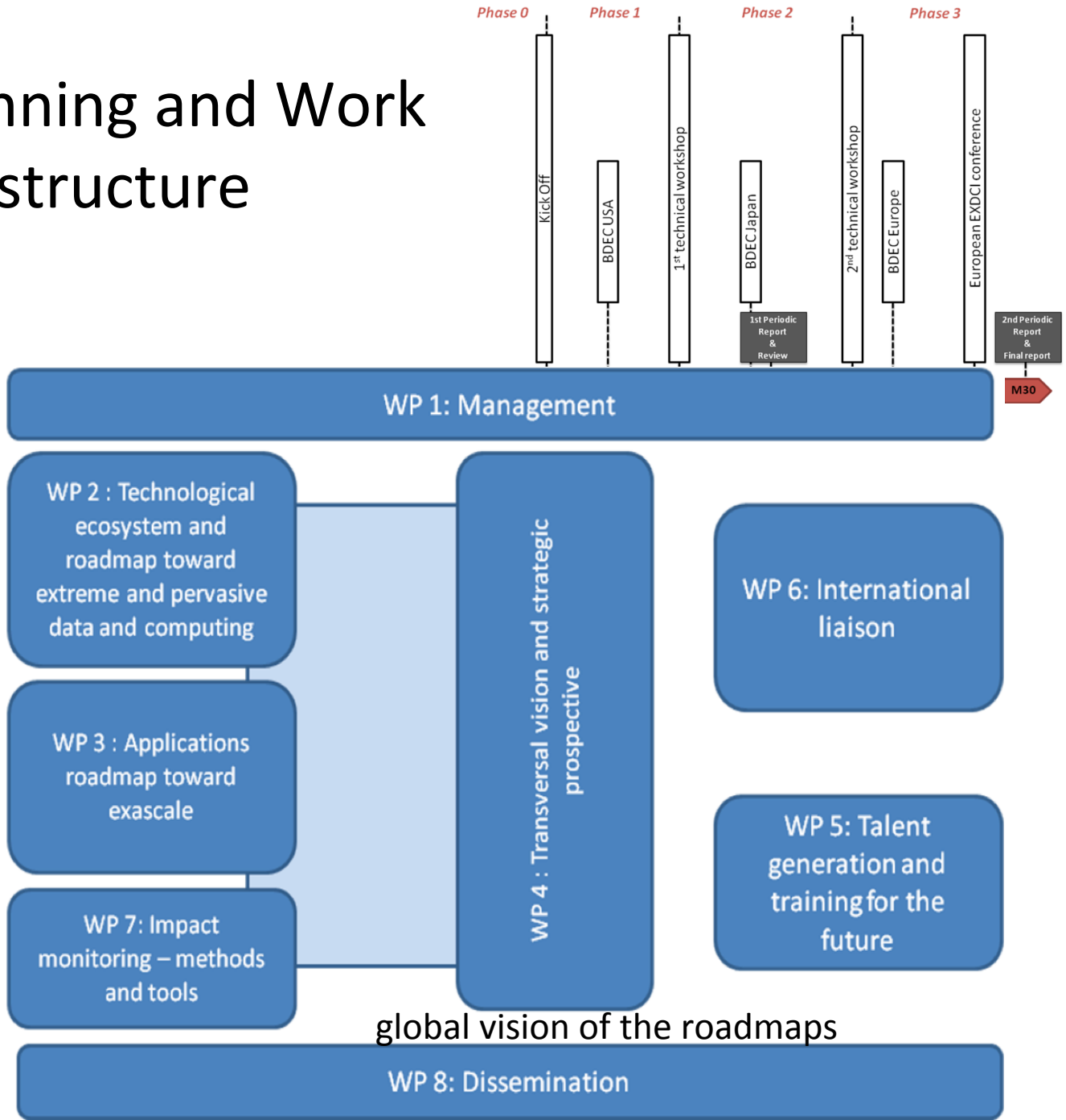
FETHPC 2 - 2014: HPC Ecosystem Development

- **Specific challenge**: to develop a sustainable European HPC Ecosystem
- **Coordination of the HPC strategy**: The aim is to support the implementation of a common European HPC strategy through coordination of the activities of stakeholders such as the European Technology Platform for HPC (ETP4HPC), PRACE, application owners and users (including emerging HPC applications), the European exascale computing research community, the open source HPC community, related activities in other parts of H2020, etc. Proposals must include activities for promoting a joint community structuring and synchronisation as well as other non-research activities such as the development of Strategic Research Agenda for High Performance Computing (including the roadmap for exascale in Europe), the link to the H2020 Societal Challenges, the mapping and analysis of related national and international R&I programmes/activities/research agendas in HPC towards exascale, coordination with and participation in relevant international activities, etc. Specific actions for attracting young talent into HPC must be included.
- **Submission date**: 25/11/2014

EXDCI proposal

- European eXtreme Data and Computing Initiative
- Partners
  - PRACE
  - ETP4HPC
  - Third parties includes, among others, EESI-2 partners
- Duration: 30 months
- Requested budget: 2.5 m€

Overall planning and Work plan structure



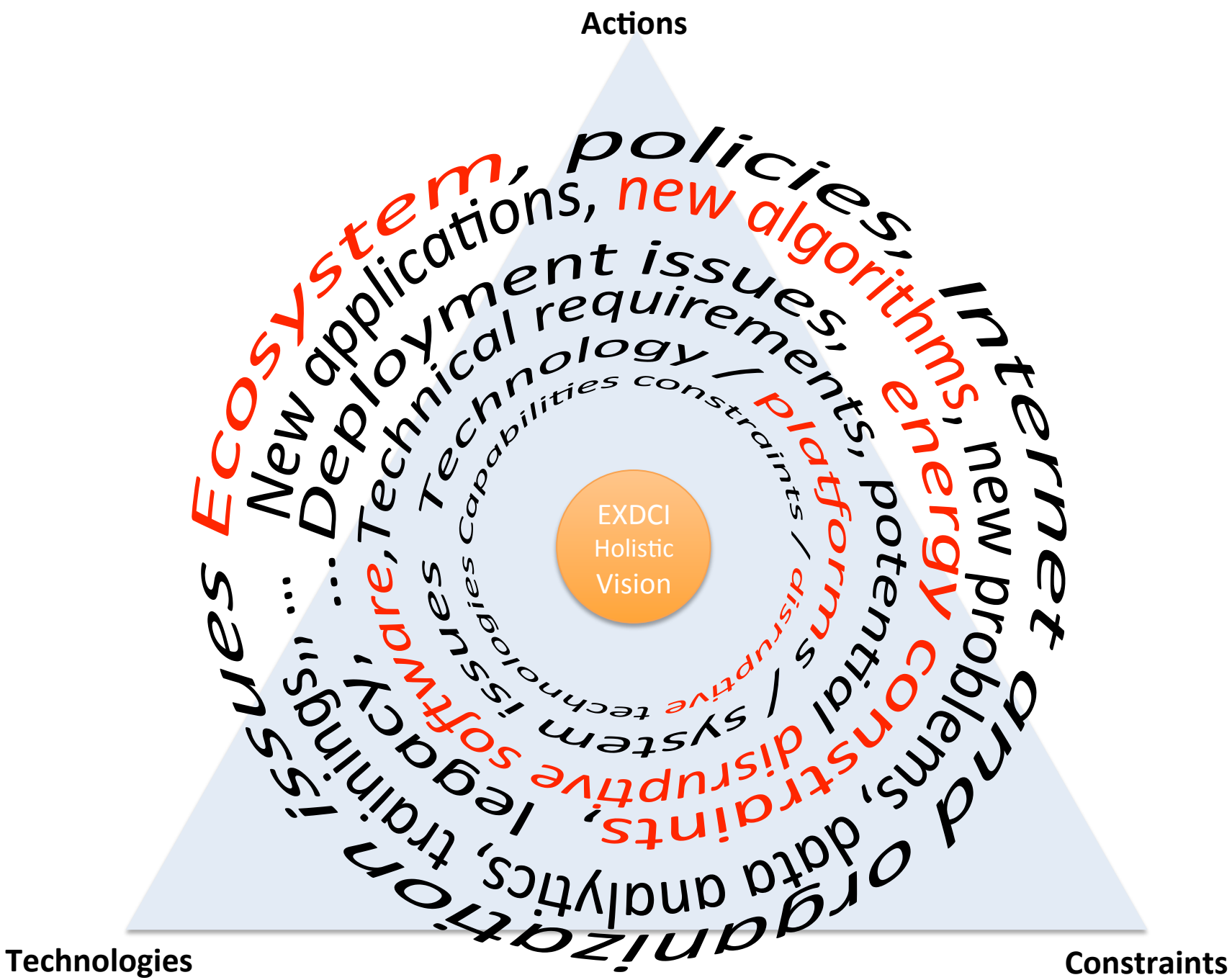
periodic updates of the Strategic Research Agenda (SRA) : leaded by ETP4HPC

update the PRACE Scientific Case.

global vision of the roadmaps

ExDCI Roadmapping Challenges

- Integrating **constraints** linked to ecosystem and technology
  - *e.g. computing resource structure, existing and emerging standards…*
- Identifying coherent **actions** for the EU ecosystem
  - *e.g. interactions with CoE, scientific discovery needed on strategic domains for EU…*
- Anticipating uncertain hardware **technologies** impact on software roadmap
  - *e.g. future HW technologies such as NVM…*


Actions
Technologies
Constraints
EXDCI
Holistic
Vision
Ecosystem, policies, Internet and organization issues
New applications, new algorithms, new problems, data analytics, trainings,, ...
Deployment issues, energy constraints, legacy, ...
Technical requirements, potential disruptive software,
Technology / platforms / disruptive technologies
Capabilities constraints / system issues