HPC Serbia
National Competence Center for High-Performance Computing

EURO⁴SEE

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Overview of HPC Serbia

- HPC Serbia is EuroCC2's national competence center for HPC/HPDA/AI

- EuroCC2 was appointed by the EuroHPC Joint Undertaking

- Acting as a hub to promote and facilitate HPC uptake and related technologies across industry, academia, and public administration

- HPC Serbia consists of two institutions:
  - Institute of Physics Belgrade
 - University of Belgrade School of Electrical Engineering

Main activities of HPC Serbia

- Training and Skills Development

- Services to and Interaction with Industry

- Services to and Interaction with Academia

- Services to and Interaction with Public Administration

- Service Portfolio and Competence Management

- Collaboration

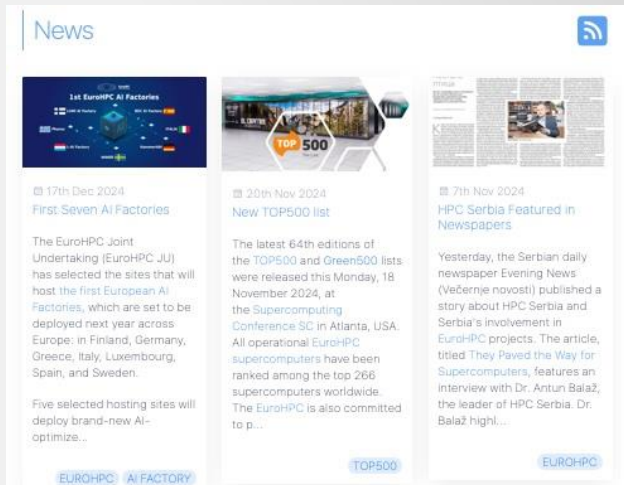- Awareness Creation and Communication

- NCC Management

Main activities practically
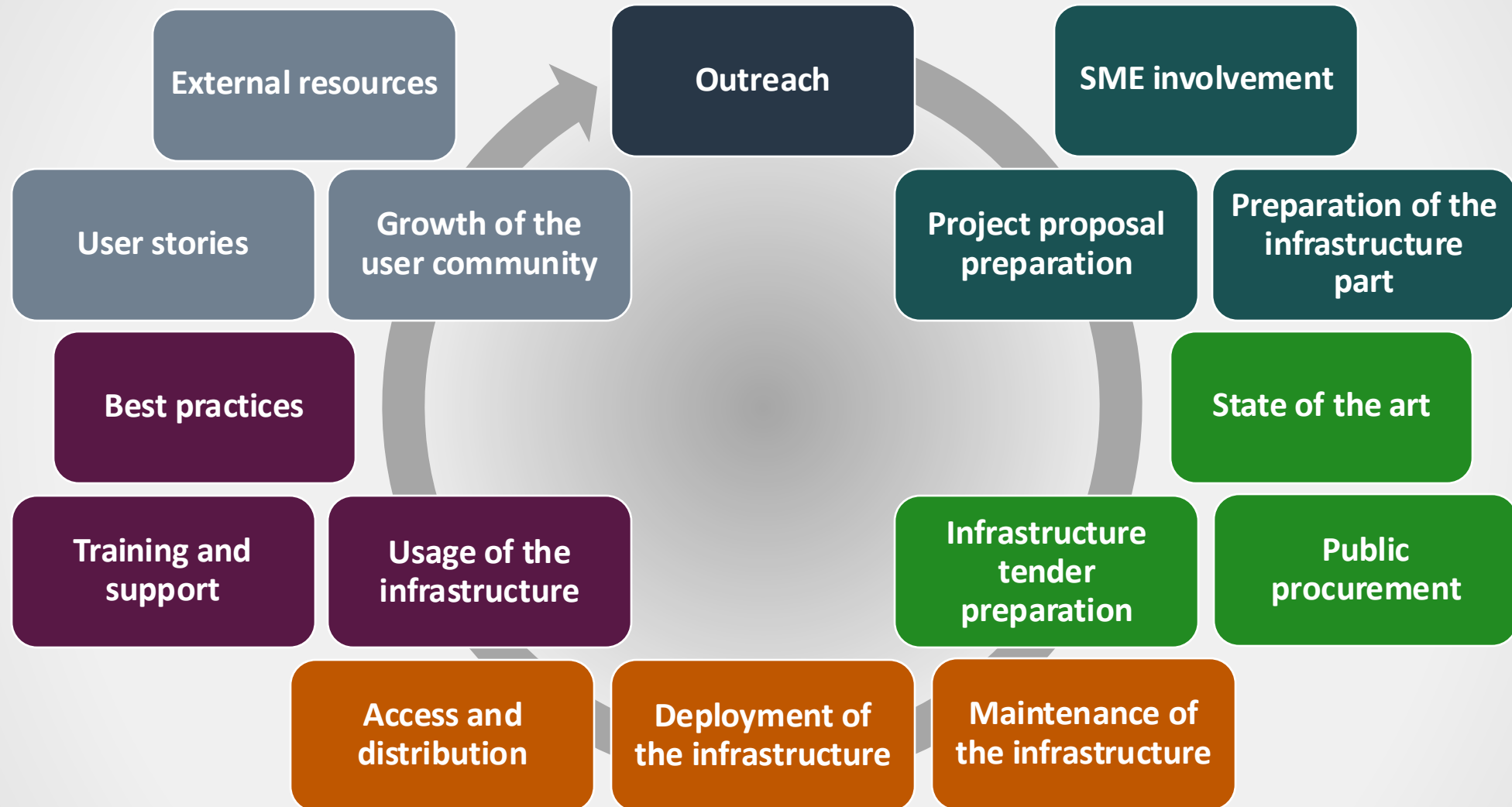
Outreach

- HPC Serbia website and Facebook page (https://hpc.rs)
- More than 250 posts in the last 2 years
- Presence in the newspapers
- Present in the main national events

Project proposal preparation

- EuroHPC JU calls
  - Development and benchmarking
  - Traditional HPC access calls (regular, extreme scale, AI and data-intensive)
  - AI factory access calls

- European Commission calls

- National calls (Science/Innovation Fund of the Republic of Serbia)

- Infrastructure part preparation and design of the computing infrastructure

Deployment of the infrastructure

- Collaboration with the SCLoTHiFi project (ERC grant)
  - Deployment of the PARADOX-V cluster
- Partnership with the CTRUST project (Science Fund of the Republic of Serbia)
  - Deployment of the PARADOX-GPU cluster
- Partnership with the PolMoReMa project (Science Fund of the Republic of Serbia)
  - Upgrade of the PARADOX-IV cluster
- Procedure to access resources
- Evaluation panel established
- Access policies and terms of use
- Support for the everyday use of resources

Growth of the community

- Success in attracting new communities of interest and maintaining engagement with previously established connections

- Engaged with 24 distinct user communities

- 8 national SMEs were actively involved, including Syrmia, AI Software, Moonstruck, 60seconds, Reputeo, Neural Factory, Coming, and Čikom.

- 9 new connections originated from the academic sector

- 5 with public administrations: UNDP in Serbia, RHMZ, AMRES, GIZ, MIT-RS

- 2 big companies: HPE and IBM

- Frequently used services: consulting, training, access and usage support

PARADOX cluster

- Common name for computer equipment installed at the Institute's Scientific Computing Laboratory
- Since 2005, 5 major upgrades
- High-Performance Computing
- High-Performance Data Analysis
- High-Throughput Computing
- Artificial Intelligence

Usage of PARADOX cluster

- Major scientific communities
  - Computational physics
  - Computational chemistry
  - Climatology
  - Astrophysics
  - Computational sciences
- Collaboration with Public Administration
- Collaboration with SMEs

Regional collaboration

- 15 years of collaboration

- SEEREN
  Research and Education Networking

- SEE-GRID
  GRID e-Infrastructure Development

- HP-SEE
  Regional HPC initiative

- VI-SEEM
  Virtual Research Environment

- NI4OS-Europe
  Open Science Cloud

Highlights of recent collaboration

- The first regional training event in collaboration with NCC Turkey, NCC North Macedonia, NCC Montenegro (555 participants)

- Use of High-Performance Computing in Numerical Simulations (NCC Latvia)

- Serbia's participation in the EuroHPC AI factory call (NCC Greece, NCC North Macedonia, NCC Montenegro)

- Localizations and promotion of the HPC4SME tool (NCC Slovenia)

- Lobbying for a call and working on EuroCC4SEE proposal (NCC Turkey, NCC North Macedonia, NCC Montenegro, NCC Bosnia and Herzegovina, NCC, NCC Germany)

Thanks!