

Scientific Computing Research Group (SCORG)

high performance computing, big data analysis, parallel programming, machine learning, neural networks

Applications of HPC in industry and in problems that originate from various scientific fields:

- Problems of quantum mechanics using parallel computers in cooperation with the Institute of Physics in Belgrade. Density functional theory problems and modeling behaviour of Bose-Einstein condensates using the Gross-Pitaevskii equation.
- Implementation of distributed optimization algorithms using MPI
- Big Data analysis
- Solving classification and regression problems by utilizing modern Machine Learning techniques and modern tools like TensorFlow and PyTorch. Development of experimental neural network models with the goal of improving accuracy and robustness in classification and regression problems.

SELECTED PROJECTS

Title: *High-performance Computing for Effective Innovation in the Danube Region - InnoHPC*

Type: Interreg transnational

Duration: 30 months

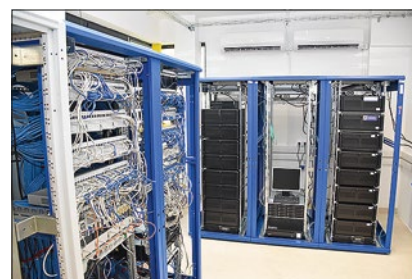
Contact person: Srdjan Skrbic

Title: *Developing Capacity for High-Productivity Large-Scale Computing*

Type: SCOPES

Duration: 3 years

Contact person: Srdjan Skrbic



COLLABORATIONS

- Ecole Polytechnique Fédérale de Lausanne, Lausanne, Switzerland
- Prince of Songkla University, Hat Yai, Thailand
- Faculty of Information Studies, Novo Mesto, Slovenia



CONTACT PERSON

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SELECTED EQUIPMENT

100 core computer cluster: 16 nodes, 8xNvidia GTX960, 304GB DDR4 RAM, 10Gbps interconnect, 24TB storage