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Romanian National Center of Competence in HPC –  
ways to elevate the national level of HPC knowledge

# Content



- Introduction of RONCC
- Ways of raise the adoption of HPC in Romania
- Success Stories

- **RONCC** operates as an interface to facilitate access to resources and capabilities in this field, both in Romania and in Europe, through the EuroCC network. The Center offers services and access to valuable resources to public institutions in Romania, educational institutions, research institutes, companies, and other interested entities.
- **Main activities:**
  - ✓ Facilitating access to HPC infrastructure, both hardware and software, for the development of experiments, modules, etc.
  - ✓ Consultancy services for the adoption of HPC/AI technology, from a technical standpoint, adapted for the business environment (non-technical).
  - ✓ Facilitating participation in dissemination and training events with general or specific themes, depending on the needs and interests of the stakeholders.
  - ✓ Identifying the needs of stakeholders.
  - ✓ Providing support and guidance in the field of HPC/AI.
  - ✓ Providing support for participation in open calls launched in the field of HPC/AI. Facilitating collaborations and partnerships.

**roncc**  
ROMANIAN NATIONAL COMPETENCE CENTRE  
IN HPC - HIGH PERFORMANCE COMPUTING

- **Specific services:**

- Competence Map;
- Introduction to MPI Course;
- RoNCC Code Repository;
- HPC/AI courses and workshops
- Open call

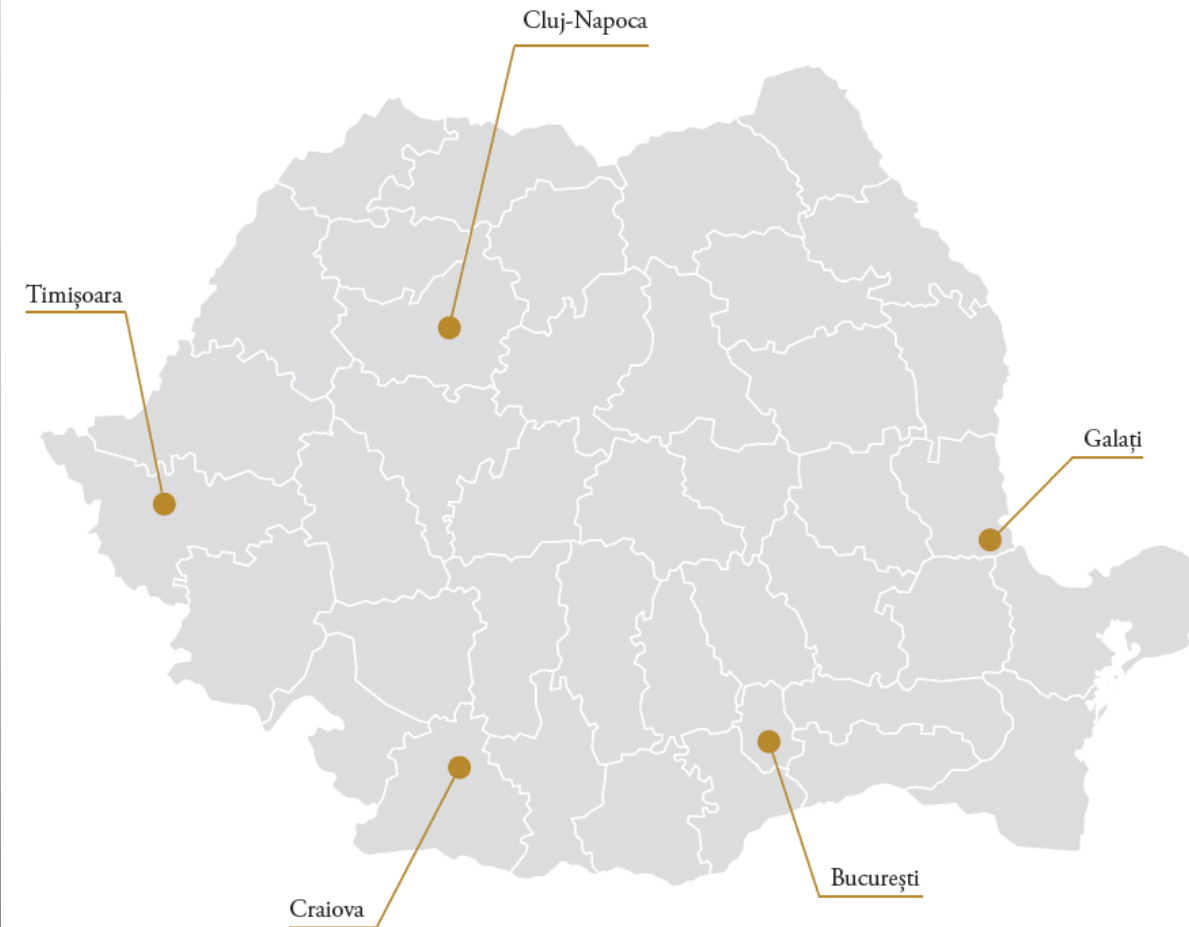
- **Ongoing activities:**

- Identifying the needs of users and potential users in Romania;
- Mentoring together with other NCCs;
- One-to-one meetings for identifying the needs of stakeholders and directions for collaboration;
- Launching open calls (infrastructure offered free of charge for conducting proof of concept, experiments, models, etc.);
- Training and dissemination events.



# Competence map

- To provide a clearer overview of the national HPC (High-Performance Computing) resources, RONCC has developed an interactive map. This map is regularly updated with information on infrastructure and training capabilities identified through a questionnaire.
- The questionnaire gathers comprehensive details about an entity's HPC capabilities, including aspects of hardware, software, training, funding, and more.
- More details: <https://roncc.ro/competence-map-romania/>



# MPI Course and RONCC Code repository



- At the training and education level, besides the training and educational events we organized, we created an MPI introductory course. This course is freely accessible on our website: <https://roncc.ro/introduction-mpi-course/>.
- Moreover, RONCC has created a national code repository where we have gathered multiple applications, modules, and programs related to HPC. This code repository is freely available on our website: <https://roncc.ro/code-repository/>.



# Open call

- This initiative, established in collaboration with NCC Netherlands, aims to provide Romanian entities with the opportunity to develop and test an application using an HPC resource (the Snellius supercomputer) free of charge. The open call is intended particularly to attract the private industry to test the HPC infrastructure, better understand its benefits, and create national success stories.
- The open call has three stages:
  1. The application: Participants are required to complete a document describing their use case/application and the necessity of using HPC.
  2. The evaluation: RONCC evaluates the proposals, considering the impact of the use case, area of expertise, and other criteria.
  3. The acceptance: After the evaluation, NCC Netherlands will facilitate contact with the participants and begin training them to use the Snellius supercomputer for their use case.
- More details on the open call can be found at <https://roncc.ro/open-call/>.

# Success stories

- Implementation and development of the HPC cluster at the Romanian Research and Development for Gas Turbines (COMOTI)
- Computer-based simulation process of parts, sub-assemblies, and assemblies for IPA CRAIOVA
- Implementing Deep Learning Methods on the Technical University Cloud for Virtual Biopsy
- SaaS solution that integrates AI & Data Analytics technologies in order to understand customers' needs and behavior, to assist companies' agents (representatives) in their communications with customers.



# Thank you

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Funded by the European Union. This work has received funding from the European High Performance Computing Joint Undertaking (JU) and Germany, Bulgaria, Austria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, Latvia, Poland, Portugal, Romania, Slovenia, Spain, Sweden, France, Netherlands, Belgium, Luxembourg, Slovakia, Norway, Türkiye, Republic of North Macedonia, Iceland, Montenegro, Serbia under grant agreement No 101101903.