

How a SUPERCOMPUTER Can Help



BECOME MORE COMPETITIVE

The world today is inextricably linked to artificial intelligence and digital technologies. By learning to use a supercomputer, you stay ahead of tomorrow, becoming a sought-after expert in the job market not only in Latvia but across Europe and globally. Likewise, integrating a supercomputer into your company's processes can significantly boost competitiveness.

TRAIN ARTIFICIAL INTELLIGENCE MODELS

AI training takes place on high-performance computing clusters, also known as supercomputers. This includes computer vision models, machine learning, deep neural networks, and processing massive datasets.

PERFORM GENOME ANALYSIS

Currently, RTU HPC Center clusters are most widely used in biomedicine. The European-level project '1+ Million Genomes' and the Latvian Genome Bank are developed using HPC resources.

AUTOMATE INDUSTRIAL PROCESSES

Supercomputers can optimize manufacturing processes, logistics, and quality control, increasing productivity and efficiency across industries.



SIMULATE MOLECULES AND MATERIALS

Modeling complex molecular structures accelerates the discovery of new pharmaceuticals and enables innovative scientific solutions in fields such as engineering and natural sciences.



CREATE DIGITAL TWINS

Combine the physical and digital worlds to make them smarter, more efficient, and safer. Common sectors using digital twins include manufacturing, energy, transportation and logistics, construction and urban planning, healthcare, automotive, and aviation.



ANALYZE FLOWS USING NUMERICAL METHODS (CFD*)

Computational Fluid Dynamics (CFD) tasks are among the most time-consuming computational challenges. Using a supercomputer accelerates results several times over. CFD is widely applied in aviation, weather forecasting, energy efficiency, climate research, and energy production.

hpc.rtu.lv



RTU HPC Center

the High-Performance Computing Center

is part of the RTU Innovation Prorektorate, supporting the use of digital technologies in research, industry, and public administration. It is currently the largest provider of supercomputing resources in Latvia.

eurocc-latvia.lv



WANT TO TRY? CONTACT US!

The High-Performance Computing (HPC) Competence Center was established under the EuroCC (2021–2022) and EuroCC 2 (2023–2025) projects to promote HPC adoption in higher education, research, public administration, and industry.



How to Start Using RTU HPC Center SUPERCOMPUTER

«One simulation on my laptop can take several days. On HPC resources, I completed the same task in just 3–4 hours. Conveniently, I can connect to the HPC Center supercomputer from home – all I need is an internet connection.»

Soubhik Bhowal,
RTU Formula
Student Team



Are you enrolled in an RTU **bachelor's** or **master's** program?*

Would a supercomputer help with your thesis or research?

Your first 7,000 CPU hours or 200 GPU hours are free – enough for most research projects. If you need more, we'll explain RTU's student pricing.

Are you enrolled in RTU **doctoral** studies?

Would a supercomputer help with your doctoral research?

Your first 7,000 CPU hours or 200 GPU hours are free. After that, billing follows internal RTU rates or academic pricing for EU-funded projects.



Doctoral students can apply for ZIAF support

Are you studying at **another** university?

Would a supercomputer help with your thesis or research?

Your first 7,000 CPU hours or 200 GPU hours are free. If you need more, we'll share academic pricing.

Fill out the application Form.



We will review your application within 5 days.

If approved, you'll receive a User Agreement via email.

After signing the agreement, you'll receive access details by email.

* If you want to use the supercomputer for your company or startup, see the instructions for businesses.

** RTU Science and Innovation Support Fund.