

# Cooperation

# EuroCC 2

# National Competence Centers in the framework of EuroHPC

# National Competence Center Bulgaria

## Public Sector



### Success story #Highlights

- Research area: Statistical and Data Analysis, Biological diversity, IT.
- Technology: HPDA.

## Industrial Users

### Success story #Highlights

- Industry sector: Manufacturing & Engineering, Retail, Services, Automotive, Agriculture, Environment.
- Technology: Augmented Reality (AR) powered by AI and HPC, Marine learningBigQuery, MySQL, IoT.



## Scientific Achievements



### Success story #Highlights

- Research area: Astronomy, Physics, Mathematics, Agriculture, Forestry, Healthcare, Finance.
- Technology: HPC, MPI, OpenMPI, HPDI, AI.

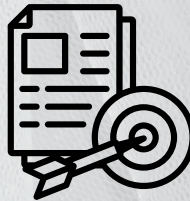
The National Competence Centre Bulgaria has received funding from the European Union through the European High Performance Computing Joint Undertaking (JU) and the Ministry of Education and Science of the Republic of Bulgaria.



Funded by the European Union



## Objectives



- Develop and display a comprehensive and transparent map of HPC competences and institutions in their country.
- Act as a gateway for industry and academia to providers with suitable expertise or relevant projects, may that be national or international.
- Collect HPC training offers in their country and display them in a central place together with international training offers collected by other NCCs.
- Foster the industrial uptake of HPC.



## Follow EuroCC 2



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This project has received funding from the European High-Performance Computing Joint Undertaking (JU) under grant agreement No 101101903. The JU receives support from the Digital Europe Programme 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.



# THE POWER OF HPC FOR BETTER LIFE!



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Institute of Information and Communication Technologies  
- Bulgarian Academy of Sciences, coordinator

SOFIA UNIVERSITY  
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University of National and World Economy

## Follow the partners



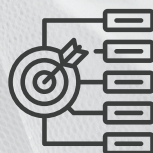
IICT-BAS



Sofia university



UNWE



## OBJECTIVES

Creating and developing a National Competence Centre in the field of High Performance Computing (HPC) and its application in the field of artificial intelligence and big data analysis.

## SERVICES

Providing services in the fields of high performance computing, artificial intelligence and data analysis and facilitating access to modern equipment, software codes and tools.



## TRAINING

Organizing and delivering courses, webinars, seminars, and consultations for current and future users from academia, industry and public administration.



## PUBLICITY

Raising awareness of the benefits of high performance technologies, disseminating results, success stories, and best practices.



## COOPERATION

Exchanging knowledge, experience, expertise and best practices with other national centers and thematically related European and national initiatives and projects.



**Manufacturer:** HPE

**Cores:** 19,840

**Processor:** AMD EPYC 7742 64C 2.25GHz

**Interconnect:** Infiniband HDR

**Installation Year:** 2023

**Performance:**

**Linpack Performance (Rmax):**

2.53 PFlop/s

**Theoretical Peak (Rpeak):**

3.21 PFlop/s

**Nmax:** 786,432

**HPCG [TFlop/s]:** 36.4192

**Software:**

**Operating System:** SUSE Linux

**Compiler:** NVIDIA HPC-Benchmarks 23.5.0

**Math Library:** NVIDIA HPC-Benchmarks 23.5.0 container binary

**MPI:** NVIDIA HPC-Benchmarks 23.5.0 container binary



**HEMUS**

**Manufacturer:** Hewlett-Packard

**Cores:** 20700

**Interconnection:** FDR InfiniBand

**Theoretical Peak Performance:** 412.3 TFlop/s

**RMAX Performance:** 264.2 TFlop/s

**Memory:** 9600 GB

**Operating System:** Red Hat Enterprise Linux for HPC

**Compiler:** Intel Composer XE 2015

**Lustre Storage systems:** 96 TB storage



**AVITOHOL**