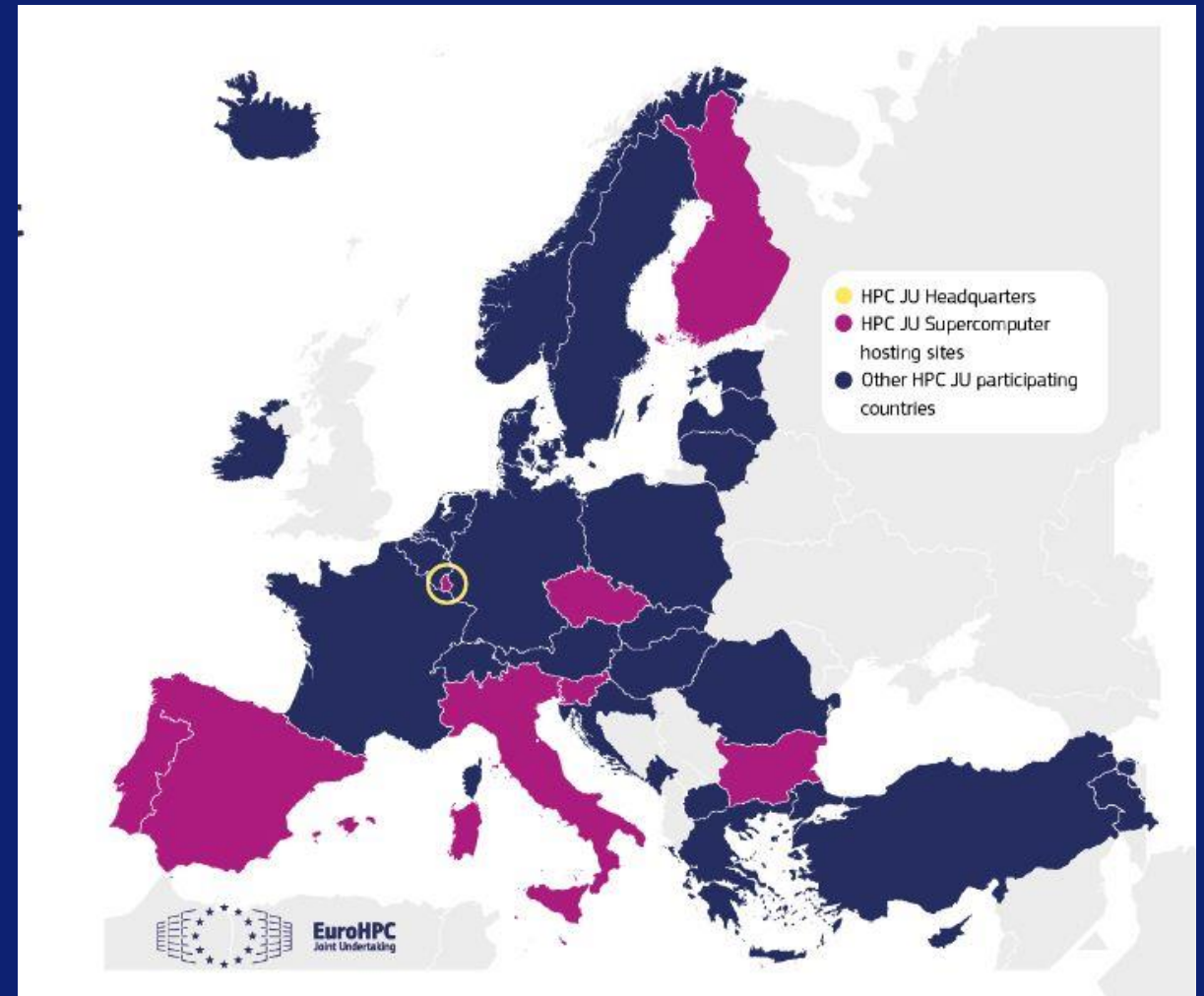




EuroHPC Joint Undertaking

Mikael Borg

Vetenskapsrådet





Swedish Research Council

The Swedish Research Council (VR) is Sweden's largest governmental research funding body at Swedish universities, colleges and institutes.



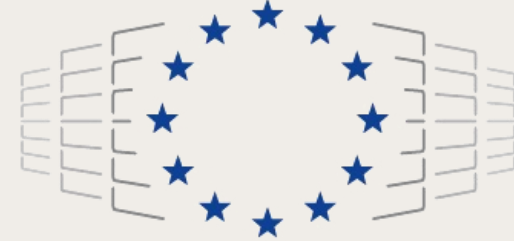
The role of the Swedish Research Council

The Swedish Research Council plays a leading role in developing Swedish research of the highest scientific quality, thereby contributing to society's development.

- We provide funding for researcher-initiated basic research
- We initiate and support strategic initiatives in research
- We work for an efficient research system
- We work to ensure that researchers gain access to advanced research infrastructure
- We analyze the conditions of the research, evaluate research and give the government advice on future research policy
- We coordinate and develop communication about the significance, results and conditions of research
- We promote international collaborative research



EuroHPC JU – partnership for High Performance Computing



EuroHPC
Joint Undertaking

- **Purpose:** To develop a World Class Supercomputing Ecosystem in Europe
- **Members:** EU, 32 states, 2 private partners (ETP4HPC och BDVA).
- **Activities:**
 - Developing a world-class supercomputing infrastructure.
 - Supporting research and innovation activities.
 - Strengthening the European knowledge base.
- **Budget:** ~ €1.1 · 10⁹ 2019-2020 (50% from EU)

New regulation currently being negotiated.

<https://eurohpc-ju.europa.eu/>



EuroHPC Governance

Governing Board

Representation by members. EU 50% voting rights.
Policy making and funding decisions.
SE: David Edvardsson (Dpt. of Edu.) & Magnus Friberg (VR)

Industrial and Scientific Advisory Board

RIAG

Draft multiannual strategic research and innovation agenda

INFRAG

Advice to GB re. acquisition and operation of the supercomputers

Executive Director

Daily mgmt., legal representative of JU



Swedish Research Council

- Advice Dept. of Education in Governance Board.
- Cofunding EuroHPC JU grants
 - Together with Vinnova
- Member of LUMI Consortium.

Contacts:

Magnus Friberg, magnus.friberg@vr.se
(EuroHPC JU GB)

Mikael Borg, mikael.borg@vr.se (EuroHPC grants, LUMI)

Lars Gustavsson, lars.gustafsson@vinnova.se
(EuroHPC grants industry)



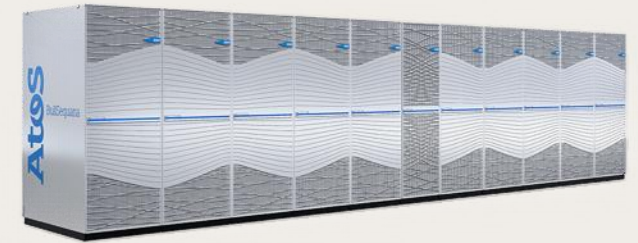
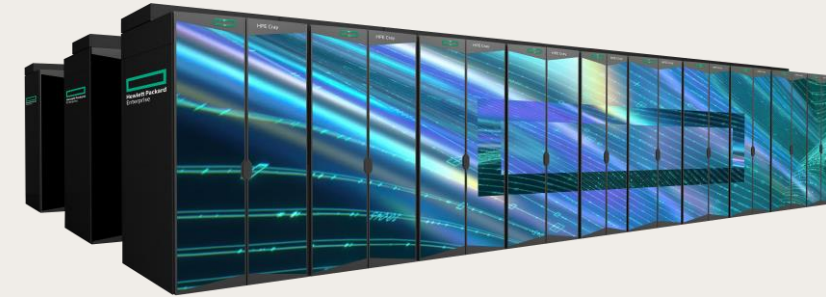
EuroHPC Reference Group @ VR

- Niclas Andersson, LiU
- Fredrik Dahlgren, Ericsson
- Anna Delin, UU & KTH
- Hans Karlsson, UU
- Erwin Laure, Max Planck Gesellschaft
- Gilbert Netzer, KTH
- Jeanette Nilsson, RISE
- Marie Skepö, LU



EuroHPC – Supercomputers

- 2 open calls 2019
- 2-3 pre-exascale systems & 5 petascale systems procured
 - Pre-exa: LUMI, LEONARDO (Cineca, BullSequana XH2000) + BSC (TBD)
- Construction phase, operational in 2021.
 - Each system financed by EuroHPC and consortium.
 - EuroHPC to allocate 50% of capacity in open calls (up to 20% to private sector).
- VR member of LUMI consortium (3.5%).
 - SNIC/UU *Accepted Third Party*
- Additional investments planned.





EuroHPC – Research and Innovation

- Annual calls according to Work Plan (GB decision).
 - 2021 Work plan to be amended
- Open calls on EuroHPC web site
 - Also published on vr.se (when participating).
- 3yr projects, H2020 rules (≥ 3 entities, different countries).
- 50% EuroHPC, 50% member states
 - Sweden: VR and Vinnova cofinancing.
- So far: 6 projects with Swedish partners granted.
- Previous calls (examples):
 - H2020-JTI-EuroHPC-2020-01: *Advanced pilots towards the European exascale supercomputers & Pilot on quantum simulator*
 - H2020-JTI-EuroHPC-2019-1: *Towards Extreme Scale Technologies and Applications*
- Probably no new RI calls in 2021.



EuroHPC Programme - process

- GB decides work plan with calls.
 - National funders indicate participation.
 - Based on funding situation, scope.
- Calls open, consortia can apply.
 - **Please inform VR about submissions.**
- EuroHPC JU organize evaluations of applications.
- EuroHPC GB decision.
- Negotiations with granted consortia.
- Grant Agreement EU <-> consortium.
- Funding from EuroHPC, co-funding from member states.



LIGATE

is an EU funded project

that aims to integrate and co-design best in class European components to keep worldwide leadership on Computer-Aided Drug Design (CADD) solutions exploiting today high-end supercomputer and tomorrow Exascale resources, fostering the European competitiveness in this field.

- €5.9M 2021-2023; KTH in consortium; <https://www.ligateproject.eu/>
 - Enhance the CADD technology of the drug discovery platform EXSCALATE. Coordinated by Dompé.



- €3M 2021-2023; *Improve the performance, scalability, and energy efficiency of an industrial LBM-based computational fluid dynamics (CFD) software.* Coordinated by CS Group.



- €9.9M 2020-2023; *Helps facilitate access to all high-performance computing-related technologies for SMEs. Coordinated by U of Stuttgart.*



IO-SEA

- €7.9M 2021-2024; KTH; *Novel data management and storage platform for exascale computing*. Coordinated by CEA.

DEEP-SEA

- €15M 2021-2024; KTH; *Programming environment for future European exascale systems.*
Coordinated by Forschungszentrum Jülich.



eProcessor: European, extendable, energy-efficient, energetic, embedded, extensible, Processor Ecosystem

- €8M 2021-2024; CTH; *The first completely open source European full stack ecosystem (RISC V CPU + accelerators)*. Coordinated by Barcelona Supercomputing Centre.



- **Great opportunities for ground breaking research!**
- **Utilize the upcoming HPC resources!**
- **Engage in EuroHPC projects!**
- **Contact VR in case of questions!**