

# NAISS User Forum 2026

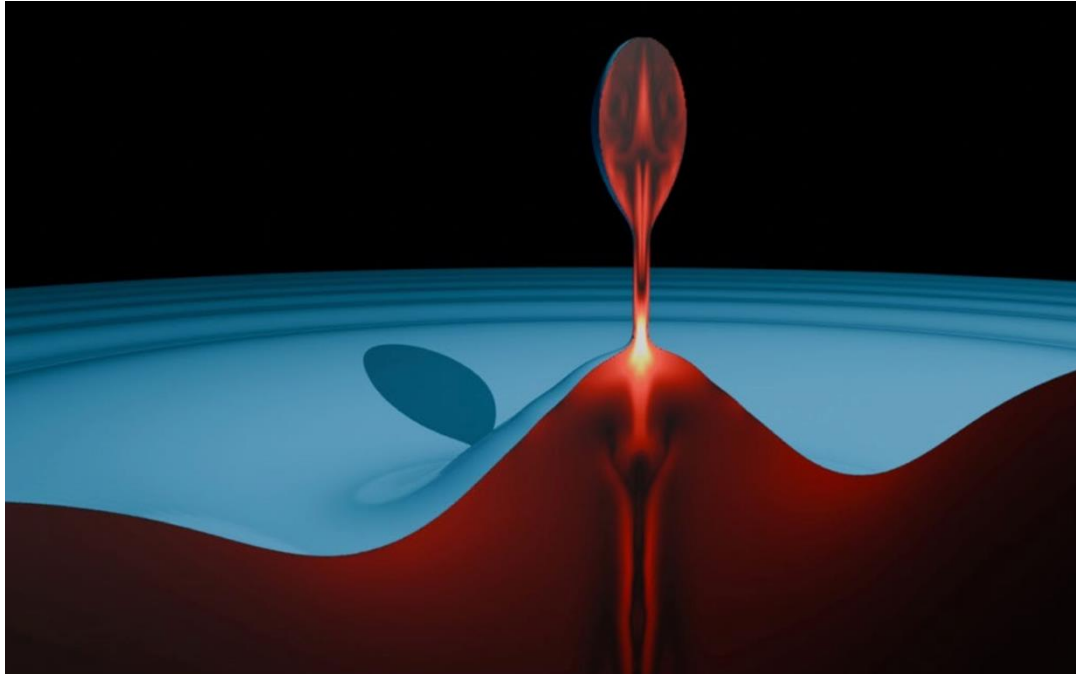
Constraints, Trade-Offs and Opportunities;  
How do we best advance Swedish computational research?

Erik Lindahl

Professor & Director

**NAISS**

Simulations on NAISS supercomputers enable researchers to show how simple theory can explain complex turbulence of bubble bursting in experiments - and helped the team secure two ERC grants



## Outi Tammisola

Professor in Fluid Mechanics,  
KTH Royal Institute of Technology

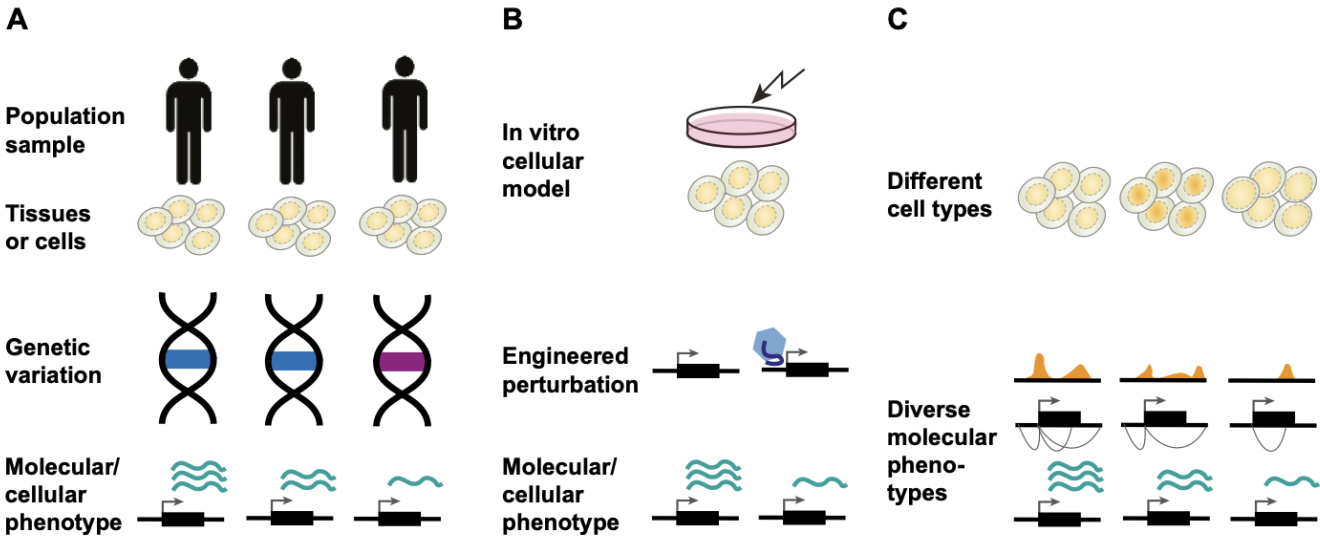


NAISS enables researchers to process sensitive patient data in secure environments to understand genetic risk of complex disease, and helps recruit international talent to Sweden - who secure ERC grants

# Tuuli Lappalainen

Director of the Genomics Platform and the National Genomics Infrastructure of SciLifeLab

Senior Associate Faculty Member at the New York Genome Center

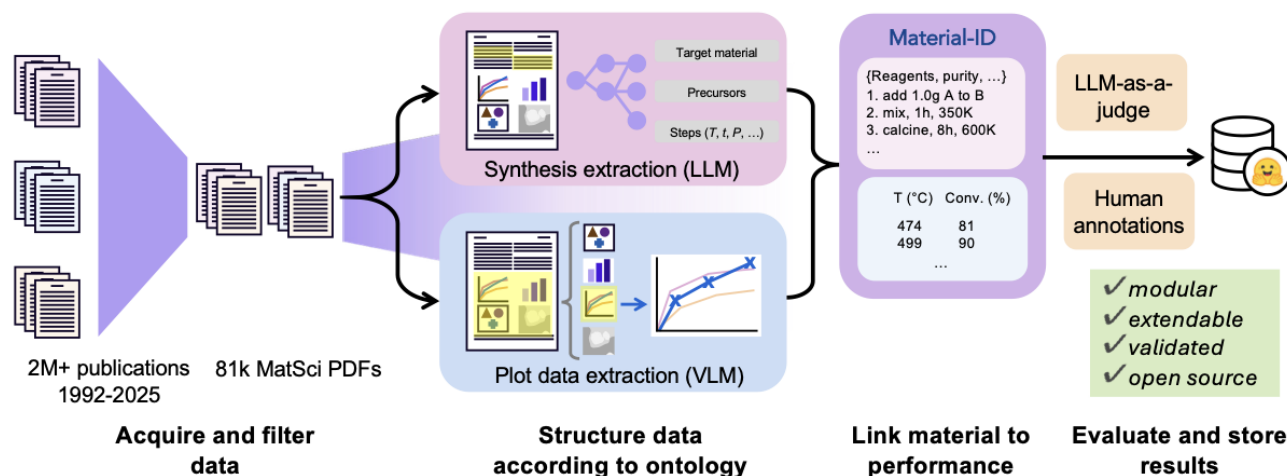


The new NAISS GPU resources are critical for Rocío's team to build generative AI tools that can design molecules with specific properties and speed up the process of finding promising candidates for new materials or drugs – and they helped her too secure an ERC grant



## Rocío Mercado Oropeza

Assistant Professor in  
Data Science & AI  
Chalmers Technical University

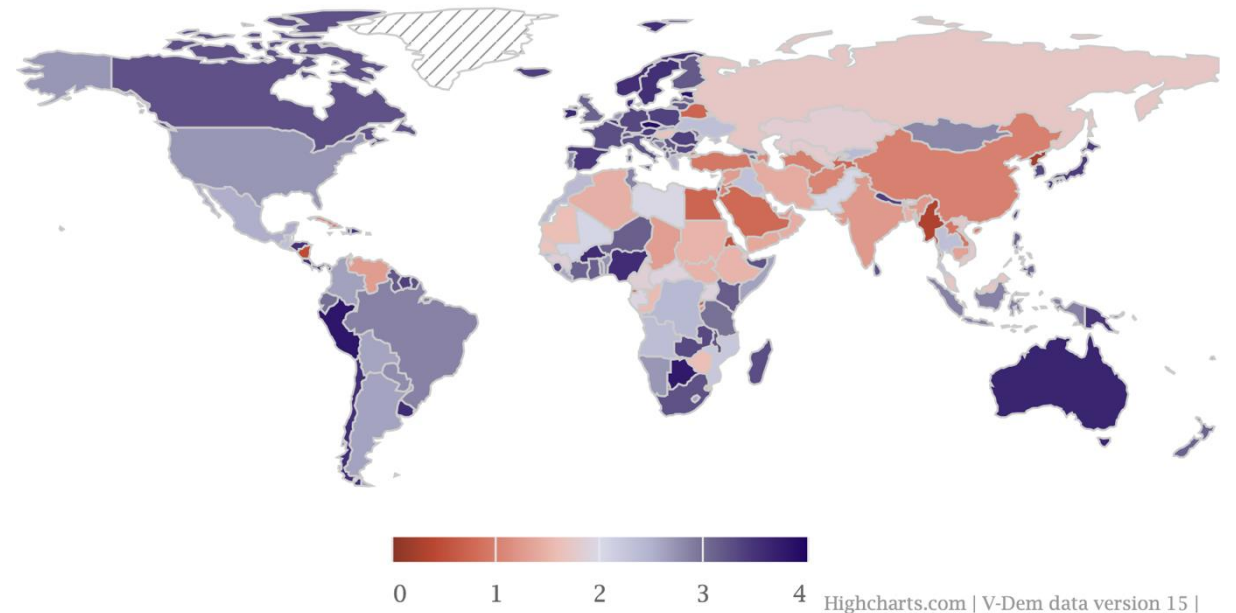




# Staffan I Lindberg

Professor, University of Gothenburg  
Director V-Dem

Computing and data in NAISS help the V-dem institute in Gothenburg understand how democracy evolves and is threatened today



Graph showing to what extent scholars are free to develop and pursue their own research and teaching agendas without interference (V-Dem).

- 0: Completely restricted.** Scholars, across all disciplines, are consistently subject to interference or incentivised to self-censor
- 1: Severely restricted.** Scholars, in some disciplines, are consistently subject to interference or incentivised to self-censor
- 2: Moderately restricted.** Scholars are occasionally subject to interference or incentivised to self-censor
- 3: Mostly free.** Scholars are rarely subject to interference or incentivised to self-censor
- 4: Fully free.** Scholars are not subject to interference or incentivised to self-censor





HPE Cray

HPE Cray

HPE Cray

HPE Cray

NAISS

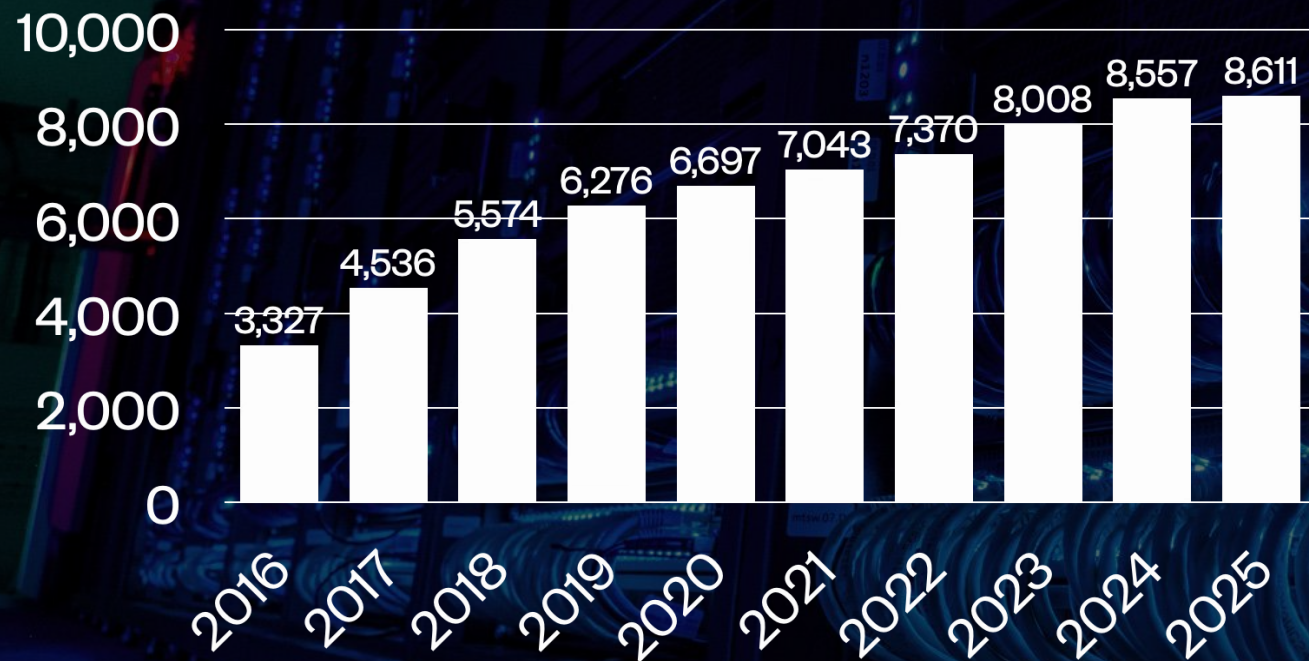
Kapsrådet  
Research Council

EHPC  
undertaking

Co-funded by  
the European Union

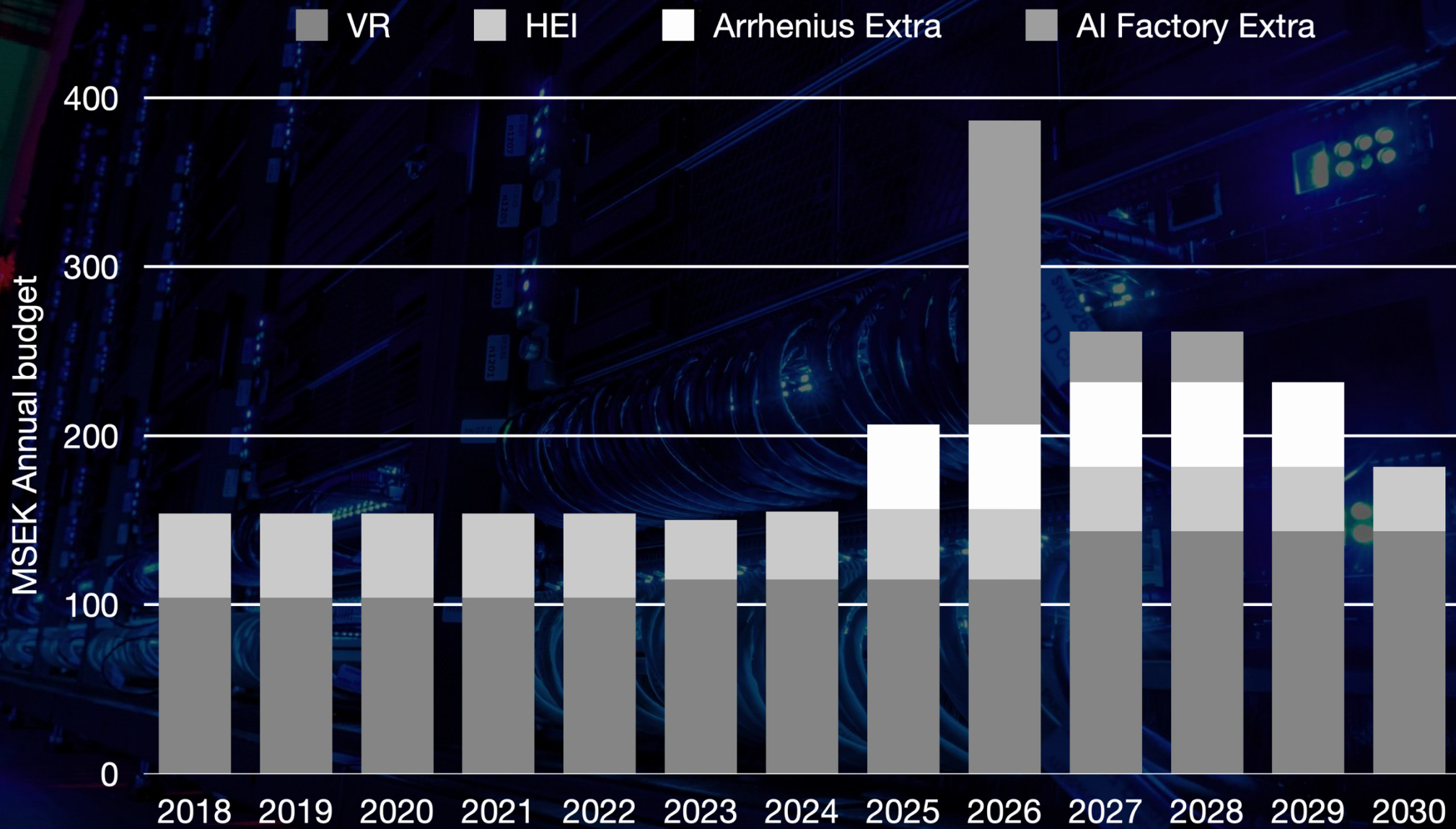


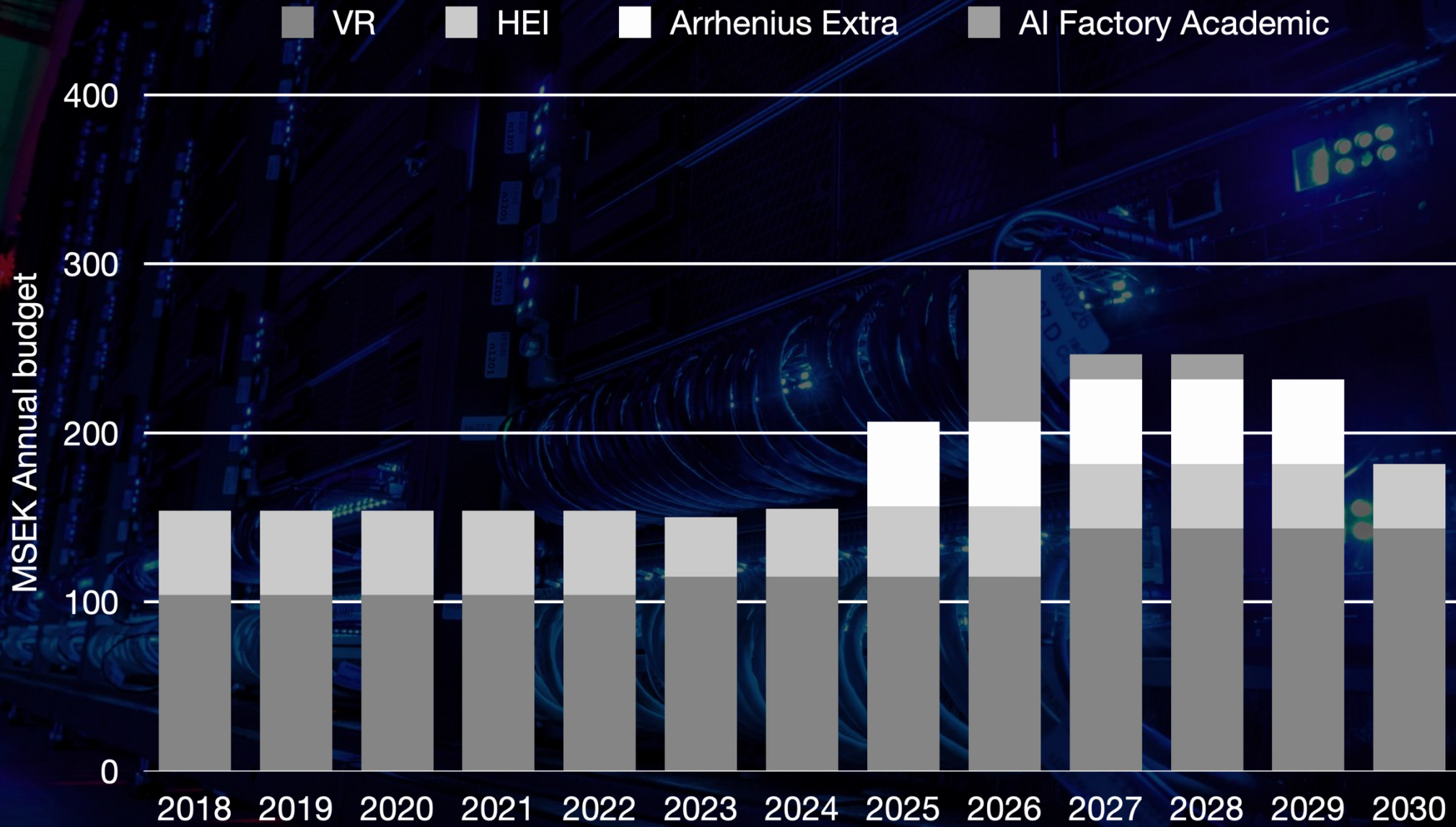
## Active users

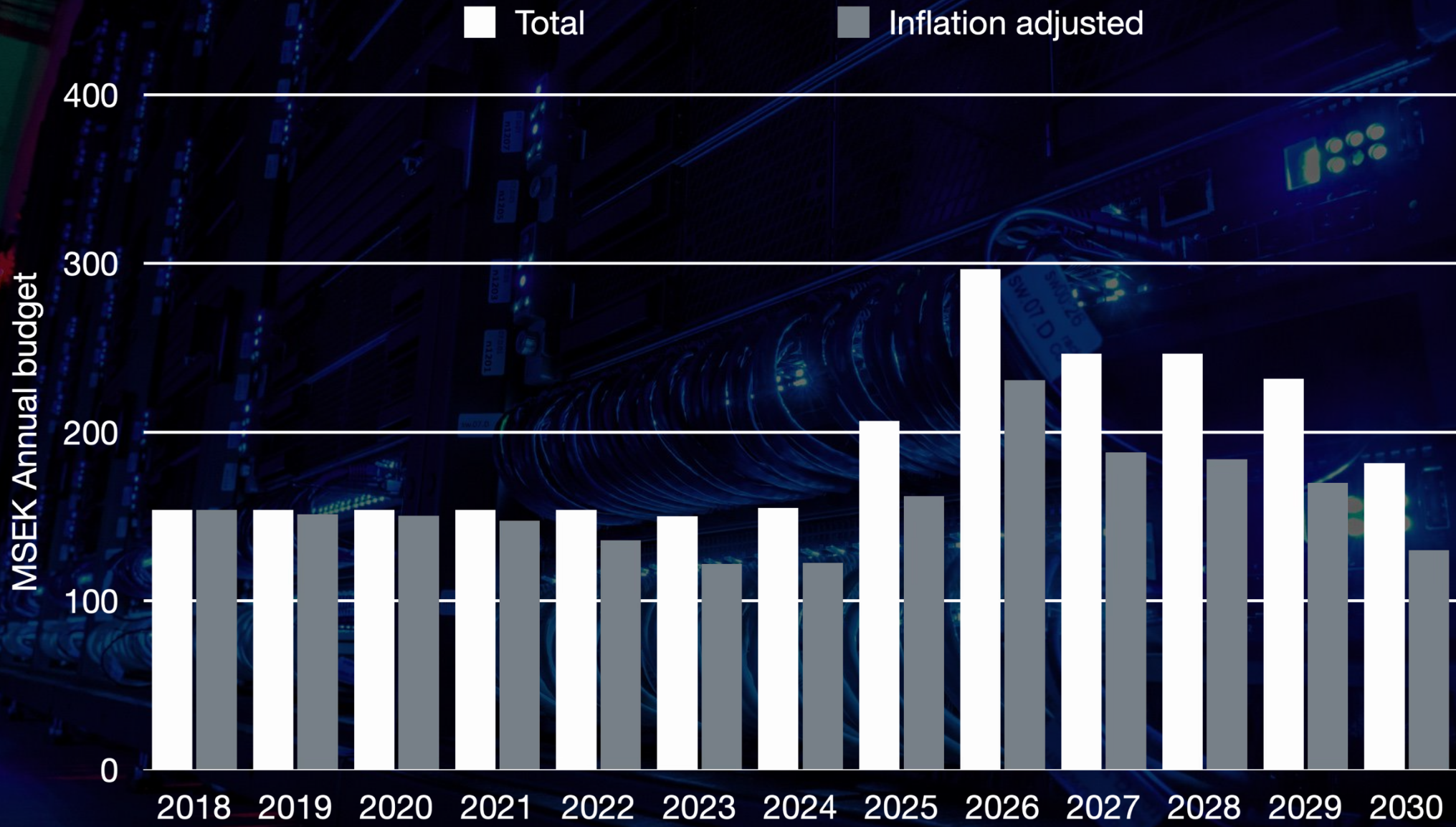


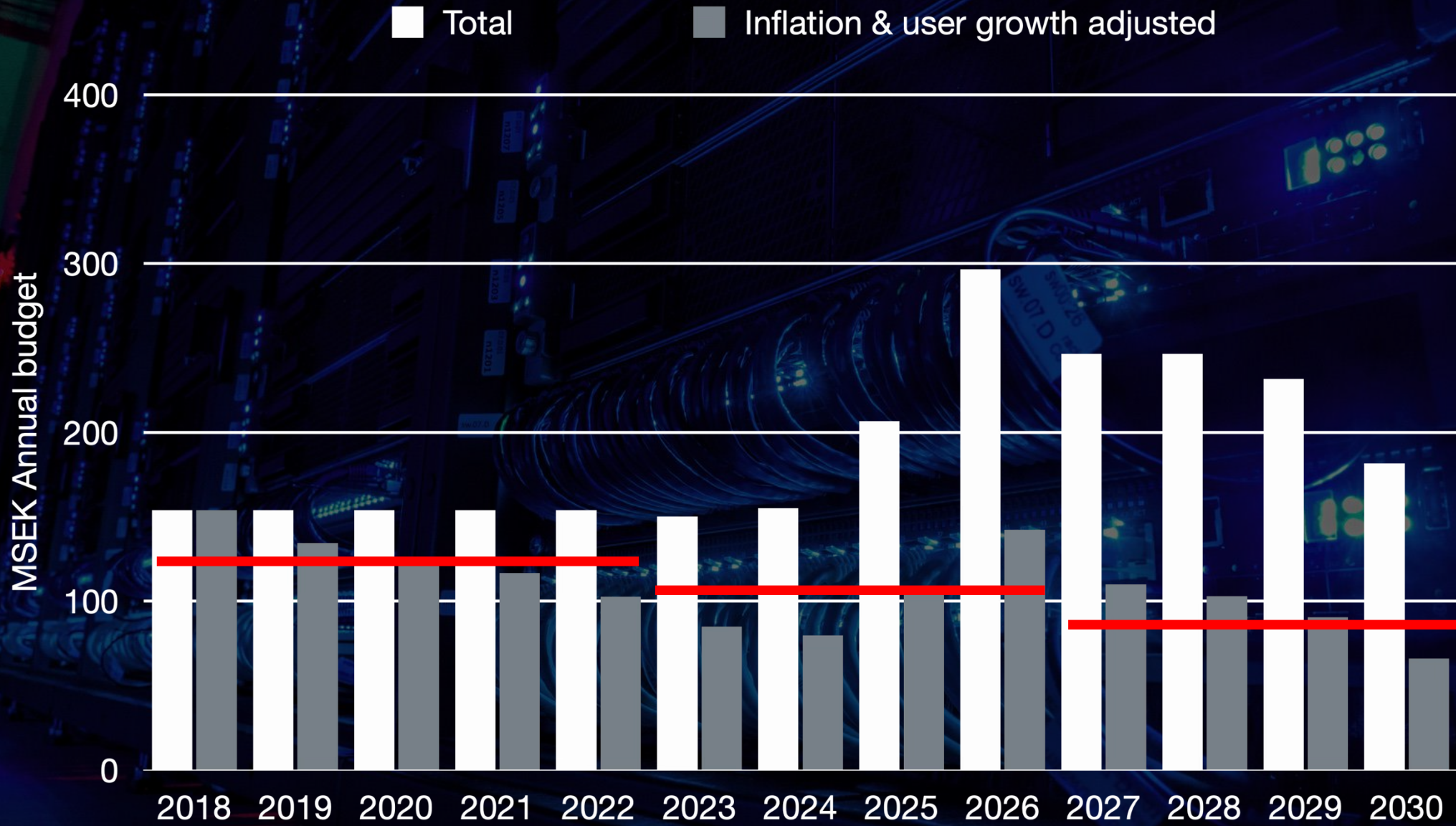
# 1,477

Scientific publications  
in 2025 alone









# The EuroHPC Supercomputing Ecosystem



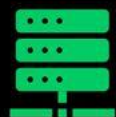
EXASCALE



PRE-EXASCALE



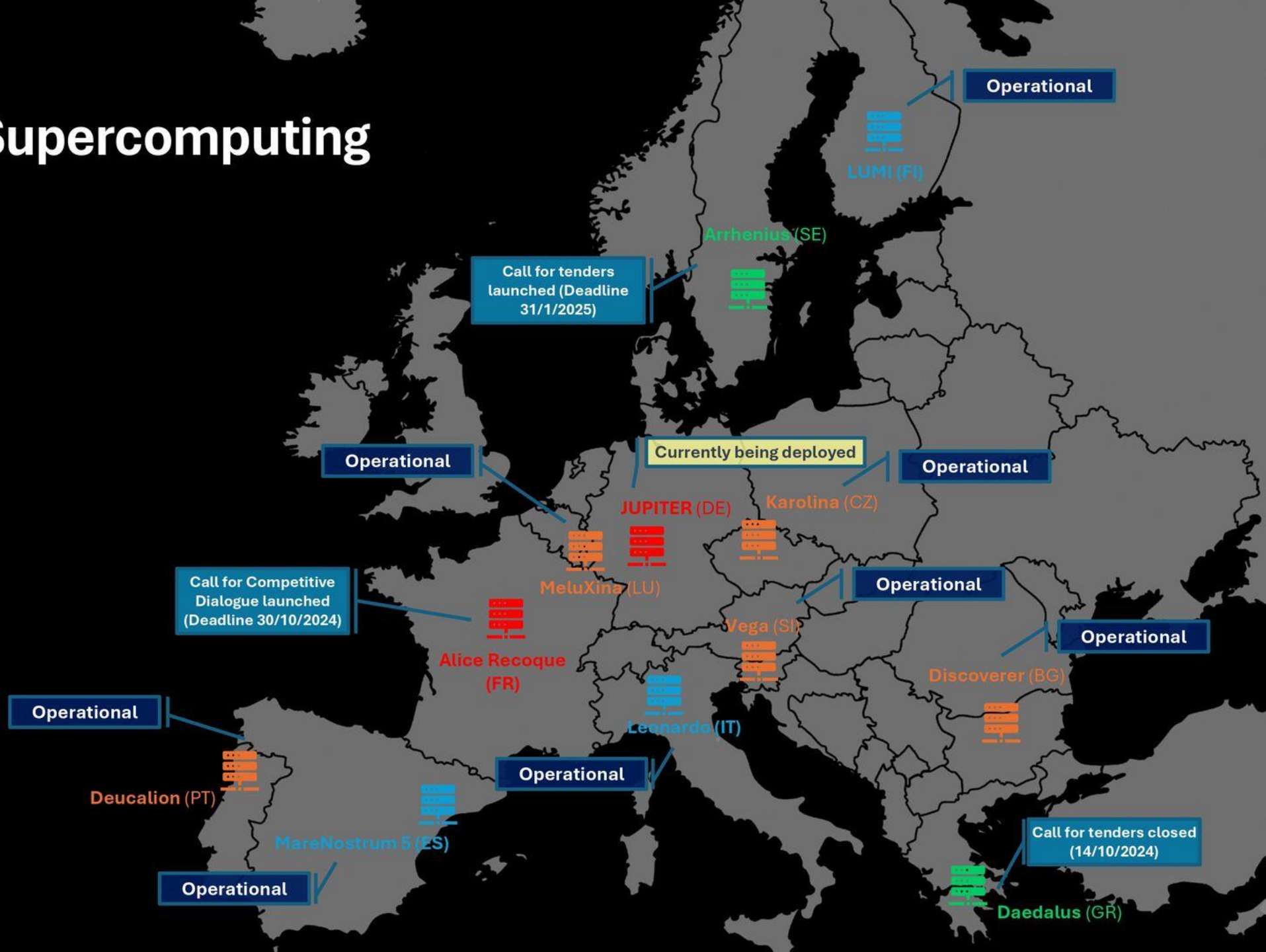
PETASCALE



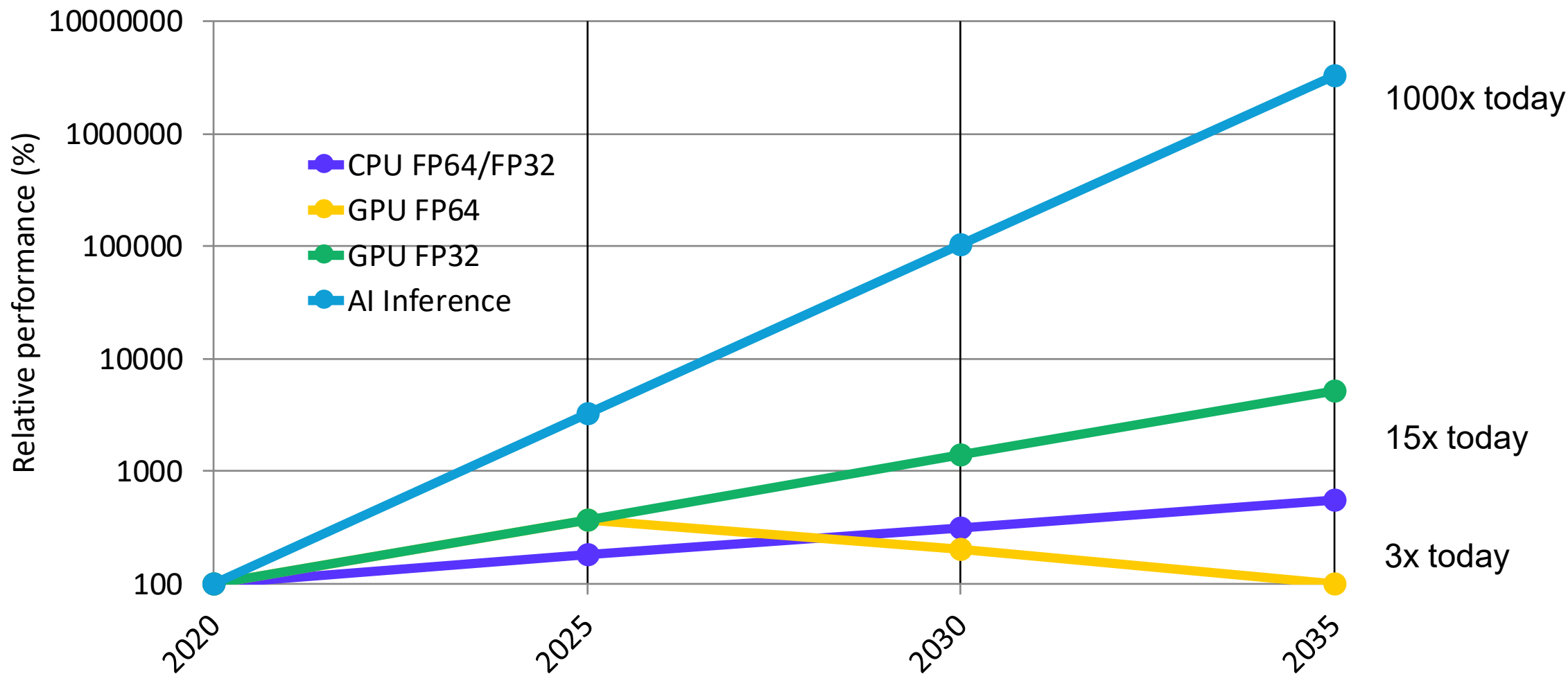
MID-RANGE



**EuroHPC**  
Joint Undertaking



# Computing Performance / \$\$\$



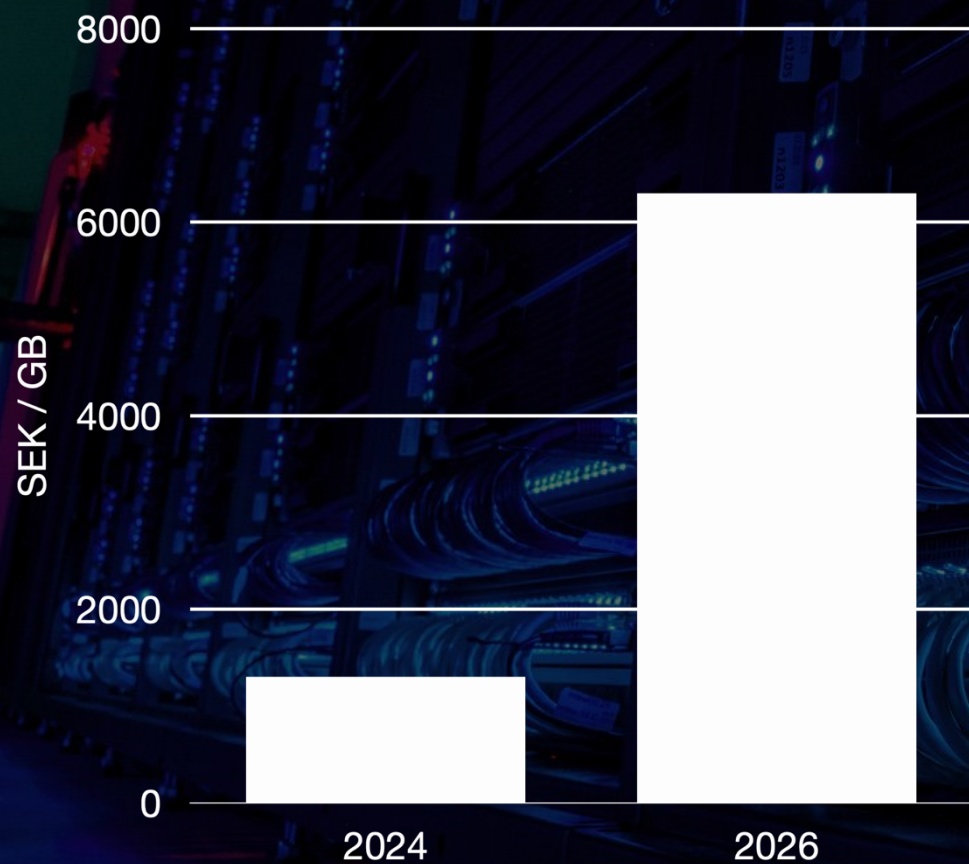
GPU: Will grow from ~5x to 25x advantage  
AI: Will grow into 30,000x advantage

# Why is the industry not focusing on CPUs?

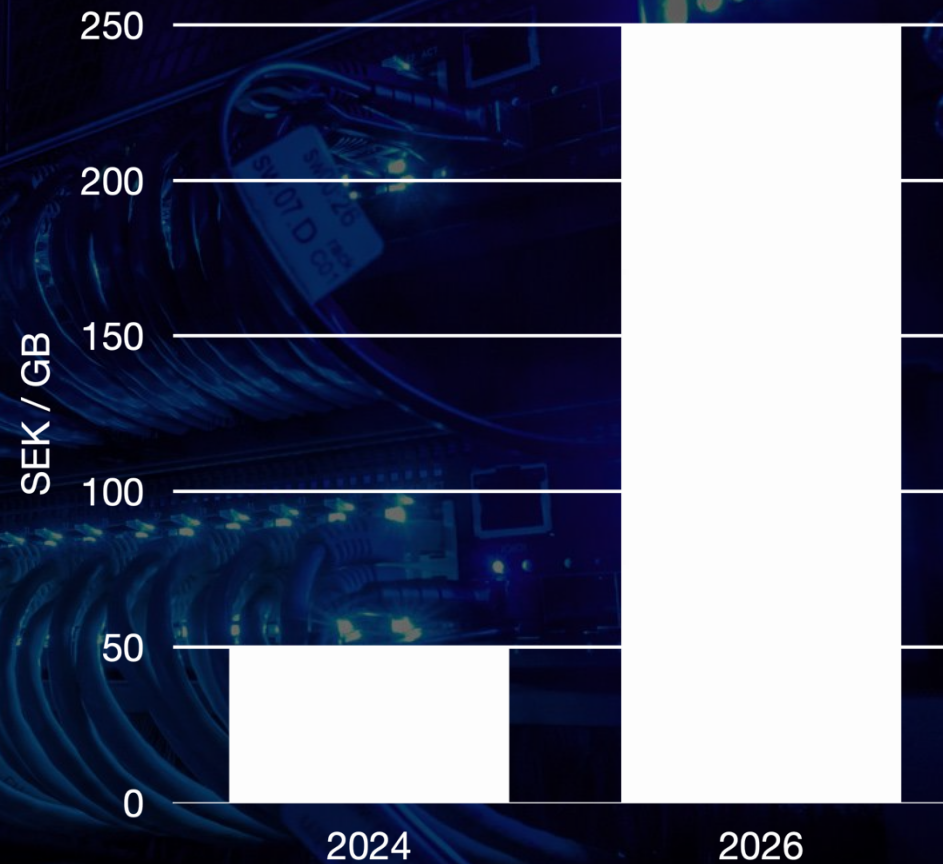
HPC/AI investments by one of the major US infrastructure providers Q1 2026

- \$31.9B CAPEX (Not including power, cooling or staff)
- 1GW of new resources taken online
- Average 100 racks/day installed
- 25% of registered US electricians contracted by MS (Georgia: 75%)

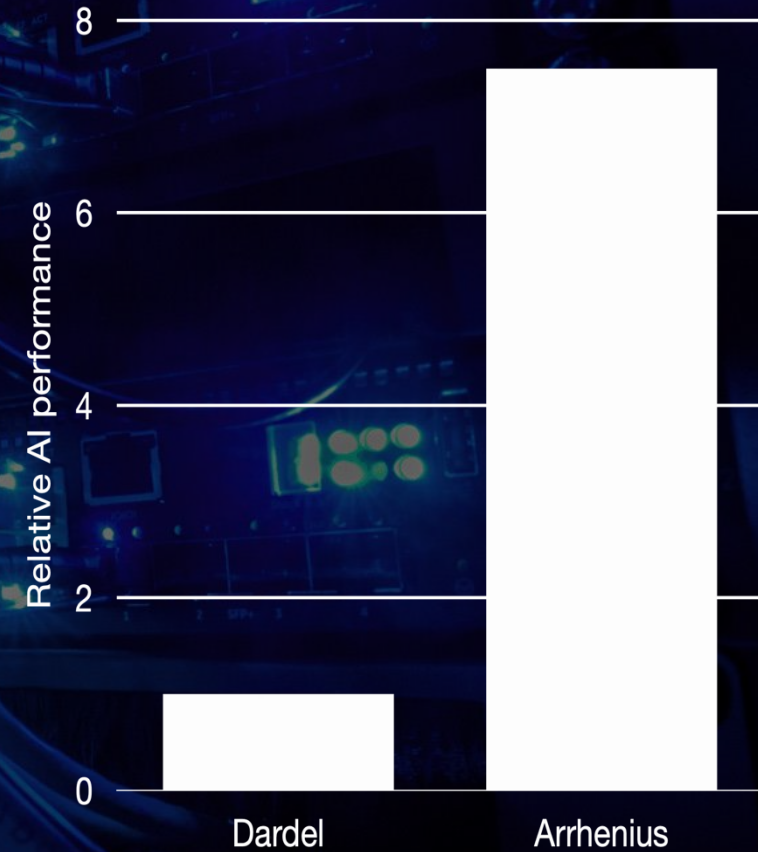
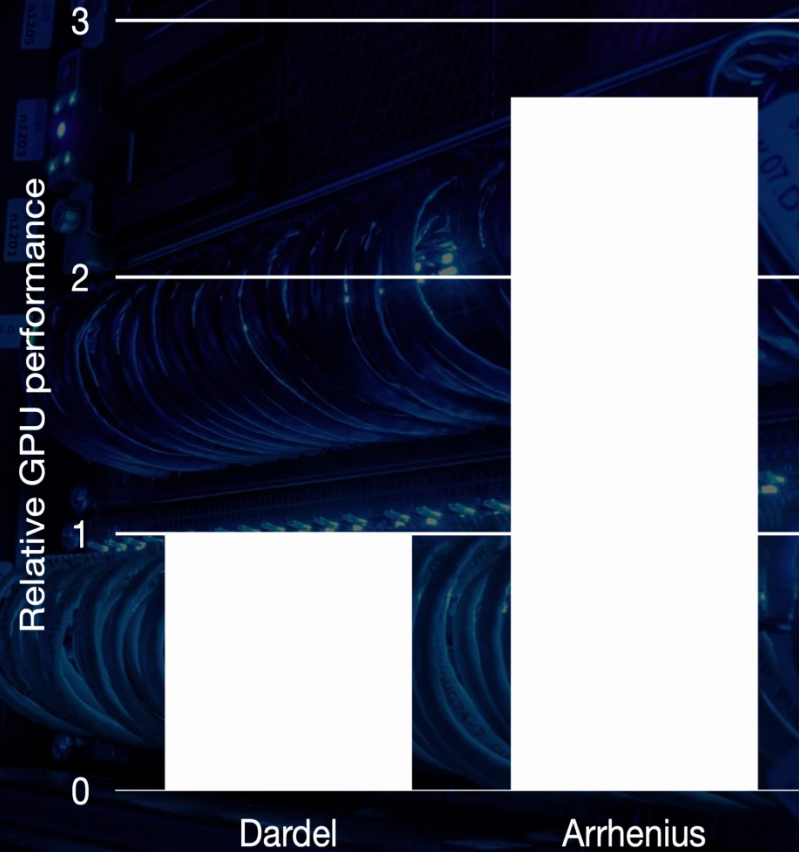
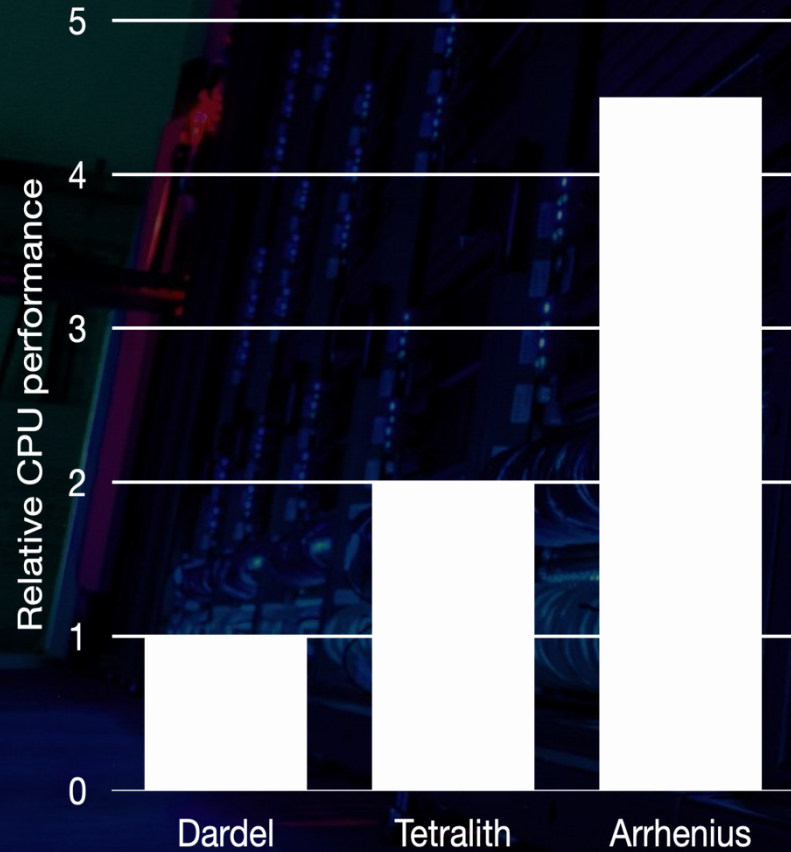
# NVMe storage



# Memory

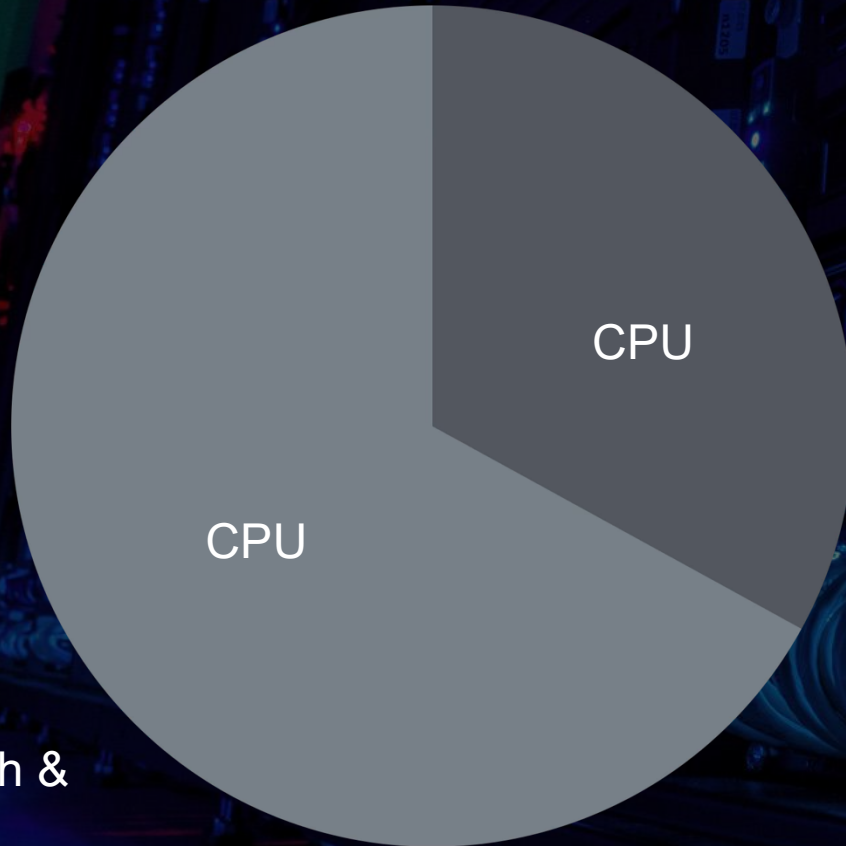


# But... We're a bit better off than it sounds!

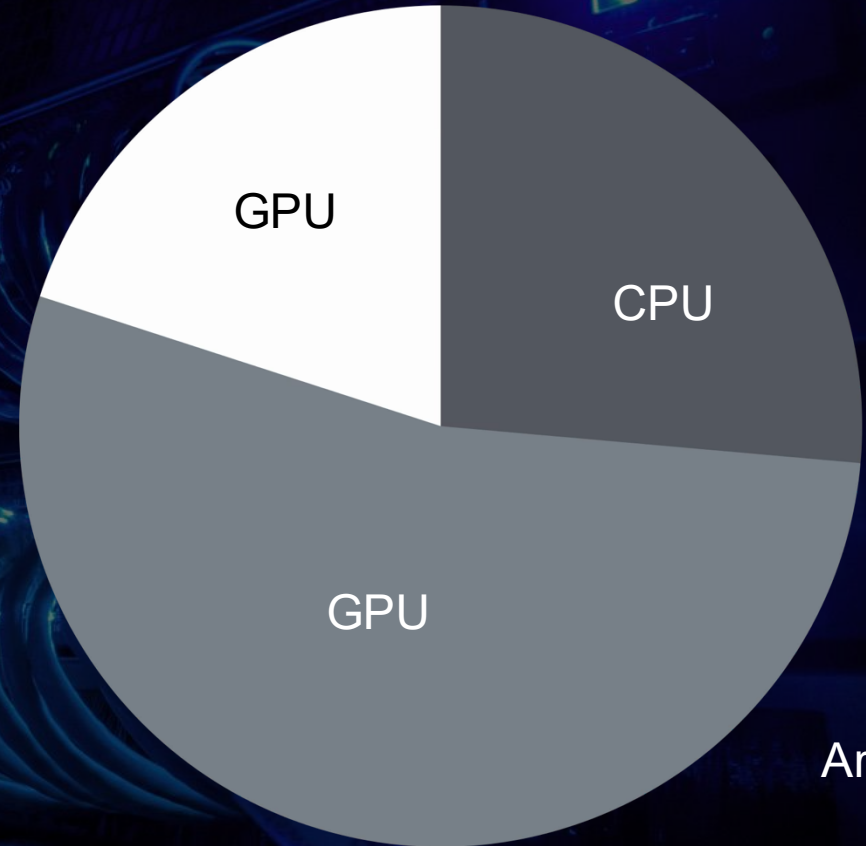


# CPU vs GPU resource division

● Couldn't run on GPU ● Could run on GPU ● Can't run on GPU ● Can run on GPU ● AI



Tetralith &  
Dardel



Arrhenius &  
AI Factory

- 212 CPU nodes with over 54,000 cores
- 35,000 reserved for Sweden/NAISS
- Performance corresponds to 70,000-140,000 of Dardel/Tetralith cores
- Multi-tenancy by default: Jobs are co-localized
- Single-threaded job with 3GB RAM: 1 core-hour per real hour, not 256 for the entire node
- CPU resources will be prioritized for users that do not have any other option

# Key new associate directors



Andreas Johansson

Tech. Operations  
Director



Dr. Rossen Apostolov

AI Factory  
Director



Prof. Peter Münger

Allocations  
Director



Prof. Matts Karlsson

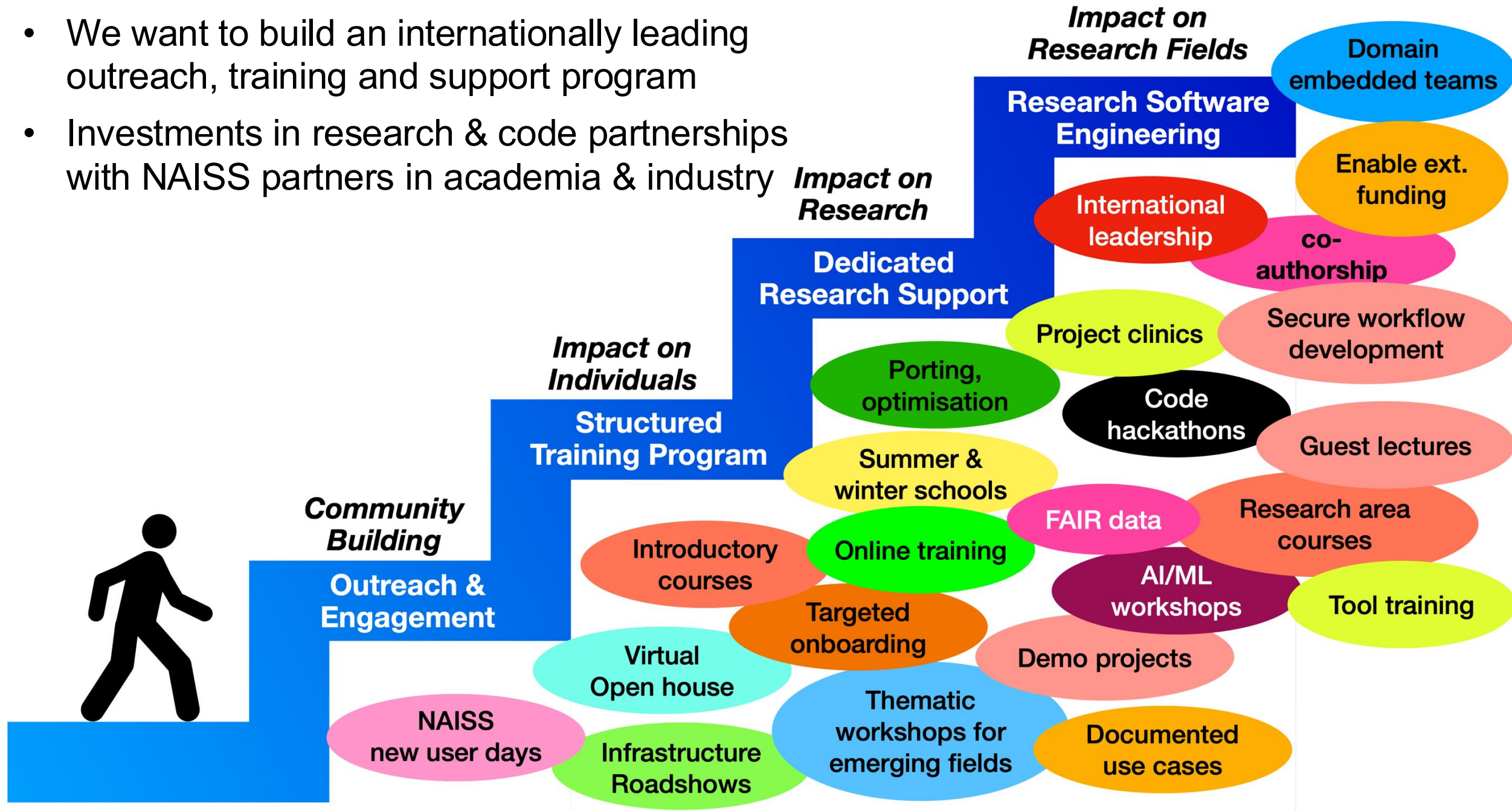
External Relations  
Director



Dr. Debasmita Samaddar

User Support  
Director

- We want to build an internationally leading outreach, training and support program
- Investments in research & code partnerships with NAISS partners in academia & industry



# Focus activities next 12 months

- Move Alvis, Tetralith and cloud users to Arrhenius – done
- Next up (1): Move Dardel users to Arrhenius
- Next up (2): Move sensitive-data users to Arrhenius
- Align & improve software environments
- Assist users in finding accelerated versions of codes
- Onboarding of test users to object storage
- Organize more user support, outreach & training activities
- Organize coding & AI hackathons with vendors
- Identify areas with large user bases to assist in code porting
- Align AI activities between NAISS & Swedish AI Factory



# Sweden AI Factory

**NAISS**

**RI.  
SE**



Welcome to Sweden AI Factory

# Advancing AI Innovation

We provide free access to powerful GPUs and a team of AI experts to help you tackle complex computing challenges and accelerate your AI projects. We help companies, researchers and public sector with their AI journey. From learning and expert guidance, to access to AI-optimised supercomputing resources.



## Our services



Expert support



Access to compute resources



Data access & management

# Bull announces a 30-million contract to power Mimer, Europe's Sweden-based AI Factory

## EuroHPC JU Signs Contract to Deploy a New AI-Optimised Supercomputer in Sweden

The EuroHPC Joint Undertaking (EuroHPC JU) has signed a procurement contract with Eviden, the selected vendor, for the deployment of a new AI-optimised supercomputer in Linköping, Sweden. The system will power the Mimer AI Factory (AIF).

# MIMER

## AI FACTORY

The new Mimer AIF supercomputer will be hosted and operated by the National Academic Infrastructure of Supercomputing (NAISS) at Linköping University. It will be a mid-range, AI-dedicated supercomputer designed to prioritise cloud-style access mechanisms and large-scale storage for sensitive data, enabling secure and flexible AI development.

- 400 Blackwell GPUs (200 GB200 Superchips)
- 8PB of NVMe storage
- 30 CPU nodes for data ingestion
- 33PB data storage
- Entire system supports sensitive data processing
- Tentative operations Q1 2027





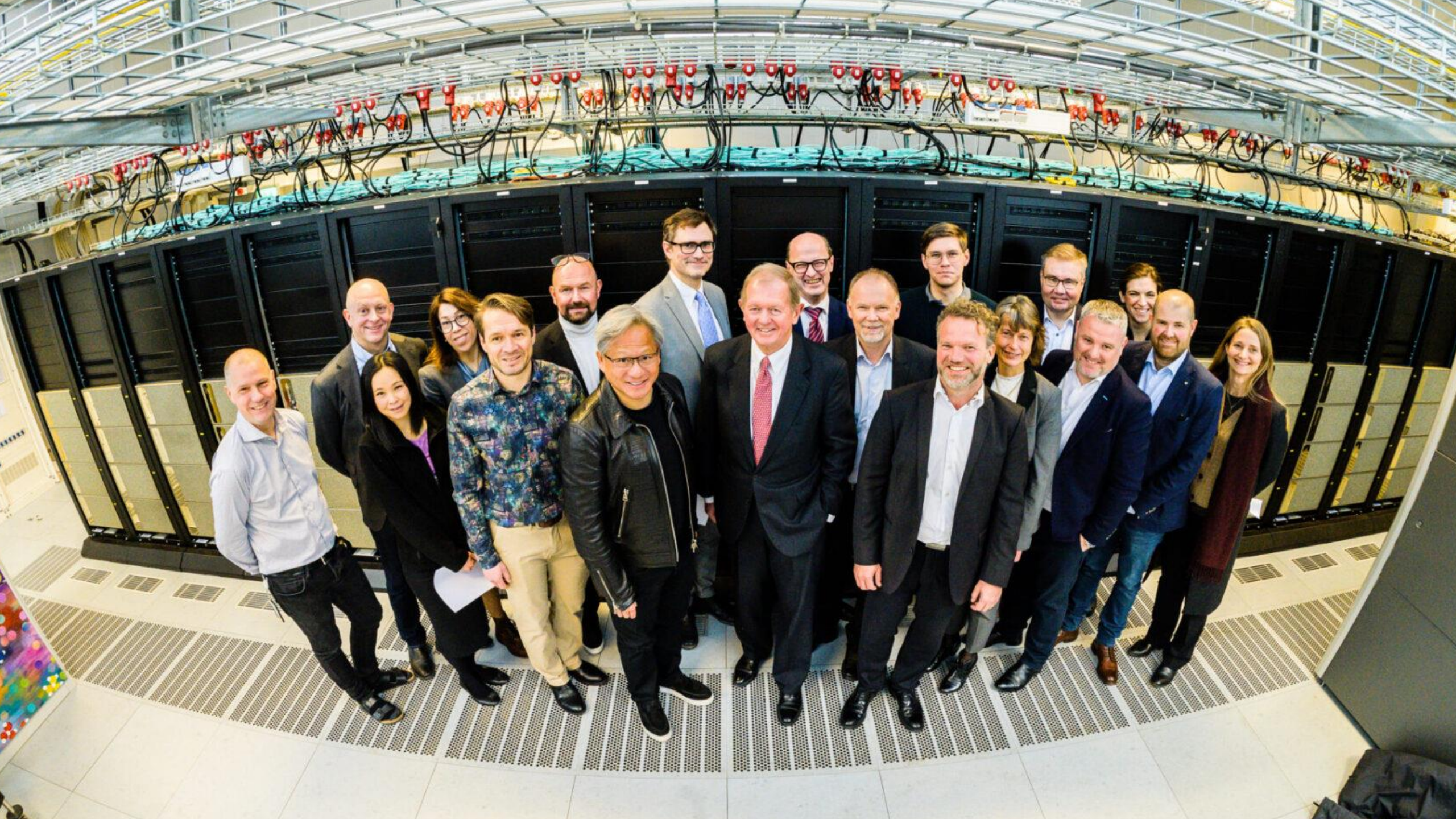
# Boestad

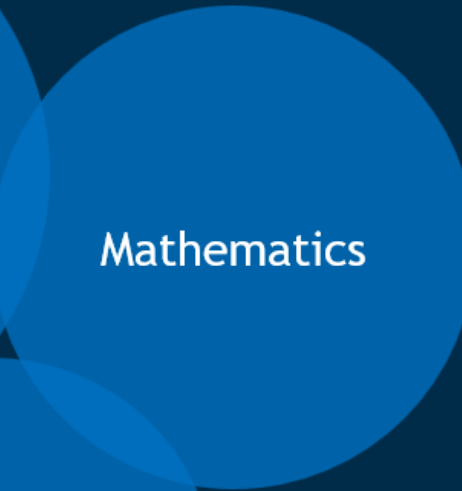
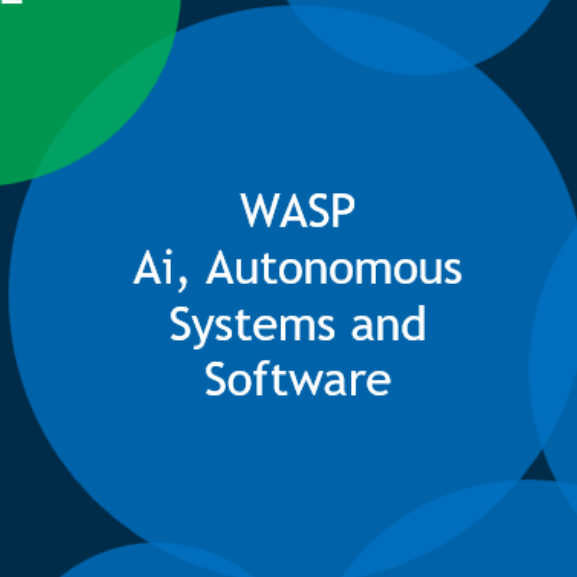
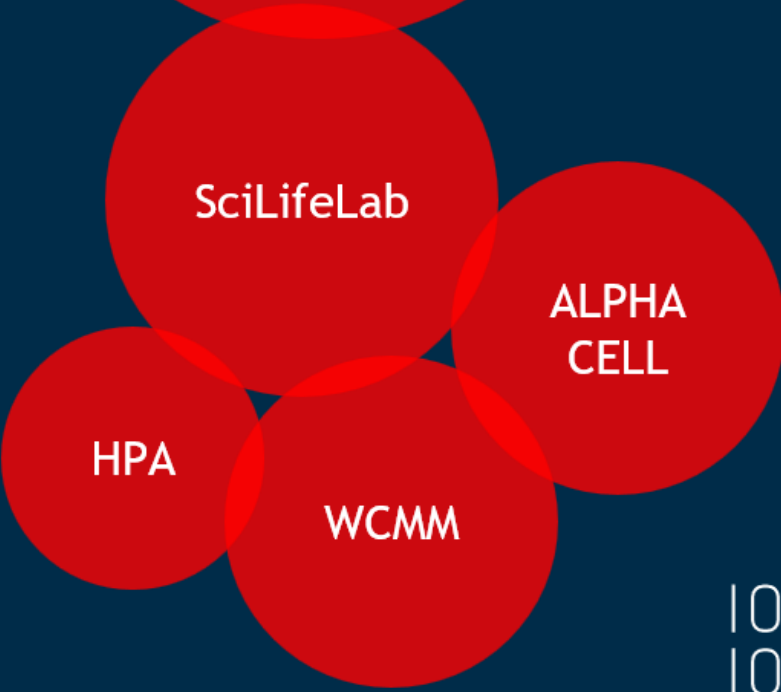
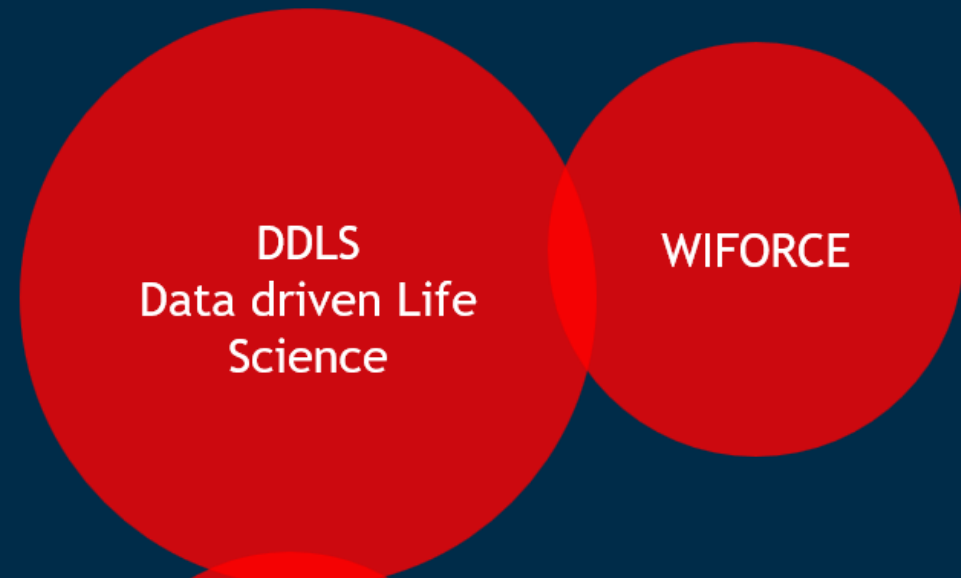
# Wallenberg AI, Autonomous Systems and Software Program

READ MORE →

<https://wasp-sweden.org>







AI for Science

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BERZELIUS

# EU & EuroHPC Opportunities

**NAISS**

# Sweden is world-leading in Software & Excellence

**Excellerat: Engineering**

**CEEC: Exascale CFD**

**BioExcel: Life Science**

**EuroCC: Competence Centers**

**HANAMI: Japan/RIKEN**

**Plasma-PEPSC: Plasma & fusion**

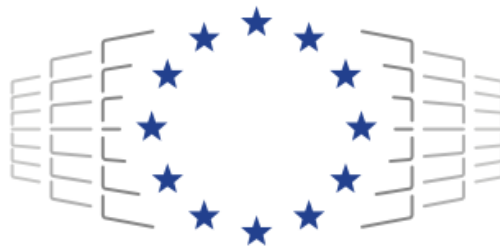
**EUPILOT & DARE: RISC-V**

**Exscalate: Drug design**

**GROMACS: Molecular Dynamics**

**GANANA: India**

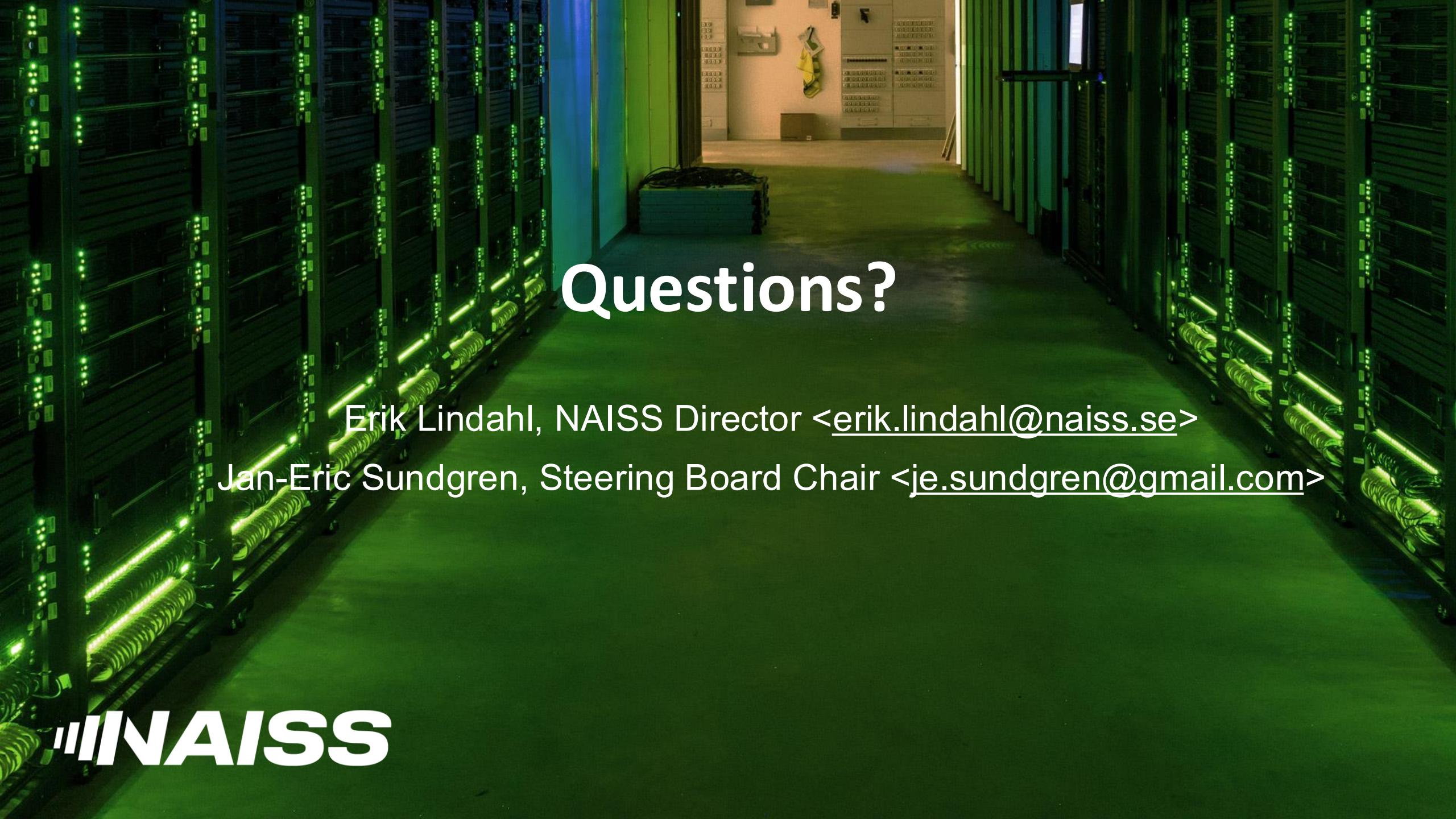




**EuroHPC**  
Joint Undertaking

| SYSTEM*                                                                                                                                                            | SITE<br>(COUNTRY)  | PARTITION           | PROCESSOR                   | ACCELERATOR      | MINIMUM<br>REQUEST** | MAXIMUM<br>REQUEST |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------------|-----------------------------|------------------|----------------------|--------------------|
|  <b>ARRHENIUS</b>                                                                 | NAISS<br>(SE)      | Arrhenius<br>GPU    | NVIDIA<br>Grace             | NVIDIA<br>Hopper | 20 000               | 90 000             |
|  <b>JUPITER</b>                                                                   | JSC<br>(DE)        | JUPITER<br>Booster  | NVIDIA<br>Grace             | NVIDIA<br>Hopper | 20 000               | 90 000             |
|  <b>MN5</b><br>MARENOSTRUM                                                        | BSC<br>(ES)        | MN5<br>ACC          | Intel<br>Sapphire<br>Rapids | Nvidia<br>Hopper | 20 000               | 90 000             |
|  <b>LEONARDO</b><br>CINECA                                                        | CINECA<br>(IT)     | Leonardo<br>Booster | Intel<br>Xeon               | NVIDIA<br>A100   | 20 000               | 90 000             |
|  <b>LUMI</b>                                                                    | CSC<br>(FI)        | LUMI-G              | AMD<br>Epyc                 | AMD<br>Instinct  | 20 000               | 90 000             |
|  <b>MELUXINA</b><br><small>HIGH PERFORMANCE<br/>COMPUTING IN LUXEMBOURG</small> | LuxProvide<br>(LU) | MeluXina<br>GPU     | AMD<br>Epyc                 | Nvidia<br>A100   | 20 000               | 90 000             |

| SYSTEM*                                                                                                       | SITE<br>(COUNTRY) | PARTITION                   | PROCESSOR                   | ACCELERATOR      | TOTAL<br>RESOURCES** | MINIMUM<br>REQUEST |
|---------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------|-----------------------------|------------------|----------------------|--------------------|
|  <b>JUPITER</b>            | Jülich<br>(DE)    | <b>JUPITER<br/>Booster</b>  | NVIDIA<br>Grace             | NVIDIA<br>Hopper | 2 738 000            | 245 000            |
|  <b>MN5</b><br>MARENOSTRUM | BSC<br>(ES)       | <b>MN5<br/>GPP</b>          | Intel<br>Sapphire<br>Rapids | -                | 5 598 720            | 240 000            |
|                                                                                                               |                   | <b>MN5<br/>ACC</b>          |                             | NVIDIA<br>Hopper | 483 840              | 160 000            |
|  <b>LEONARDO</b><br>CINECA | CINECA<br>(IT)    | <b>Leonardo<br/>DCGP</b>    | Intel<br>Sapphire<br>Rapids | -                | 1 575 000            | 130 000            |
|                                                                                                               |                   | <b>Leonardo<br/>Booster</b> | Intel<br>Xeon               | NVIDIA<br>A100   | 1 775 000            | 245 000            |
|  <b>LUMI</b>             | CSC<br>(FI)       | <b>LUMI-C</b>               | AMD<br>Epyc                 | -                | 2 437 374            | 130 000            |
|                                                                                                               |                   | <b>LUMI-G</b>               |                             | AMD<br>Instinct  | 1 754 194            | 160 000            |



# Questions?

Erik Lindahl, NAISS Director <[erik.lindahl@naiss.se](mailto:erik.lindahl@naiss.se)>

Jan-Eric Sundgren, Steering Board Chair <[je.sundgren@gmail.com](mailto:je.sundgren@gmail.com)>

**NAISS**