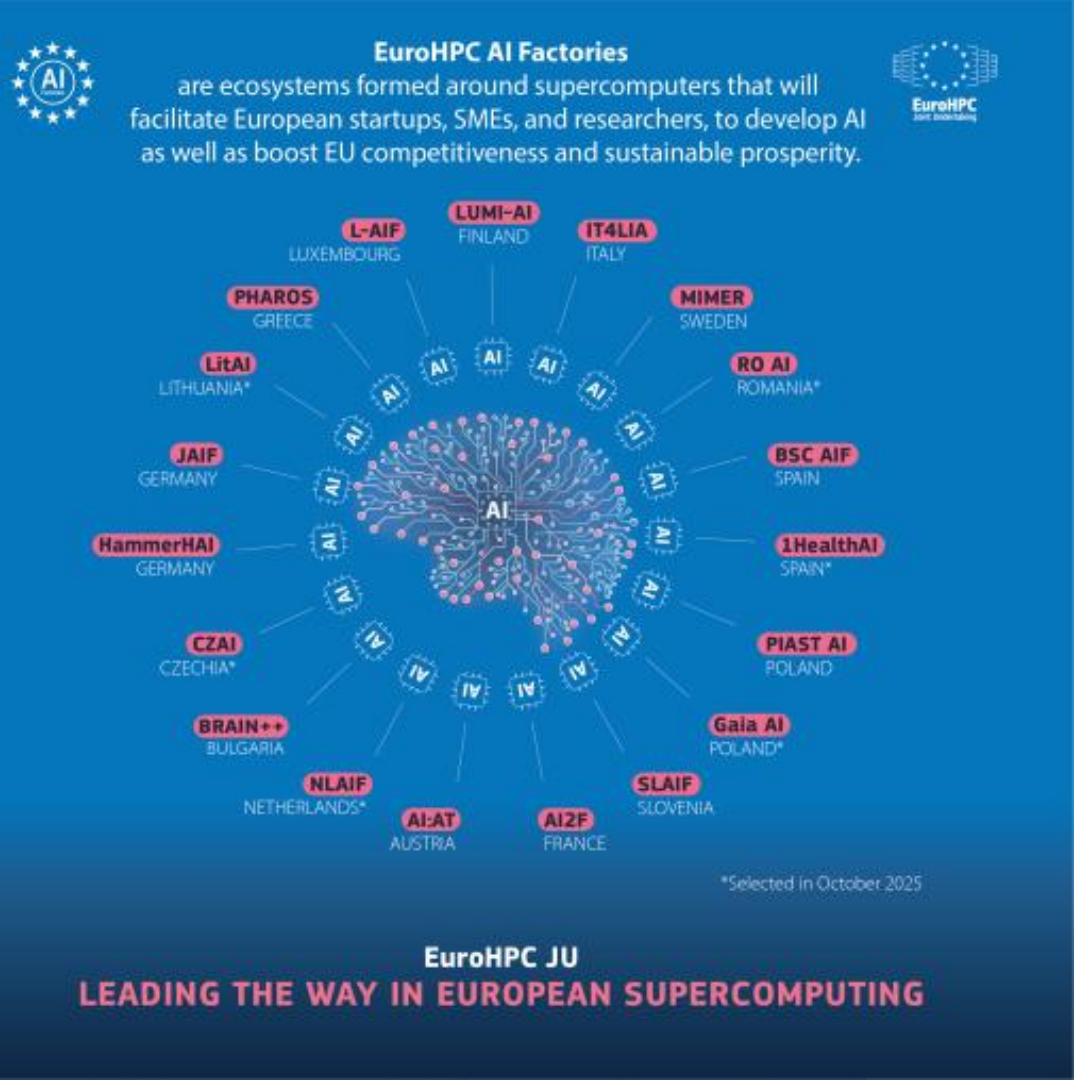
The Mimer AI Innovation Factory

Thor Wikfeldt, Co-director @ RISE

NAISS AI Factories EuroHPC Joint Undertaking RI.SE



European Commission Initiative

19 AI Factories across Europe managed by EuroHPC JU

Soon also many AI Factory Antennas

Facilitating AI innovation for SMEs and the public sector

Objectives

Build a Sovereign AI Infrastructure for Europe

Enable AI-Driven Scientific Discovery (AI4Science)

Empower Industry and SMEs

Strengthen Sweden’s and Europe’s AI Ecosystem

Build AI Competence and Capacity

Promote Responsible and Sustainable AI

Ensure Long-Term Impact and Sustainability

2025-2027+

I know where Othin's eye is hidden, Deep in the wide-famed well of Mimir;

Mead from the pledge of Othin each morn Does Mimir drink: would you know yet more?

--Snorri Sturlusson, 13 century

Focus areas

Life Sciences	Autonomous systems	Material Sciences	Gaming

What do I get as an SME or researcher?

Access to supercomputing infrastructure

Training/CoLabs/ Events/Workshops

Scaling and deployment support

Access to AI experts

Test and evaluation
Compliance by design

Data quality, privacy, support and access to data

Access to tests in real world testbeds in TEFs towards customers

Tools for Ethical by design

Operational characteristics

A pure AI system - Cloud environment

- Kubernetes, IaaS, SaaS, instant resources, Jupyter, web interfaces

AI on tap, for standardized workloads.

Sensitive data ready.

Free access for selected excellent projects, including SMEs under de minimis rules.

Open to further customers.

Graphic from AIDA Data Hub Data Science Platform, with permission.

User engagement spectrum

Advanced users
Low support need

Emerging users
High Support Need

Compute Access Only
Experienced users, self-sufficient in AI workflows

- Access to HPC
- Minimal support - helpdesk/onboarding only

Tech Guidance & Tools
Moderately advanced users needing help integrating AI/HPC

- Tool selection, workflow optimisation
- Short consultations or mentoring

Collaborative PoCs
Co-development with Mimer experts

- Implementation of models or data pipelines
- Knowledge transfer and capacity building

Full Co-Development
Low AI maturity users (often SMEs, startups)

- Mimer experts embedded in project teams
- End-to-end support from scoping to deployment

Training & Upskilling Pathways (cross-cutting)
All users can engage in training, workshops, or “train-the-trainer” sessions

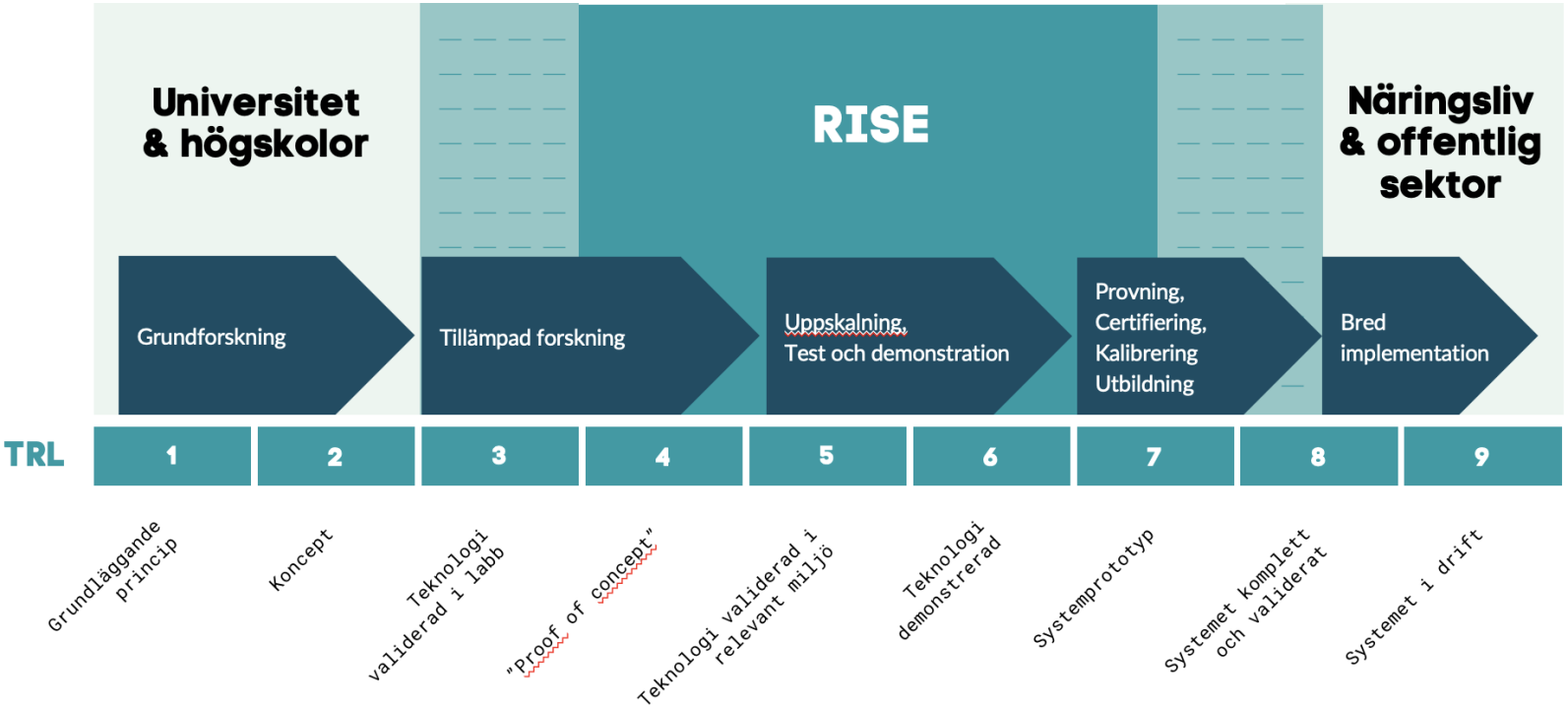
Sweden's research institute – your innovation partner

RI.
SE

We create a bridge between academia and industry

- Test and demo infrastructure
- Joint development
- Research project (Horizon / Vinnova)
- Process services
- Lab and Office space
- Local and international ecosystem / network

RISE in the innovation value chain



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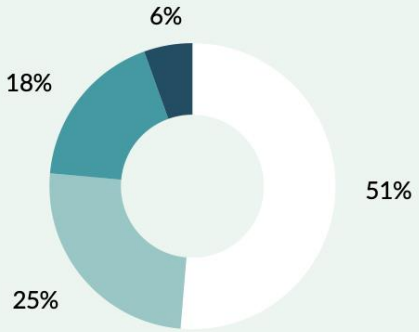
Nettoomsättning, Mkr

Justerat rörelseresultat: 145 Mkr

Justerad rörelsemarginal: 3,3 %



Fördelning av omsättningen

Näringsliv	2 222 Mkr
Offentliga finansiärer	1 087 Mkr
Statlig basfinansiering	783 Mkr
EU-medel	237 Mkr

Alla siffror avser 2024.

Cirka

3 300

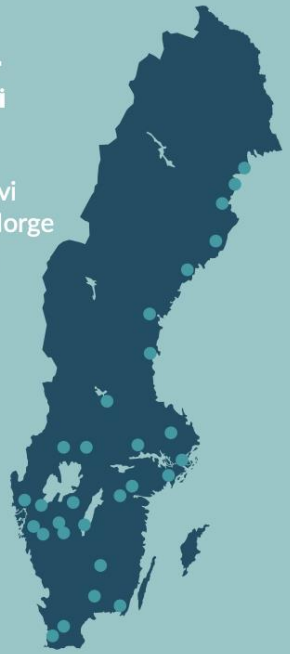
anställda

4:e

största institut i Europa
efter Fraunhofer, CEA och TNO

Våra anläggningar finns runtom i Sverige

Dessutom har vi verksamhet i Norge och Frankrike



130+

Test- och demonstrationsmiljöer

77

Nöjd Kund Index

RISE Quantum

- Semiconductor materials and devices
  - Material development platform and process line for semiconductors
  - GaN and SiC based single photon sources
- Quantum communication
  - QKD (Kista link between RISE and Ericsson, within NQCIS)
  - PQC (complementary to QKD)
- Quantum computation (including QC, ML etc.)
  - e.g. 'Quantum Monte Carlo for banking' workshop contribution
- Quantum optical fiber
  - Poled fiber for quantum applications (e.g. quantum memory)
- Quantum measurement
- Regulations for quantum as an emerging technology

Offer

- Test and demo infrastructure
- Joint development
- Process services
- Lab and Office space
- Local and international ecosystem / network

MIMER
AI FACTORY

NAISS · AI Factories · EuroHPC Joint Undertaking · RI.SE

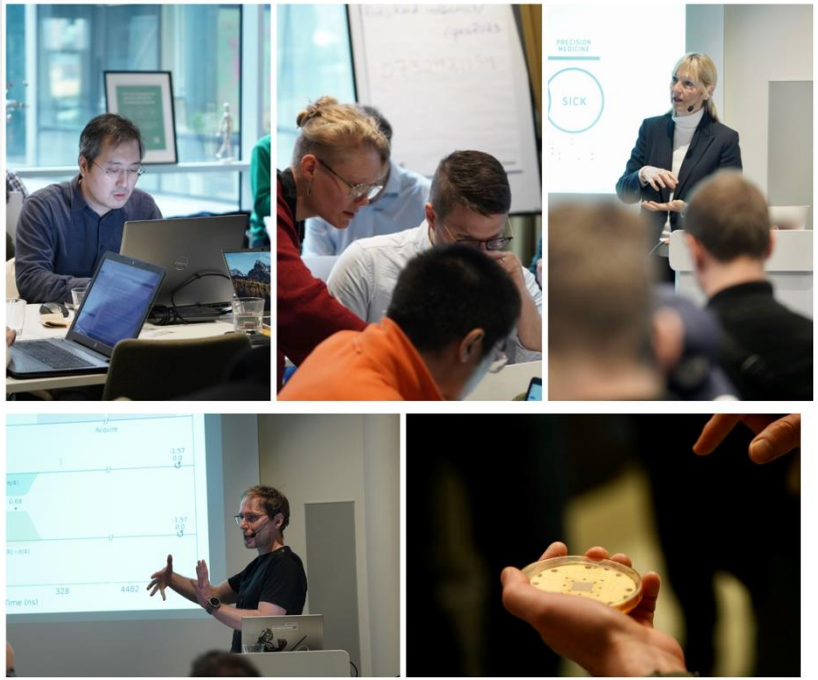
EuroHPC Ecosystem

"Develop, deploy, extend and maintain in the EU a world-leading federated, secure and hyper-connected supercomputing, quantum computing, service and data infrastructure ecosystem"

- **Infrastructure**: Secure, hyper-connected network of supercomputers, quantum computers, and data infrastructures.
- **Federation**: Integrating EuroHPC resources across the EU to provide seamless access
- **Technology**: Creating cutting-edge European hardware components and software stacks
- **Applications**: Supporting the development and optimisation of software applications
- **Usage and Skills**: Investing in education, training, and national competence centres
- **International Cooperation**: Collaborating with global partners
- **AI Factories**: Environments tailored for AI innovation.

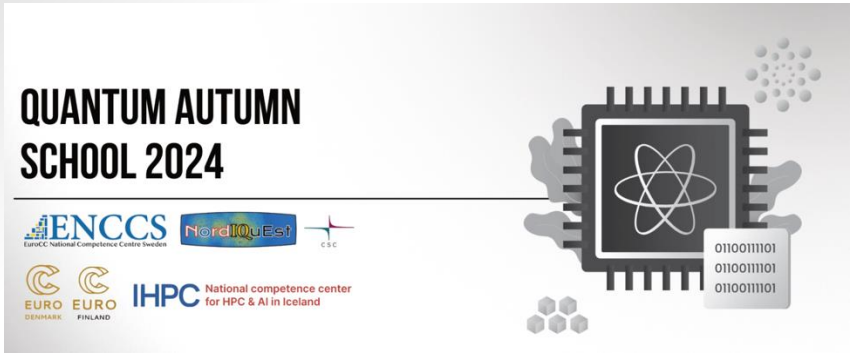
QUANTUM AUTUMN SCHOOL 2023

ENCCS
EuroCC National Competence Centre Sweden
WACQT | Wallenberg Centre for Quantum Technology
NordIQuEst
Quantum Autumn School

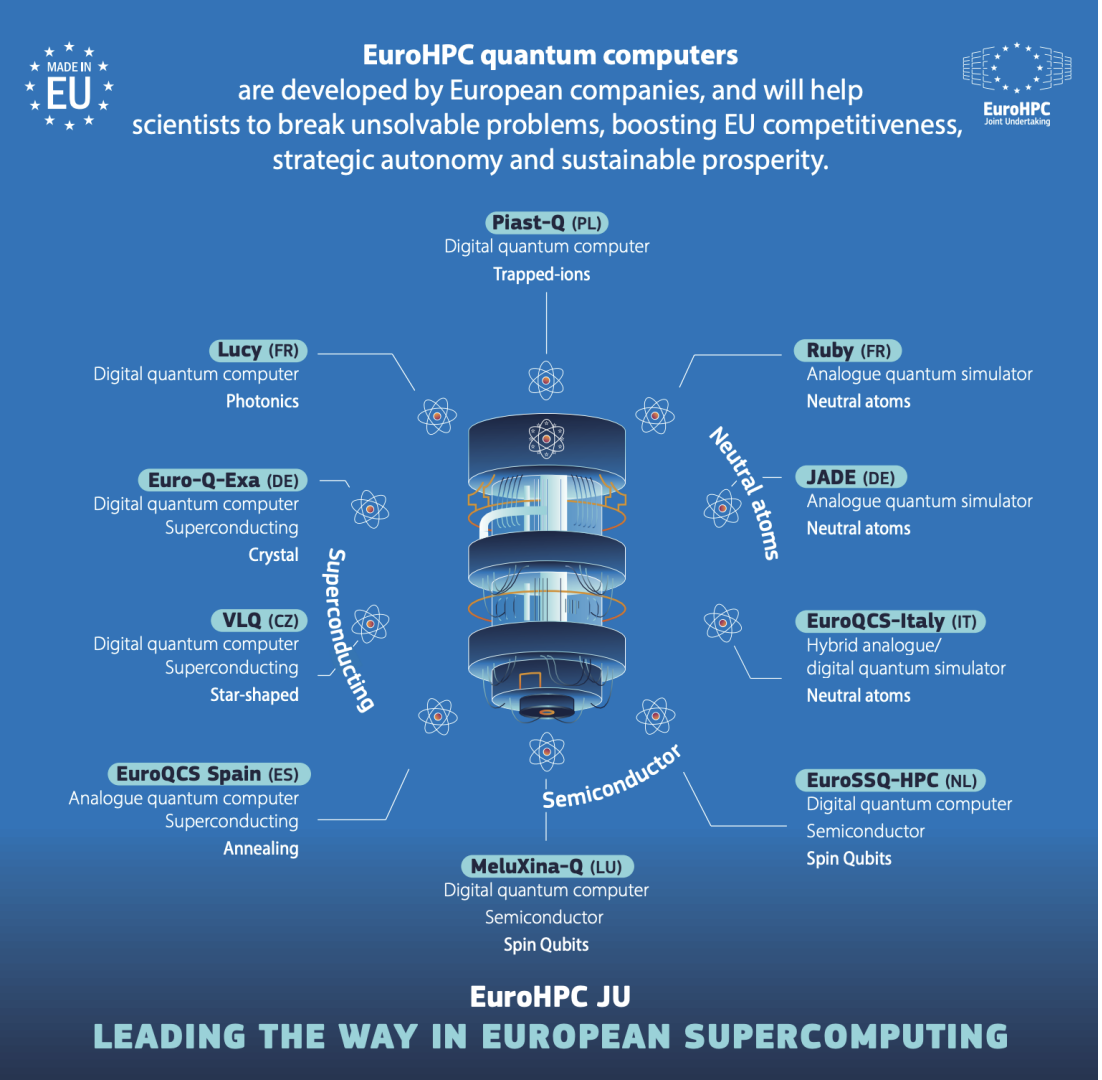


- In-person in Gothenburg – streamed online
- Collaboration with WACQT and NordIQuEst
- Speakers from academia and industry
- Hands-on on Helmi - 5 qubit quantum computer
- Lab visit to see the QAL9000 quantum computer

QUANTUM AUTUMN SCHOOL 2024

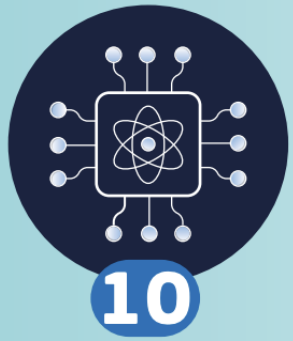


- In-person in Stockholm – streamed online
- Collaboration with NordIQuEst and NCCs Denmark, Finland and Iceland
- Preceded by introductory online workshop in collaboration with IQM
- Speakers from academia and industry
- **Evolving into Nordic flagship event for quantum computing training**



- Diverse quantum technologies and architectures
- Collaboration across 17 European countries to drive innovation and synergies
- Standardisation efforts for key components such as APIs and monitoring software
- Access for researchers across academia, industry, and the public sector
- Quantum-HPC integration
- Enabling scientific breakthroughs and industrial innovation

EuroHPC Quantum Computers



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Quantum Computers

EQUIPPING EUROPE FOR THE QUANTUM LEAP

The European Union is making history by building the world's first public network of cutting-edge quantum computers.

650
qubits in total
are available starting 2025

120
million EUR of EU & national funds
are invested in European research & innovation

6
different quantum technologies
are integrated in European supercomputers

29
partners from 17 European countries
are involved in the initiative