ENCCS: from supercomputing to quantum

Quantum Autumn School 2026, 2 to 4 November

ENCCS.SE

Co-funded by the European Union

ENCCS is Sweden's national door to European supercomputing

Expert support

- Hands-on help with your code
- Porting code to GPUs
- Scaling and performance checks
- For SMEs, an expert for up to six months

Supercomputer access

- A route onto Europe's machines
- Free to start, through EuroHPC
- Help to apply, and our guide
- Support before, during and after access

Training

- Open workshops and webinars
- Custom training for your applications
- Hackathons with HPC mentors

Run jointly

by RISE and Linköping University (LiU)

Part of EuroCC 3

36 national competence centres across Europe

Who we help

Companies (especially SMEs), the public sector, researchers and academia

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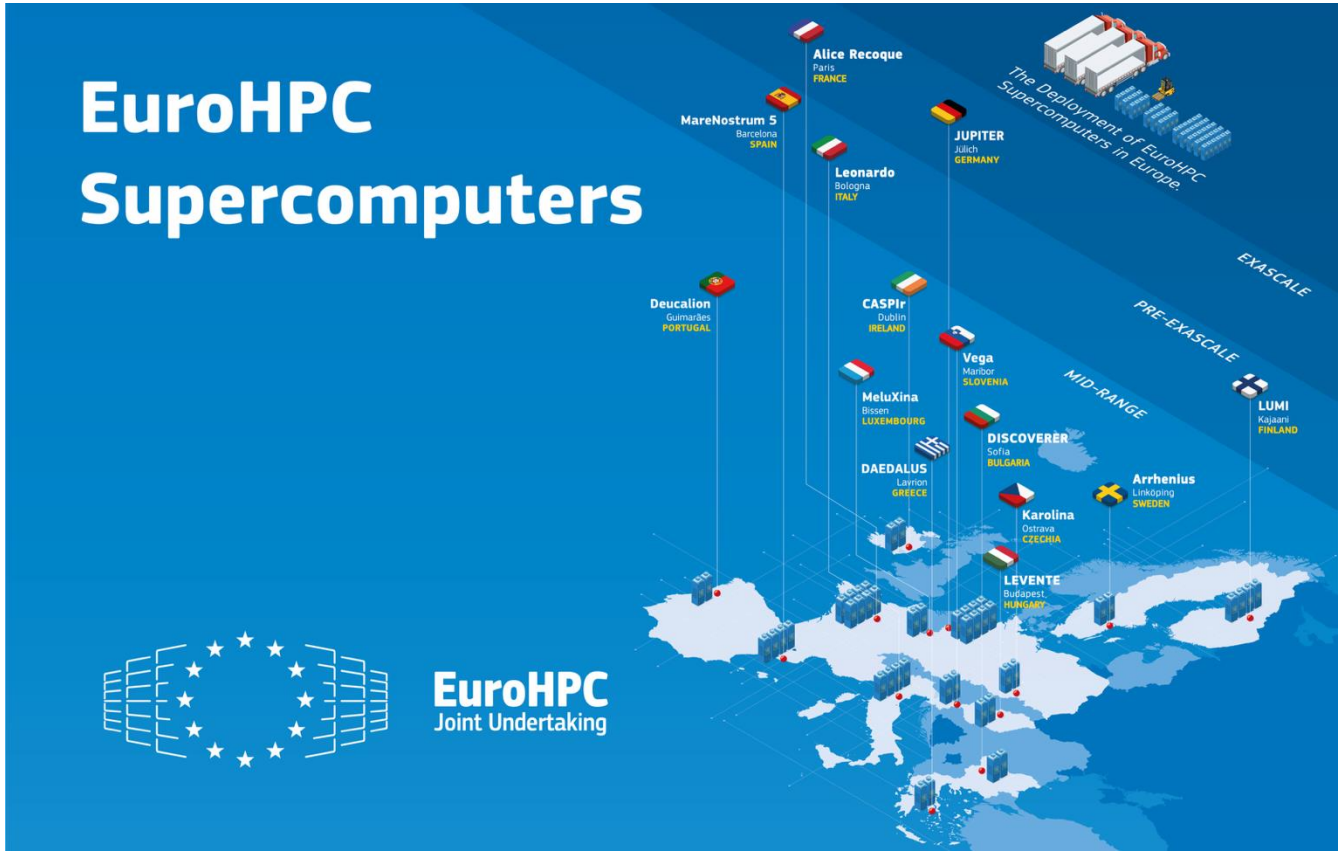
EuroHPC: 38 countries, 14 supercomputers, 10 quantum computers



14 supercomputers
Including Arrhenius in Sweden

19 AI Factories
One of them in Sweden

10 quantum computers
Hosted in 8 countries

36 competence centres
ENCCS is one of them

Figures: EuroHPC JU home page (7 October 2026) and map data (30 September 2026). Map: EuroHPC JU, 20 November 2025, CC BY 4.0

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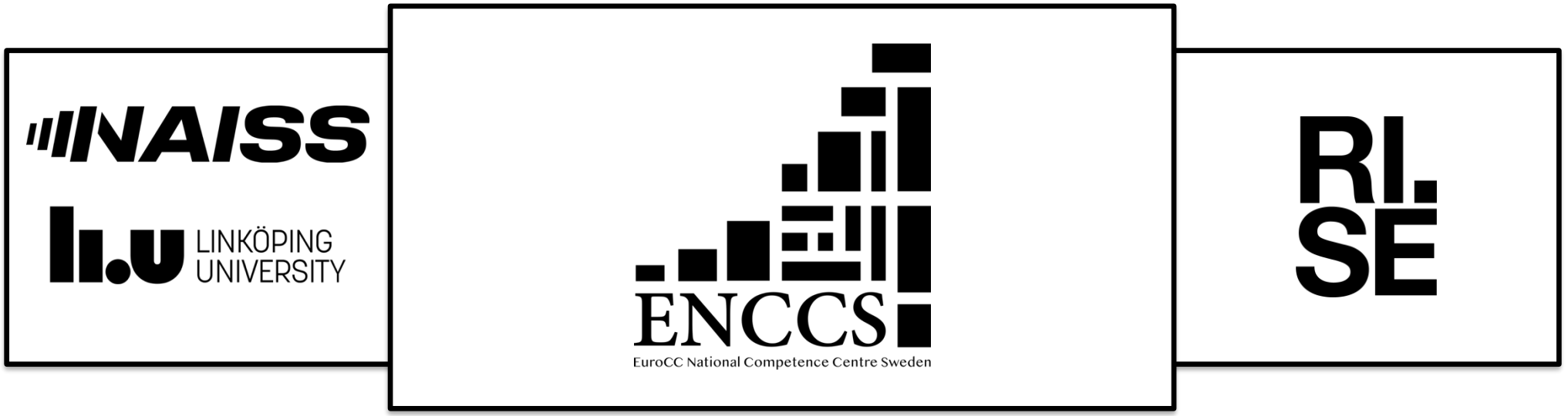
ENCCS structure



ENCCS sits at the intersection of LiU and RISE, combining research expertise with applied HPC capability.

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About ENCCS

A single national door to the EuroHPC offering of HPC, HPDA and emerging technologies.

Clear path to HPC
Brokered access to EuroHPC and Swedish machines.

Proofs of Concept
Sector-tailored prototyping and scalability studies.

Expert consultancy
Code porting, optimisation, hybrid workflows and support from domain specialists.

Hands-on skills
Practical training with industry focus.

European exposure
Links into NCCs, CoEs, AI Factories and EU projects.

Services

- HPC Access
- Consulting
- Training
- Expert Support

Methods

- HPC
- HPDA
- Emerging tech

Infrastructure

- EuroHPC devices
- Swedish expertise network

https://enccs.se/ | https://enccs.se/contact/

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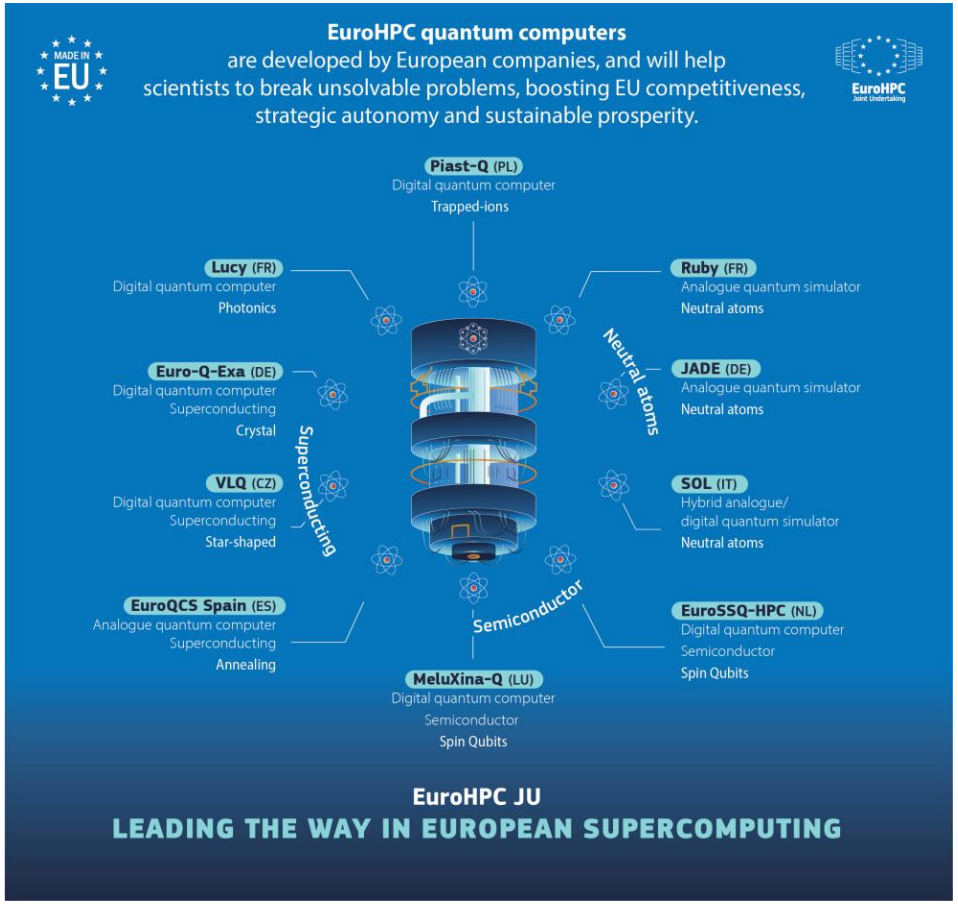
Europe now has 10 EuroHPC quantum computers, open to industry

- **10** EuroHPC quantum computers, 8 in operation
- **8** countries host them
- **6** technologies in the fleet
- **29** partners in 17 countries
- Open to SMEs, researchers and industry
- Each machine is paired with a EuroHPC supercomputer



Sources: EuroHPC JU (status 30 September 2026; image June 2026, CC BY 4.0); ENCCS white paper, December 2025

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The ten quantum computers sit in eight countries

Computer	Host site	Technology	Supplier
VLQ	Ostrava, Czechia	Superconducting	IQM
Lucy	Bruyères-le-Châtel, France	Photonic	Quandela
Ruby	Bruyères-le-Châtel, France	Neutral atoms	Pasqal
Jade	Jülich, Germany	Neutral atoms	Pasqal
Euro-Q-Exa	Garching, Germany	Superconducting	IQM
EuroQCS-Italy	Bologna, Italy	Neutral atoms	Pasqal
PIAST-Q	Poznań, Poland	Trapped ions	AQT
MareNostrum-Ona	Barcelona, Spain	Annealer	Qilimanjaro
MeluXina-Q	Luxembourg	Spin qubits	To be announced
EuroSSQ-HPC	Amsterdam, Netherlands	Spin qubits	To be announced

Sources: EuroHPC JU; ENCCS, April 2026. Suppliers as of that date.

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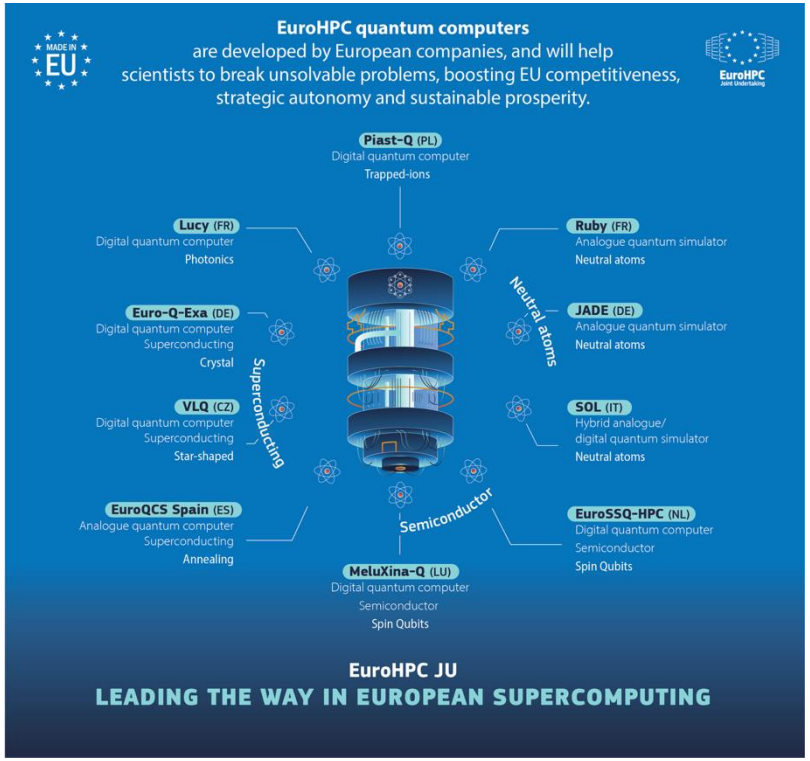
ENCCS takes you from learning quantum to running on real hardware



Learn

Quantum Autumn School, 2 to 4 November

Our flagship course, with hands-on access to real hardware

Try

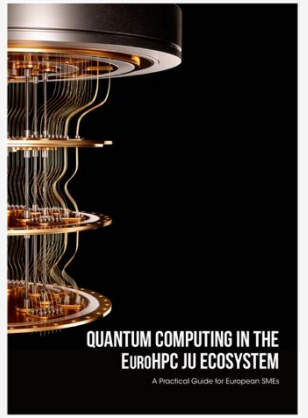
QSIP hackathon, 5 and 6 November

Joint awareness events with partners

Run

Apply for free access

Our guide shows how to apply for EuroHPC quantum computers



Our white paper, December 2025

A practical guide for European SMEs

10
quantum computers

8
in operation today

6
qubit modalities

29
partners, 17 countries

Image: EuroHPC JU, June 2026, CC BY 4.0. Status: EuroHPC JU map data, 30 September 2026.

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Your gateway to EuroHPC and their quantum resources

ENCCS
EuroCC National Competence Centre Sweden

HPC in Europe Portal

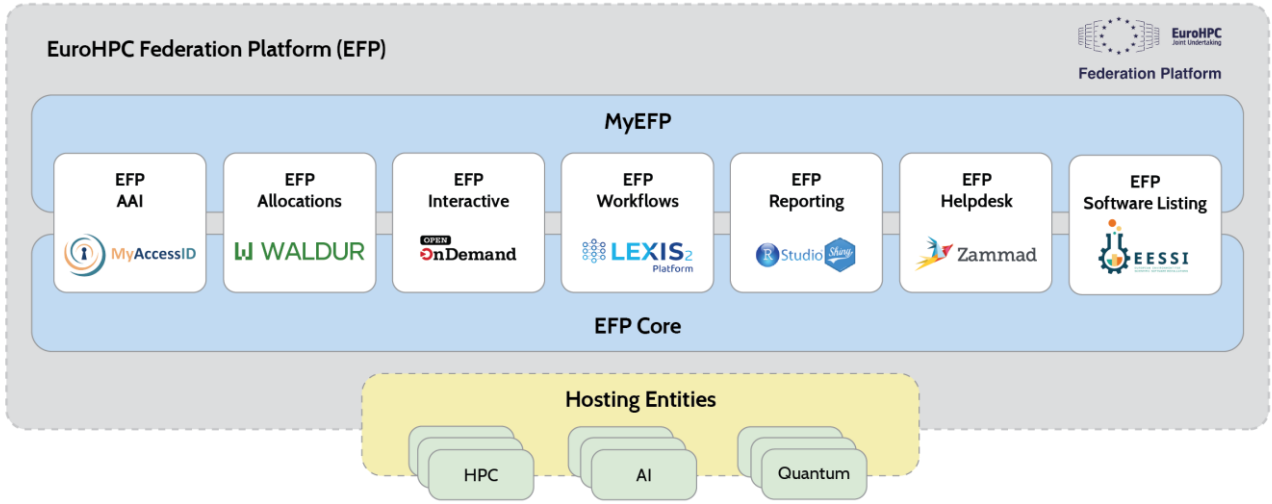
Find your local NCC
https://hpc-portal.eu

QEX & QEC4QEA

Two specialised quantum excellence centres driving quantum uptake across Europe
https://quantumdelta.nl/qex
https://www.qec4qea.eu/

EuroHPC Federation Platform

Unified access portal from 2026
Single sign-on across quantum, HPC and AI
https://my-eurohpc.eu/



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Quantum Autumn School

ENCCS flagship event for quantum computing training

Current school https://enccs.github.io/QAS26/

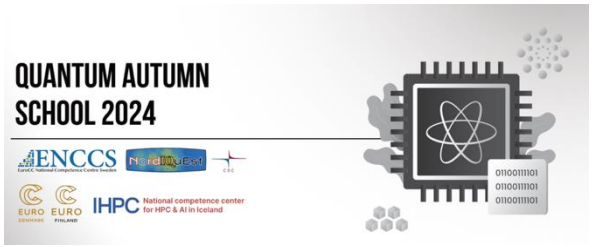
Previous schools https://enccs.github.io/qas2025/
https://enccs.github.io/qas2024/
https://enccs.github.io/qas2023/

- Our QC flagship training in-person plus online
- Organised by ENCCS with many partners over the years
- Industry professionals, researchers and students at beginner to intermediate level
- Speakers from industry and academia
- Hands-on access to real European quantum hardware
- Lectures, tutorials and networking across algorithms, use cases, HPC-QC integration and the European quantum ecosystem















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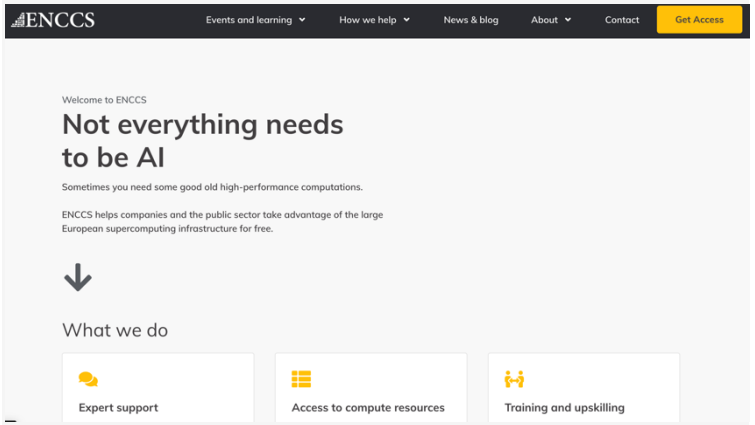
Where to continue with ENCCS after the school

ENCCS website

Training events, news and how to get help

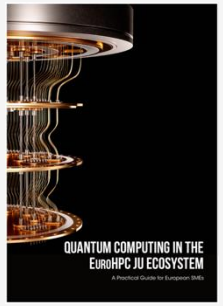
enccs.se



Quantum Computing white paper

Quantum Computing in the EuroHPC JU Ecosystem: A Practical Guide for European SMEs

doi.org/10.5281/zenodo.17862354



HPC in Europe Portal

Find your national competence centre and European HPC news

hpc-portal.eu

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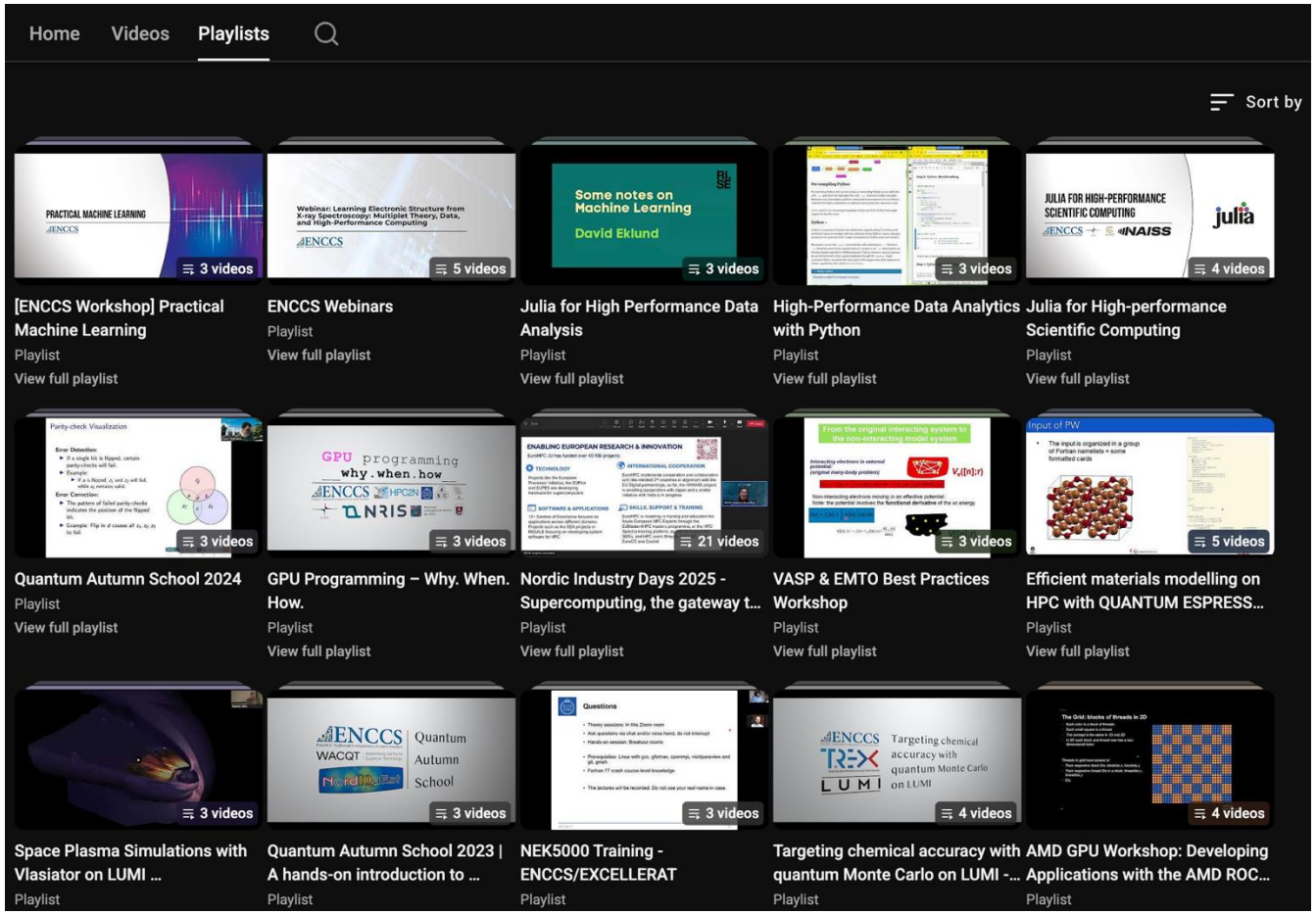
Watch ENCCS training recordings on YouTube



ENCCS on YouTube

Workshop and webinar recordings, grouped into playlists by topic

All lessons on: https://enccs.github.io/lessons/

Scan to open the playlists

youtube.com/@enccs

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Podcast: HPC episodes

Season 2 is out. Available on Spotify, Apple Podcasts and the HPC in Europe Portal.

- ~40 bi-weekly episodes published to the end of EuroCC 2; Season 2 running through CC3.
- Anders Dam Jensen, Executive Director, EuroHPC JU: “Building Europe’s high-end infrastructure” (April 2026).
- Rodrigo Bartolomeu, MultiXscale CoE (April 2026).
- David Sumpter, Twelve: our longest episode to date, 1h 20m (June 2026).
- Patrick Norman, Director of KCSC, KTH: the PDC to KCSC transition, the future of Dardel, CPU partitions becoming scarce, and what corporates building in-house AI clusters should do instead (August 2026).



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Podcast: quantum computing (+HPC-QC) episodes

Supercomputing in Europe also covers quantum computing and its link to HPC.

- Mikael Johansson, CSC: “Quantum computing and Europe”, quantum computing uptake and communications in the European HPC ecosystem (October 2025).
- Stefan Seegerer, Head of Product, IQM Quantum Computers: “Building quantum computers in Europe” (December 2025).
- Matthias Christandl, Professor of Quantum Computing, University of Copenhagen: simulating a 40-qubit quantum algorithm on an AI supercomputer (February 2026).
- Panagiotis Barkoutsos, Senior Staff Quantum Solutions, IonQ: “Developing quantum solutions with IonQ”, recorded at QAS2025 in Stockholm (March 2026).



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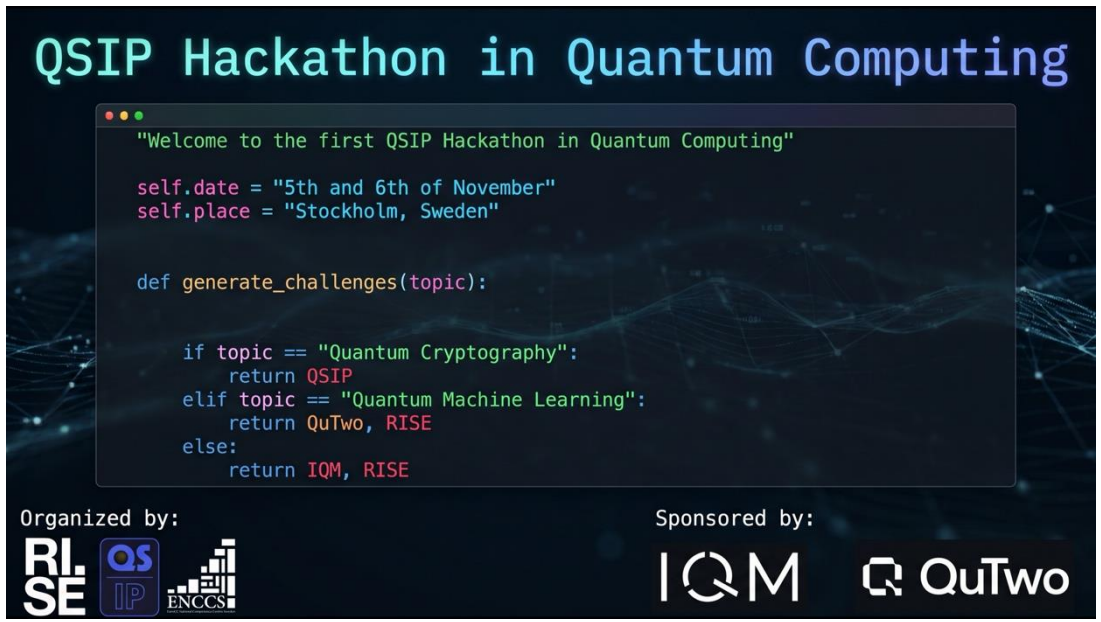
Quantum Autumn School 2026

IQM · QSIP Quantum Sweden Innovation Platform · Intermodulation Products · QSTAR · QuTwo · ConScience · NordIQuEst



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Funding acknowledgement









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ENCCS has also received national funding through Vinnova and the Swedish Research Council (VR).

The project is supported by the European High-Performance Computing Joint Undertaking and its members.

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Thank you



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EuroHPC
Joint Undertaking

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