

Cirrus: solving computational, simulation, modelling, and data science challenges

This UKRI National Compute Resource strengthens the UK's research computing infrastructure by combining powerful hardware, flexible access and specialist expertise. Cirrus is available for use by industry and academia.

Flexible high performance computing

Part-owned and operated by EPCC, Cirrus is a UKRI National Compute Resource (NCR).

Housed at EPCC's Advanced Computing Facility, it is a flexible high performance computing system that provides an ideal platform for users to solve their computational, simulation, modelling, and data science challenges.

Designed for industry

Cirrus has been designed to support a wide range of industry applications in sectors such as:

- Automotive
- Aerospace
- Energy
- Oil & gas
- General engineering
- Life sciences
- Financial services.

EPCC provides access to high performance computing resources and can also support businesses through the onboarding process, thereby reducing the time-costs of switching to Cirrus.

Users can choose to run their own codes or to access a range of commercial and open source software tools which are available on an on-demand, pay-per-use basis.



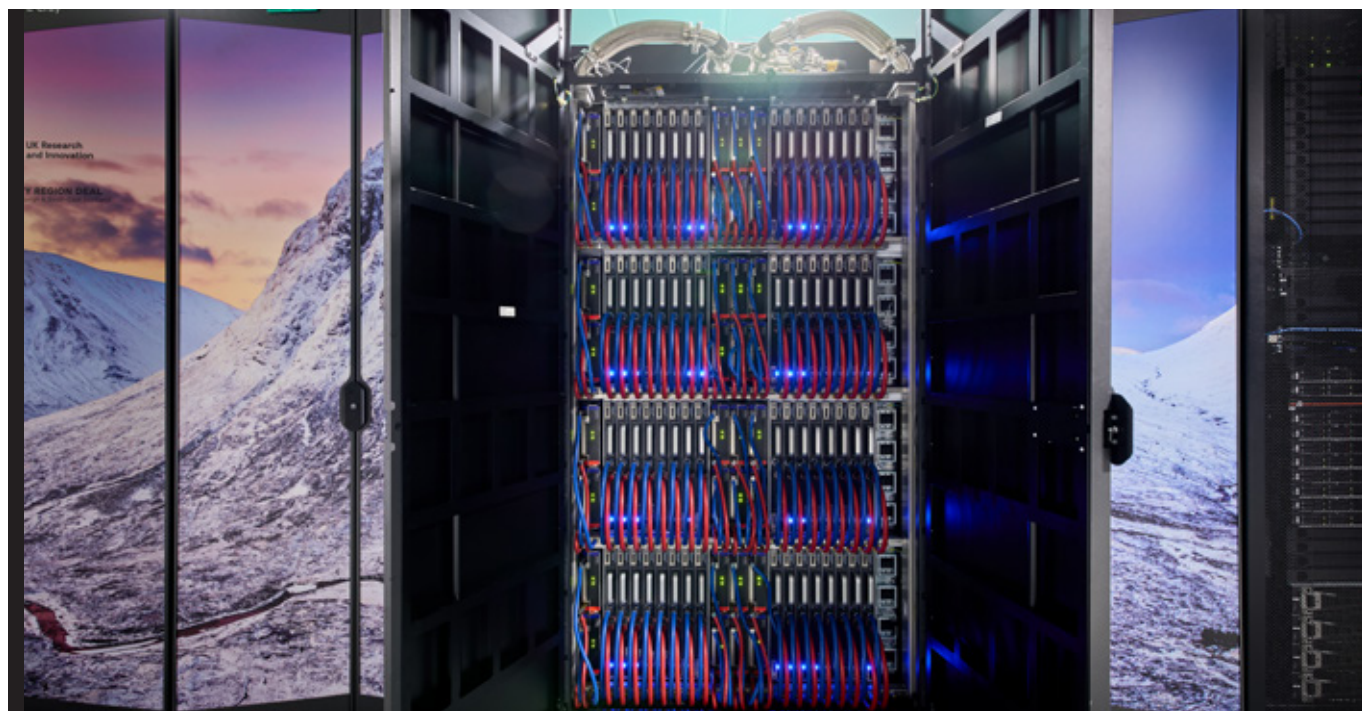
Designed for research

Cirrus has supported research in areas including physics, chemistry, and engineering. For example:

The system was used in the design of rotor blades for Ingenuity, the NASA Mars helicopter, which successfully carried out the first ever powered flight on another planet.

EPCC's Quantum Applications Group has employed the Cirrus service to simulate quantum circuits.

Cirrus has also supported research led by the University of Edinburgh to train a neural network to recognise agricultural field boundaries from satellite images, increasing the accuracy and decreasing the costs of delineating agricultural field boundaries.



Technology

Nodes

640 CPU nodes

CPUs

2 AMD EPYC® 9825, 2.25 GHz, 144-core processors, giving 288 cores per node in total.

Total CPU cores

184,320 CPU cores.

System Memory details

CPU Nodes:

- 768 GB per standard memory node (576 nodes)
- 1,536 GB per high memory node (64 nodes).

High performance interconnect

HPE Cray Slingshot 11, 200 Gbps per node.

Storage

- 1PB Ceph distributed file system for critical data storage.
- 1PB HPE E1000 ClusterStor Lustre parallel file system provides high performance data access with high capacity.

System OS

Red Hat Enterprise Linux.

Access

Academic access

Access to Cirrus is available to UK-based academics. Please see the Cirrus website for full details: www.cirrus.ac.uk

Industry access

Cirrus has been designed to support a wide range of industry applications and EPCC can provide both access to HPC resources and also consultancy to effectively exploit HPC resources.

To access Cirrus and supporting EPCC expertise, please contact us at: support@cirrus.ac.uk.

Trial access

Details of access are available on the Cirrus website.

Find out more

See the Cirrus website for further details about this service.

www.cirrus.ac.uk