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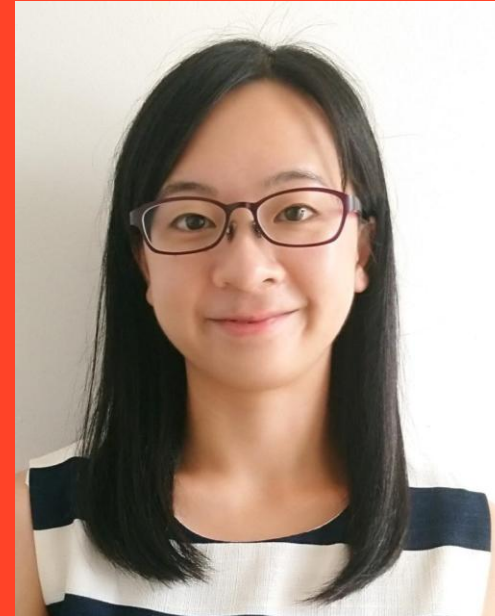
Department for
Business, Innovation,
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Building Public Compute Infrastructure for the Future of Research

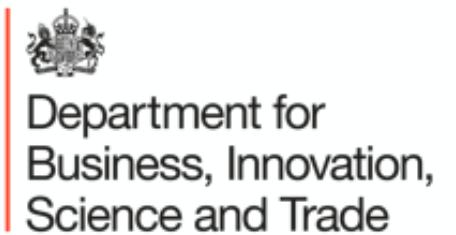
14 October 2026



Kay Yeung
Head of Policy & Engagement
Digital Research Infrastructure Team



Christina Kerr
Head of AIRR Allocation
Public Compute Team



Where we are today



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Report on the UK Compute
Landscape 2021



Future of Compute Review,
2023



Further Reports and Surveys



We are here

Analyse the
Problem

Develop the
Strategy

Deliver, Deliver,
Deliver



AI Opportunities Action Plan,
January 2025



Compute Roadmap, July
2025



Spending Review 2025 for
FY 26/27-29/30

Deploying **£1.3bn** to
make the UK a global
leader in AI – investing
across compute, data,
models and skills.

UK Compute Roadmap (July 2025)

Building a modern public compute ecosystem

1. **Investing £2bn until 2030** to boost the provision of national compute resources – including a twentyfold expansion of the AI Research Resource and a new national supercomputer
2. **Create National Supercomputing Centres (NSCs)** as focal points for a federated UK public compute ecosystem
3. **Partner with like-minded countries** to broaden access to shared compute infrastructure and foster collaboration

Putting compute to use, powering innovation across the economy

4. Introduce a **refreshed allocation model** that targets compute toward the UK's highest-impact research and innovation priorities, **backing mission-driven research and strategic national goals**.
5. Guarantee **dedicated compute access for the Sovereign AI Unit and the AI Security Institute**, ensuring the UK's core AI functions have the capacity they need to lead.

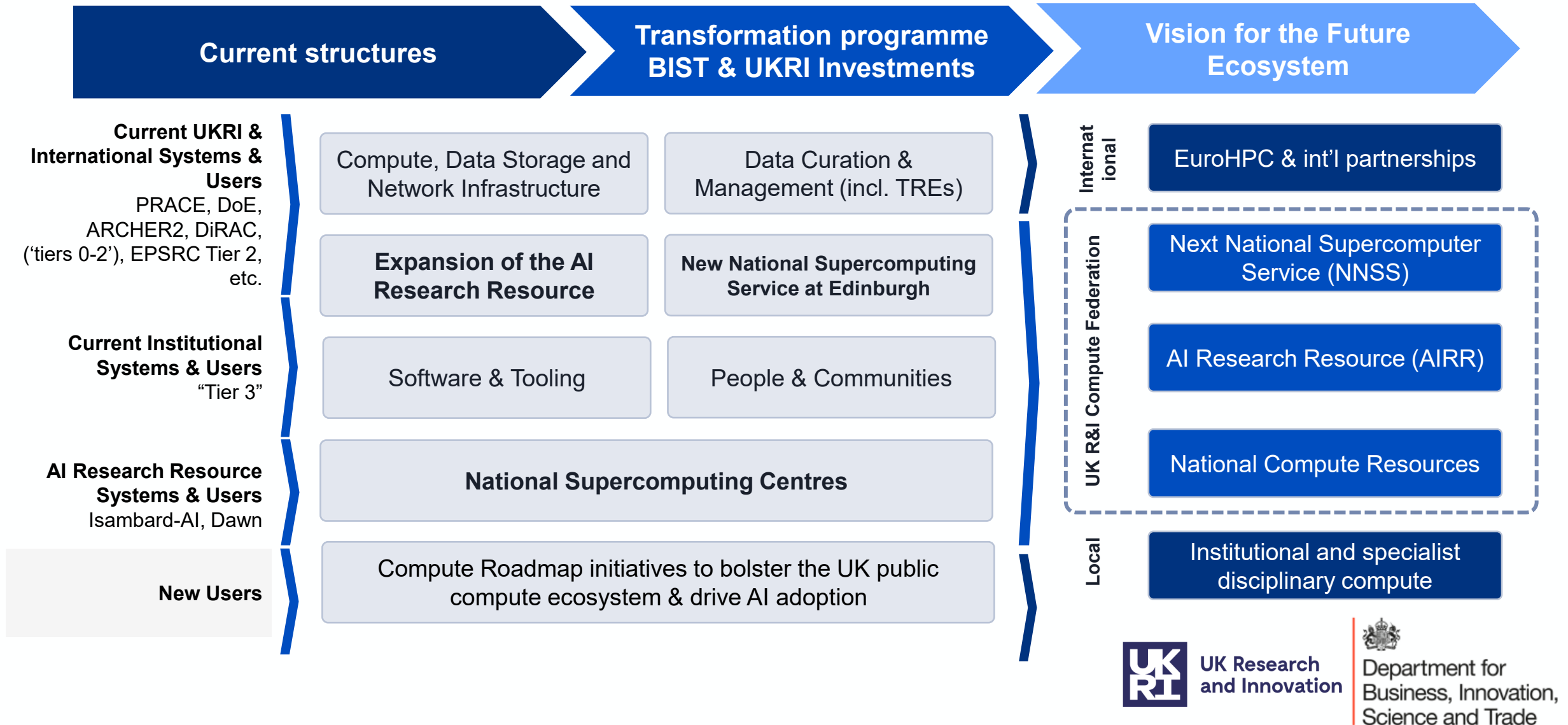
Building AI infrastructure to keep the UK at the cutting edge of AI development

6. **Deliver large scale AI Infrastructure via AI Growth Zones (AIGZs) across the UK, ensuring the UK has the capability to support AI training and inference workloads.**
7. **Explore new models for delivering the energy infrastructure that powers AI**, including through sustainable solutions.
8. **Harness AIGZs to deliver both national and local benefits across the economy.**

Creating sovereign, secure, and sustainable capability

9. **Support British companies to develop sustainable and secure compute technologies**, using the AIRR and AI Growth Zones to provide access, testbeds, and opportunities to scale.
10. **Establish compute as a priority area for the UK Sovereign AI Unit**, supporting research and innovation in new computing paradigms to help British companies grow into global leaders.

Vision for the UK's public compute infrastructure



Where to go



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Mission Driven Modelling and Simulation workflows at the largest scale to make the biggest breakthroughs and back winners.

For AI workflows, strategically managed access driven by Government priorities.

Accessible for all workflows at a smaller scale. Range of hardware to support as many communities as possible.

UK R&I Compute Federation

Next National
Supercomputing Service

AI Research Resource

National Compute
Resources



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AI Research Resource (AIRR)

AIRR: Available resources

Isambard-AI

5,448

**NVIDIA GH200
Grace Hopper
Superchips**

LOCATION

- University of Bristol

ARCHITECTURE

- Optimised for large-scale AI and machine learning

LAUNCH

- July 2025

Dawn

1,024

**Intel Data Centre
GPU Max 1550
GPUs**

LOCATION

- University of Cambridge

ARCHITECTURE

- HPC-style architecture for converged AI and scientific work

LAUNCH

- July 2025

Zenith

352

**AMD Instinct
MI355X GPUs**

LOCATION

- University of Cambridge

ARCHITECTURE

- Designed for GPU-accelerated scientific computing

LAUNCH

- June 2026



Coming soon...

Commercial cloud credits

STATUS

- Pilot with all major CSPs underway
- Estimated launch: 2027

New £750m Heterogeneous AI Supercomputer

STATUS

- Host site selection underway
- Estimated (phase 1) launch: 2028



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AIRR: Allocation model and access

STANDING ROUTES

Gateway

First-time users testing code and workflows

Up to 10,000 GPU hours | 3 months

Rapid Access

UK SMEs developing AI products

Up to 20,000 GPU hours | 3 months

STRATEGIC R&D CALLS

Previous calls, now closed

AI Open Access

50,000–1.4m GPU hours
6 or 12 months

Cloud Pilot

Up to £400,000 of cloud
compute per project

Innovator

50,000–150,000 GPU hours
Up to 6 months

NEXT LARGER RESEARCH CALL

Estimated launch: Early 2027

AIRRPortal

UK AIRR supercomputers and targeted cloud offers

<https://www.gov.uk/government/publications/ai-research-resource>

We are enabling **academia, startups and public sector organisations** to access to national AI compute infrastructure through a blended model, supporting early-stage innovation and experimentation with AI, as well as large scale AI R&D.

- Aligning with national priorities including the AI for Science domains
- Providing dedicated access for safety research by the AI Security Institute
- Driving efficiency in public compute infrastructure through awards to high-potential UK startups via Sovereign AI
- Offering resource for curiosity-driven AI research
- Combining compute and grant funding through the Fundamental AI Research Labs and AI Fellows programmes



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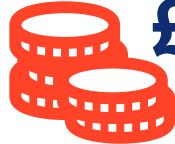


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AI for Science Strategy (November 2025)

Strategic objectives

1. Develop frontier capability in AI-driven science
2. Ensure the UK retains its global scientific leadership

 **£137 million**
over 5 years

How we are taking action

Funding AI-driven science projects



AI scientists



Autonomous labs

Three pillars

Data

Compute

People
&
Culture

Mission one

“We will accelerate drug discovery to develop trial-ready drugs within 100 days by 2030 and contribute to deploying new treatments faster”

Priority areas



Engineering
biology



Materials
science



Medical
research



Nuclear
fusion



Quantum
technologies

AIRR: 12 months of allocation

Data from Sep-25 to Jul-26

853

Projects

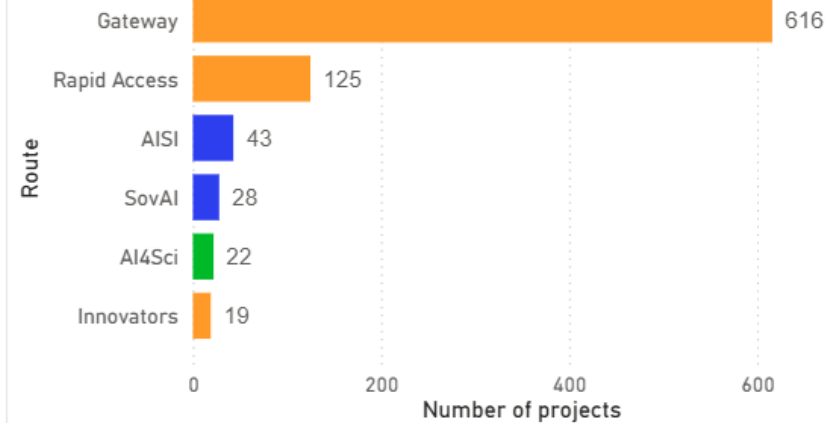
198

Organisations

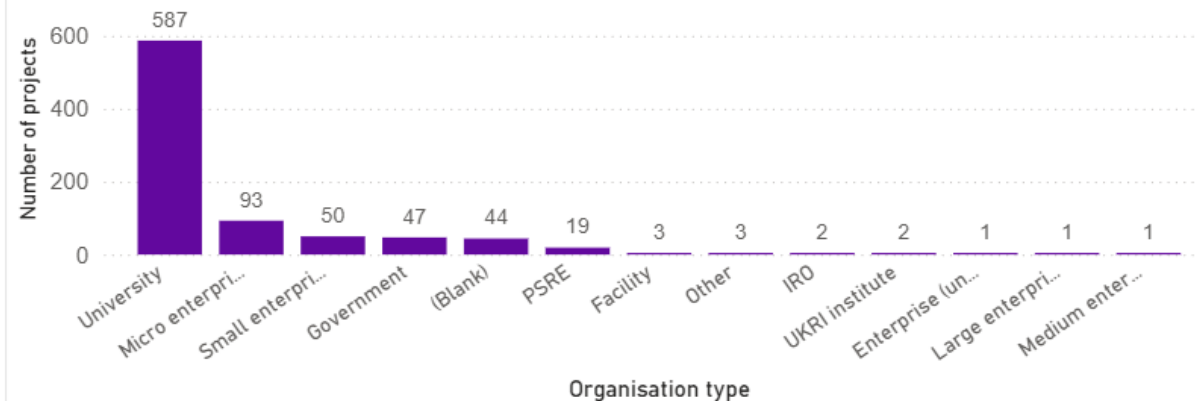
29.04M

GPU hrs allocated

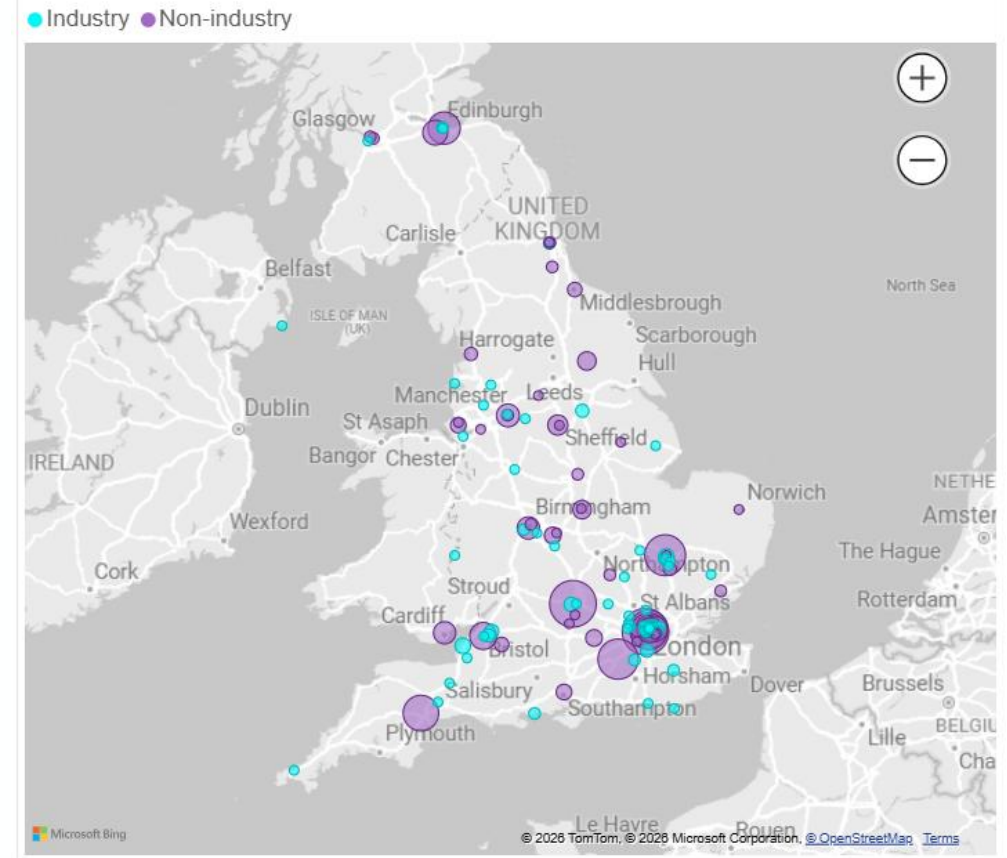
Number of projects by Route



Number of projects by Organisation type



Geographical distribution of projects



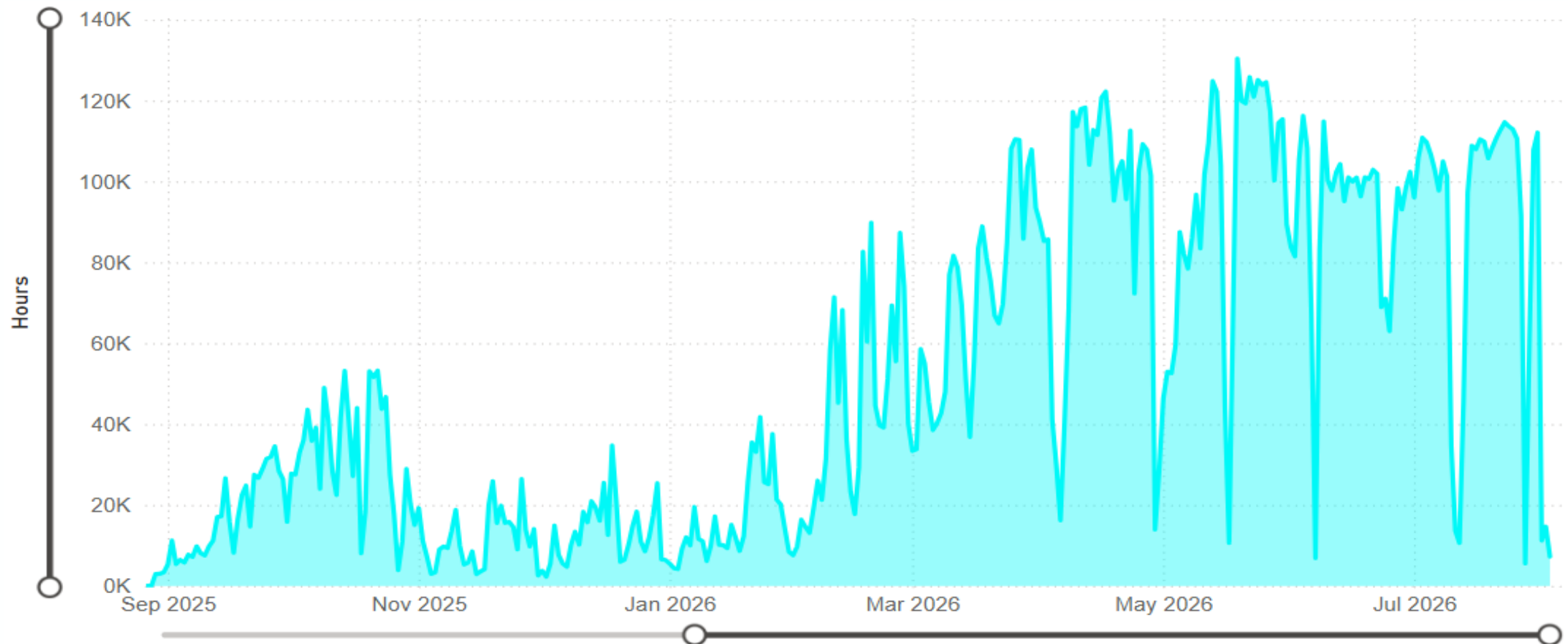
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AIRR: 12 months of utilisation

Data from Sep-25 to Jul-26



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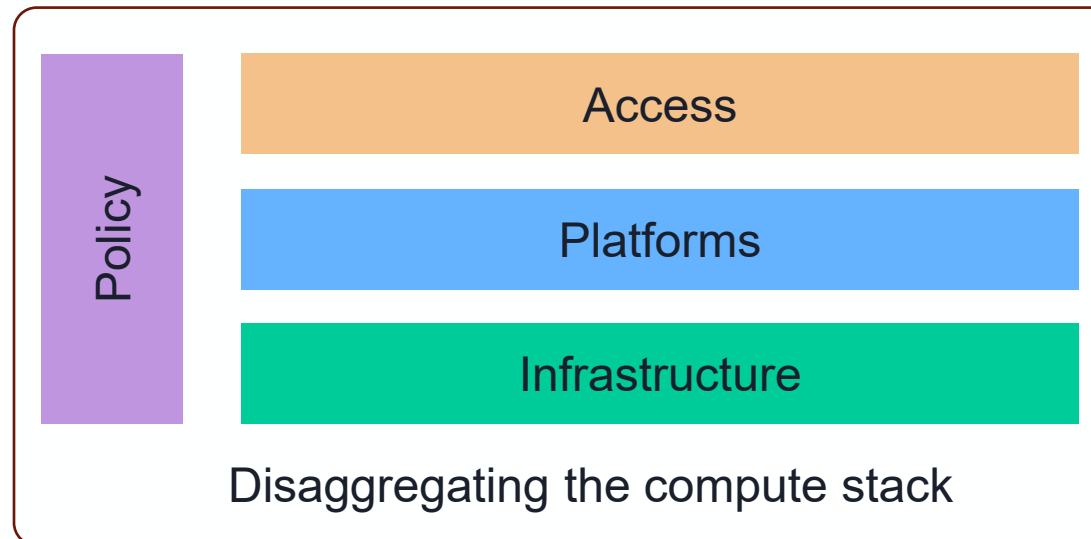
UK Public Compute Ecosystem

Developing the UK's R&I compute ecosystem

We are working towards vertical disaggregation, which means that instead of users being signposted to a particular infrastructure, there will be:

- A 'single pane of glass' to request access to NCRs, AIRR, NNSS and other future services
- A common set of standards & policies for users
- Access to domain experts and community initiatives that might sit across a range of institutions

This complements specialist services focussing on specific requirements/communities & data investments.

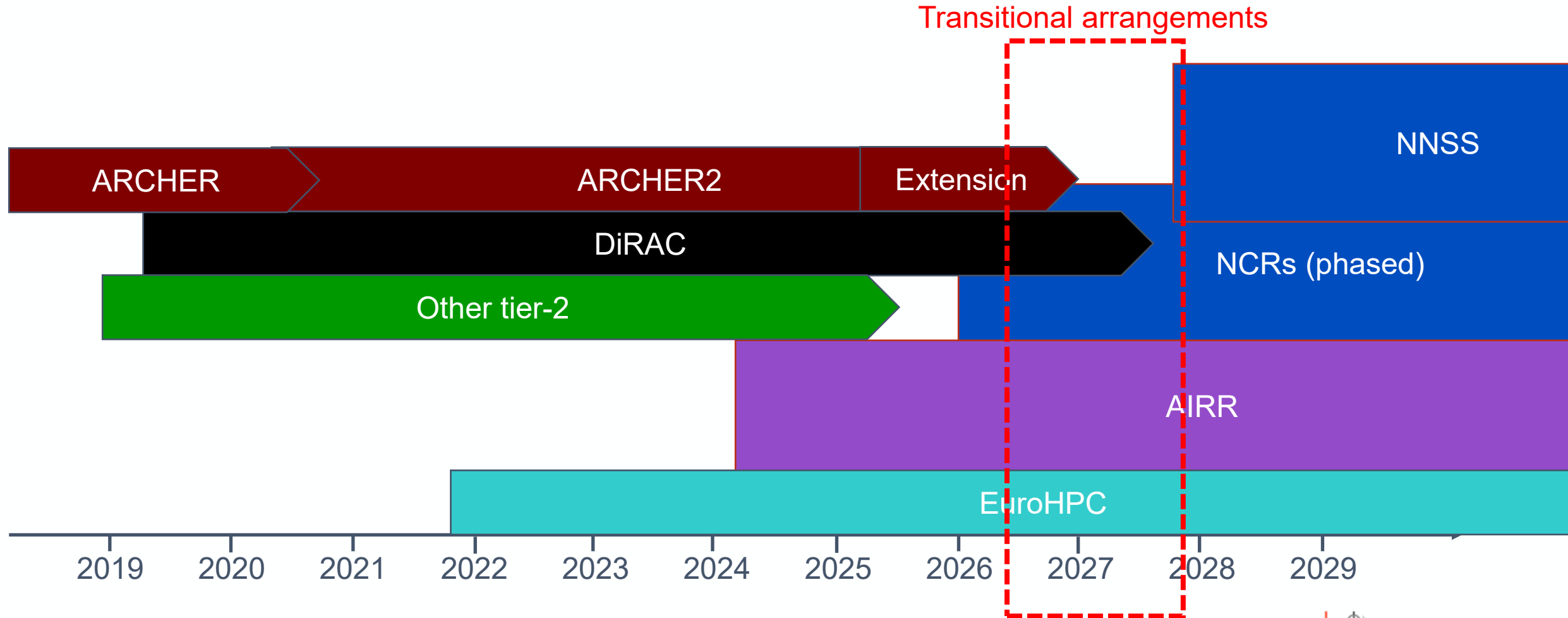


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UK R&I Compute Provision: A time of transition



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EuroHPC



EuroHPC
Joint Undertaking

- UK access, through Horizon Europe contributions, is limited to Horizon Europe funded calls and EuroHPC Access Calls.
- Through EuroHPC Access Calls, UK-based applicants can access all existing and planned EuroHPC systems, including the JUPITER exascale system.



We encourage the community to apply via the link below or the QR code to the left!

https://eurohpc-ju.europa.eu/access-our-supercomputers/eurohpc-access-calls_en



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Next National Supercomputing Service (NNSS)

NNSS: System and vision



- NNSS will be a key element of the UK compute ecosystem: a new national service based at EPCC and enabling mission-driven research and strategic national goals.
- Investment of up to £750m for:
 - Hardware: Single GPU partition
 - Host site and operating costs (e.g., electricity)
 - Service provision
 - Software programme
- Service currently planned to go live in Q4 2027:
 - Construction started on data centre upgrade in 2026
 - Hardware procurement being finalised
 - Service will operate for a minimum of 5 years

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Work begins on UK's new £750m supercomputer



SHEPPARD ROBSON

An artist's impression of what the new supercomputer site will look like when it is finished next autumn



Minister Narayan with Provost, Kim Graham, Professor Mark Parsons, Director of EPCC, CEO of Robertson Group, Elliott Robertson and Alastair Moore, Operations Director, Robertson Construction Central East

<https://www.bbc.co.uk/news/articles/c39yr3p8m4xo>

<https://www.ed.ac.uk/news/ai-minister-marks-milestone-on-supercomputer-build>



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NNSS: System and vision



- **NNSS will:**
 - be a step-change in compute capacity for UK-based researchers and innovators
 - be available to all of the communities supported by UKRI
 - target mission-driven research and support strategic national goals, with a focus on Grand Challenges and the ability to conduct computational research at very large-scale
 - incentivise collaboration and knowledge transfer, including open approaches to data
- **NNSS will not:**
 - operate in the same way as previous national services, such as ARCHER2 and DiRAC, and AIRR
 - be suited to all applications and use cases
 - compete with commercial provision of compute

NNSS: Project governance and management

UKRI CEO
Ian Chapman

UKRI
SRO

Project
Board

Representation from:

- University of Edinburgh
- BIST
- Independent Technical Experts
- UKRI (Senior Operations Roles, Finance, Risk, Management, Commercial)

System Procurement Group

Project Delivery Team

Chair: Mark Parsons, University of Edinburgh

Advises UKRI on the delivery of the technical aspects of a robust procurement & evaluation process that optimises value for money. Includes BIST Commercial.

Richard Gunn (Project Director)
Christina Doris (Project Manager)
Martin Strawson (Commercial Lead)
Vandna Sharma (Finance Lead)
Luke Davis (Technical SME)
Felix Ruechardt (BIST Policy)



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UKRI's Vision for NNSS

- NNSS will target mission-driven research and support strategic national goals, with a focus on delivering impact.
- There will be several access routes, including through Grand Challenges (this can take different forms).
- **A Grand Challenge is a large-scale problem or opportunity in a priority area of national or strategic importance that is ambitious and difficult to address and will lead to concrete outcomes. Addressing the challenge can advance knowledge, improves lives and/or drive growth.**
- Areas of national and strategic importance includes the UK's Industrial Strategy (IS8) sectors but are not bounded by it.



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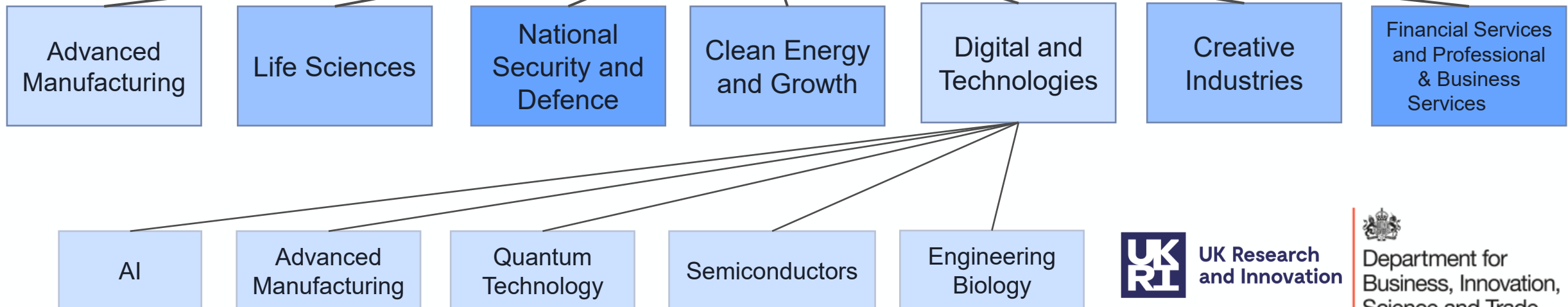
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To advance knowledge, improve lives and to drive growth

Curiosity-driven research

Helping Innovative Companies

Government and Societal Priorities



NNSS: Support for users

Software support will be provided to help users with developing and deploying software that is suitable and efficient on NNSS. We have plans to offer:

- A focussed and time-bound GPU porting programme. It would prioritise speed and future sustainability, potentially sitting across the scope of the grand challenge consortia.
- Challenge-aligned software sprints and user support that would sit within the consortia mentioned above or through specific time limited interventions through an embedded pool of research technical professionals. This includes support from service providers, similar to 'eCSE' funding. Where possible, this would be aligned with international initiatives.
- Sustained investment in shared open-source software infrastructure.
- UKRI and EPCC are discussing NNSS service provision over the coming months. Further details will be shared in due course once an agreement has been made.



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National Compute Resources (NCRs)

National Compute Resources (NCRs)

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New national computing resources to open doors for researchers



26 February 2026

UK Research and Innovation (UKRI) has announced a £76 million investment to launch four new national compute resources (NCRs).

This major funding boost will provide the powerful 'digital engines' needed to solve some of society's biggest challenges, from healthcare to climate change.

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- NCRs will complement flagship investments, including NNSS and AIRR, as a portfolio of diverse technologies available to the UK's research and innovation communities.
- The NCR framework is an evolution of support for 'tier 2', providing funds for the infrastructure layer and allowing for collaboration on the platform and access layers.
- We anticipate a rolling programme of phased investment in NCRs, informed by unmet technological requirements in the ecosystem.
- The first phase of NCRs will launch a full service for users in 2026/27, with four systems already available.

NCR Phase 1: Specifications

NCR	User Service Launch Date	Specification
CPU-based system		
Charger	End of 2026	148 compute nodes consisting of Intel Xeon CPUs; 296 processors; 37,888 cores; 400 Gb/s interconnect; 8 Blackwell RTX Pro 6,000 visualisation GPUs; ~850 CPU cores Memory per core of 6 GB
Cirrus	Live	640 compute nodes consisting of 2 x AMD Turin CPUs; 184,320 cores; 200Gbps interconnect Memory per core of 2.67 GB
Isambard-3	Live	380 nodes consisting of Nvidia Grace-Grace CPUs; 54,720 cores; 200Gb/s interconnect Memory per core of 1.67 GB
GPU-based system		
Baskerville	Nov 2026	176 Nvidia B200 GPUs; 22 nodes; 400 Gb/s interconnect 2 TB per node
Mary Coombs	Live	628 Nvidia H100 GPUs (157 nodes); Infiniband NDR200 interconnect 0.5 TB per node
Zenith	Live	28 nodes consisting of 8 AMD MI355X GPUs (224 total); 400 Gb/s interconnect 2.3 TB per node

UKRI National Compute Resources



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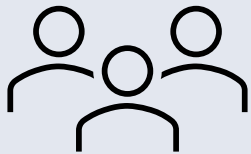
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NCR: Access routes

We are aiming to build a user-focussed and professional approach to the access layer.

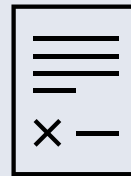
We are setting up a 'single pane of glass' process for users looking to access our compute investments, and to facilitate more efficient allocations. This is building on the initial development of the AIRR Portal.

Each NCR will have three main access routes, allocation to these routes will not be one size fits all e.g., they will not all be 50% Consortia, 30% Grants and 20% Seedcorn.



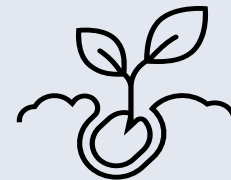
Community Centres of Excellence

Consortia model



Grants

Apply for access (through a specific route or as part of a wider proposal)



Bright Idea / Seedcorn

Building on AIRR routes and Access to HPC



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NCR: Grants and Seedcorn routes

Grants route:

- The NCRs will be added to the list of facilities on TFS.
- Compute resource can be requested on grant applications across UKRI. They would be subjected to the peer review process for the scheme that you have applied to. If your grant application is successful, you will be asked to upload your grant offer letter to the access portal to gain access to the NCRs.
- You will be contacted with further information and be able to manage your compute allocation through the portal.

Seedcorn route:

- You can request compute resource for a research project on the access portal to gain access to the NCRs.
- You will be informed of the outcome of your request. If successful, you will be able to manage your compute allocation through the portal.

Further details will be provided on the **NCR Access Portal**



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Communities Centres of Excellence (CCEs)

What are CCEs and what are they aiming to achieve?

CCEs will provide a world class service layer and professional support for researchers and innovators to utilise the NCRs. They will provide user-centred support, resources, expertise and community coordination to enable users to maximise the use and value of the NCRs, and for the NCRs to deliver maximum research, societal and economic impact.

There are three core functions to a CCE:

1. **Stewardship** of NCR user communities
2. **Services** to support NCR users: e.g., DevOps, RSEs, training opportunities, support code deployment, updating, porting etc.
3. **Resource provision**, facilitating access and allocation of compute capacity to maximise the benefit and utilisation of the NCR portfolio

The balance between the three functions will reflect the needs of the communities being served and therefore may differ from one CCE to another.



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Communities Centres of Excellence (CCEs)

CCEs will provide a structured service layer across the distributed compute landscape. They would operate as collective points of entry to NCRs.

This approach **broadens access**, particularly for interdisciplinary and emerging user groups, while embedding user support, professional skills, and software engineering expertise within the ecosystem. Researchers would benefit from **structured guidance, training, and enhanced opportunities to exploit compute resources effectively**.

UKRI will work closely with the CCEs to ensure transparent, equitable and inclusive allocation of compute resource and adoption of best practices in professional community management.

- **The funding opportunity is expected to launch on 3 November. UKRI will host a dedicated webinar on this funding opportunity in mid-November.**
- **CCEs are expected to start in Q1 FY2027/28.**

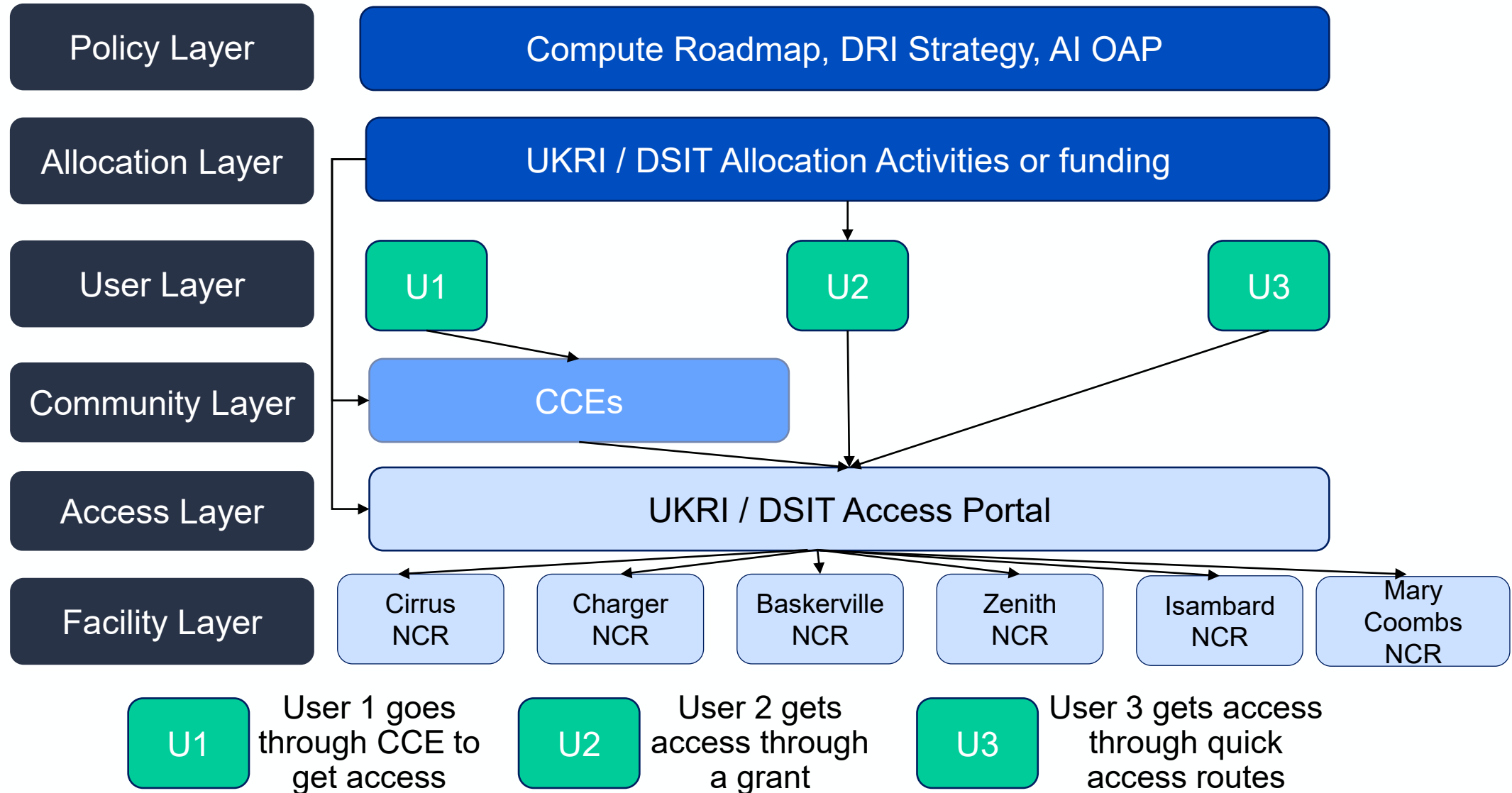
NCR: User journeys



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UKRI DRI Zenodo Community



You can find past reports and presentations on the DRI Zenodo page

The screenshot shows the Zenodo community page for UKRI Digital Research Infrastructure. The header includes the Zenodo logo, a search bar, and links to 'Communities' and 'My dashboard'. Below the header, the community name 'UKRI Digital Research Infrastructure' is displayed with its URL and a 'New upload' button. The left sidebar contains filters for 'Versions', 'Access status', 'Resource types', 'Subjects', 'File type', and 'Help'. The main content area shows a list of 6 results, sorted by 'Newest'. The results include reports and conference papers such as 'Report on the Understanding the UK dRTP landscape session at the DRI Congress 2025', 'Building sustainable Digital, Data & Technology routes for resilient DRI', 'Linking Data Infrastructures from Farm to Fork', and 'Report on the Critical Software Workshop at the UKRI DRI Congress 2025'.



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What's next?

AIRR Expansion

Bringing
Compute, Data,
Skills Together

AIRR: Future priorities

- £750m heterogenous AIRR supercomputer to be delivered in two phases by 2029/2030
- Host Site selection currently underway
- £150m Advance Market Commitment (AMC) for Novel AI Inference Chips to pull-through innovative new technologies as part of the AI Hardware Plan
- Launching the National AI Data Infrastructure Network – data storage nodes for large-scale AI with first deployments in Bristol and Edinburgh – the sites of Isambard-AI and the Next National Supercomputing Service (NNSS)
- AI for Science Strategy



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UK Public Compute Ecosystem: Future priorities

UKRI plans to have future community engagement opportunities on NNSS and more broadly on DRI:

- **Targeted roundtables on NNSS** (throughout 2027)
- **NCR showcase launch event** (February 2027)
- **DRI Congress** (Spring 2027)

NNSS updates can be found on: <https://www.ed.ac.uk/supercomputing>



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Thank you!