For the future of
education and research

Universities UK Research and Innovation Conference

10/12/25

How technology and collaboration can support the sector’s long-term sustainability and reduce burdens

Removing burdens and addressing legacy

Supporting more sector-wide shared approaches at scale and operating across spheres of influence

Placing focus on future digital, data and technology needs now

Critical to a sustainable and resilient research ecosystem

Jisc

Scope, scale and breadth of need for Jisc's research and innovation data, digital and technology capabilities

Scale:

- 700PB/year of data from the Vera Rubin Observatory - 20% destined for the UK over the Janet network to UK sites involved

Scope:

- Highly sensitive medical, commercial and socio-economic and otherwise secure research needs

Breadth

- Advanced technologies for art and design, materials and 3D research and infrastructure for AI and quantum research using advanced networking methods

Significant need for Jisc to meet a range of research requirements

Implementing the bureaucracy review digital recommendations

https://www.jisc.ac.uk/reports/open-data-about-research-management-a-landscape-review

- Jisc offers a range of research management services and support: Research management – Jisc
- We are coordinating the approach to the digital recommendations of the Review
- More focused approaches to identifiable steps:
  - Position data, digital and technology as an enabler
  - Promote shared standards and common approaches
  - Utilise existing effective routes
  - Reduce fragmented systems and proliferated platforms

Collaborating for a sustainable future

(Jisc is the) “poster child for sector partnership”

Vivienne Stern
CEO, UUK

Collaboration for a sustainable future report:

Supporting federated approaches

Collaborative and sustainable digital research infrastructure is key to sustainability

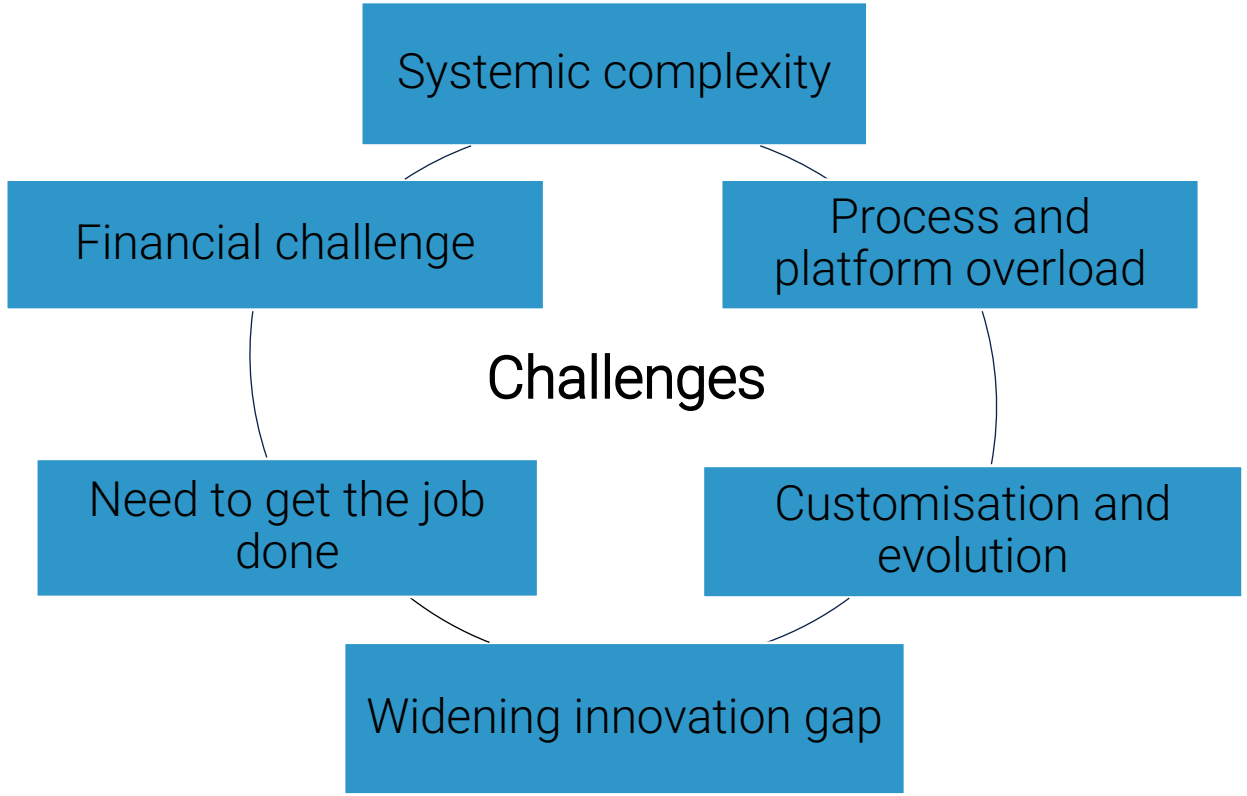
- Jisc Mapping federation journeys roadmap - funded by UKRI
- UKRI response – supporting key recommendations
- Expanding solution focus in key areas for R&I

Addressing technical legacy is key

The sector faces challenges to optimising data, digital and technical infrastructure to keep pace with technological change and innovation, impacting researchers and strategic impact

OUTPUT: We have undertaken research and are coordinating to understand and establish briefings and roundtables to set the ground for addressing technical legacy and debt in the HEI sector

OUTCOME: an evidential basis for advocacy and actions to establish the conditions for more sector-wide legacy-proofing, proving savings, innovation.



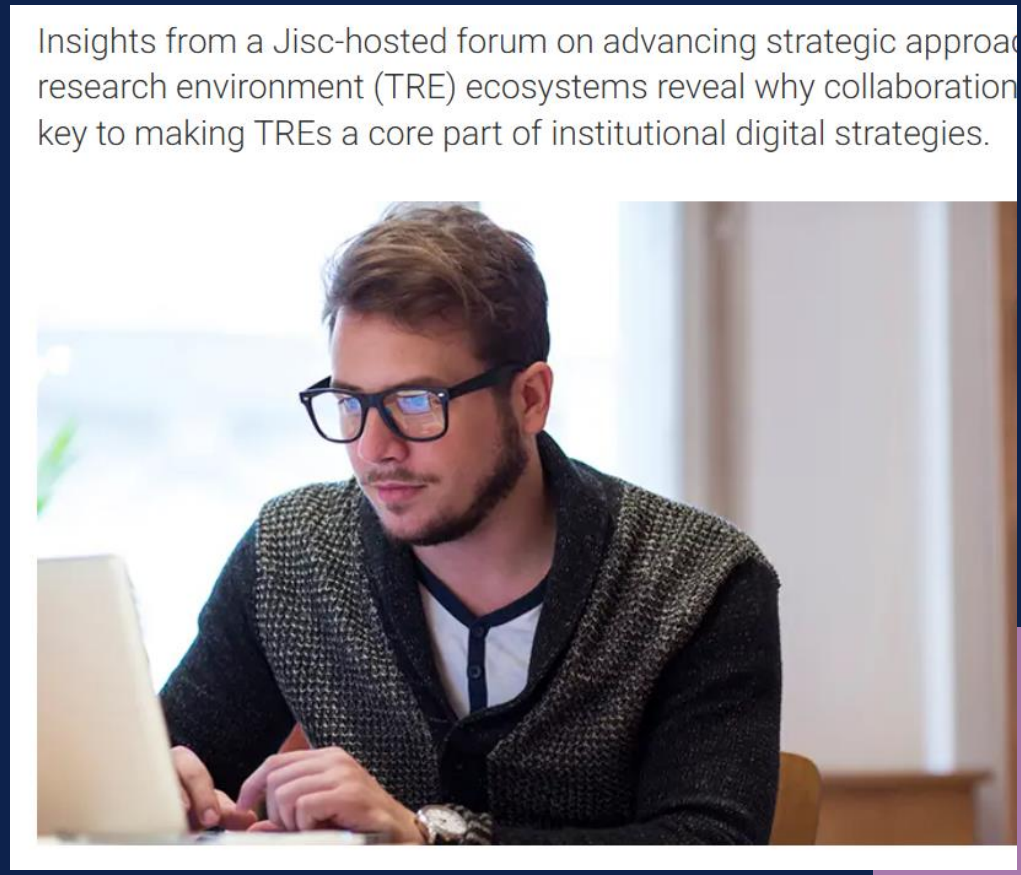
Digital infrastructure to support reasearch: Scale is key

Our footprint and specialist focus: Influencing at scale to meet research use cases

Trusted and secure research as an innovation benefit: Address security challenges posed by a complex landscape of trusted research environment

New infrastructure at scale: Effective sector-wide facilitation of trust and identity AAI - AAAI infrastructure

Policy: Develop the unique capability of the network to support efficiency and collaboration



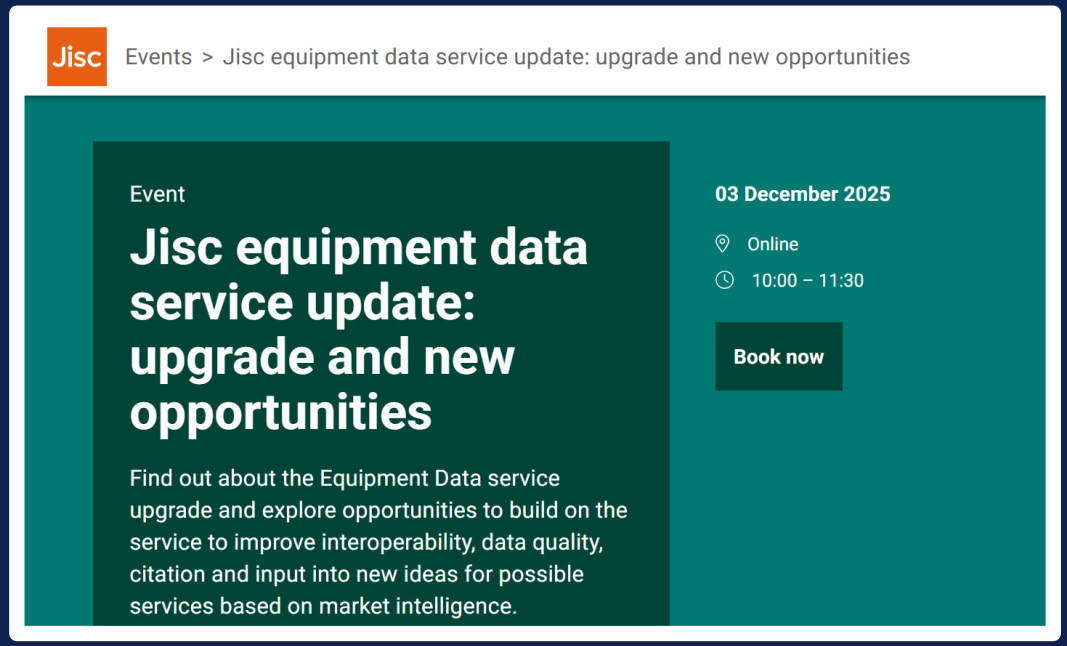
https://www.jisc.ac.uk/blog/why-trusted-research-environments-should-be-at-the-centre-of-digital-strategies-to-fuel-innovation-sustainability-and-growth

Supporting the ambitions of the UK's AI for Science Strategy

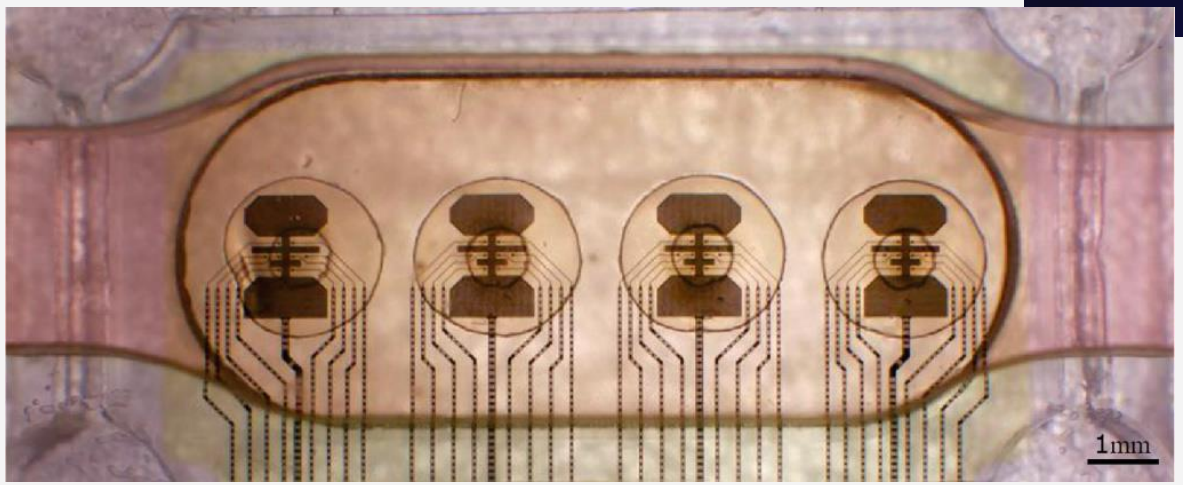
Working with DSIT, UKRI and the UK's research-intensive institutions to explore the feasibility of a system that enables federated coordination of compute downtime and capacity across the JANET network

Equipment data latest

- Creates DataCite Digital Object Identifiers (DOIs) for research equipment
- Uses the Research Data Alliance (RDA) work on schema for Persistent Identifiers for Instruments (PIDINST)
- Enables links between equipment investments and their resulting research outputs and publications
- Potential for expansion to schemas for facilities and associated infrastructure including compute eg GPU capability



Focus on future needs now



The bioprocessor with eight electrodes attached to four arrays housing a cluster of brain cells. (Jordan et al., Frontiers in Artificial Intelligence, 2024)

Systematic approaches to understanding and meeting future needs viably and effectively for our sector

Thank you

help@jisc.ac.uk

0300 300 2212

jisc.ac.uk

@jisc.bsky.social

@jiscsocial

linkedin.com/company/jisc

For the future of
education and research

Universities UK Research and Innovation Conference

10/12/25

How technology and collaboration can support the sector’s long-term sustainability and reduce burdens

Removing burdens and addressing legacy

Supporting more sector-wide shared approaches at scale and operating across spheres of influence

Placing focus on future digital, data and technology needs now

Critical to a sustainable and resilient research ecosystem

Jisc

Scope, scale and breadth of need for Jisc's research and innovation data, digital and technology capabilities

Scale:

- 700PB/year of data from the Vera Rubin Observatory - 20% destined for the UK over the Janet network to UK sites involved

Scope:

- Highly sensitive medical, commercial and socio-economic and otherwise secure research needs

Breadth

- Advanced technologies for art and design, materials and 3D research and infrastructure for AI and quantum research using advanced networking methods

Significant need for Jisc to meet a range of research requirements

Implementing the bureaucracy review digital recommendations

https://www.jisc.ac.uk/reports/open-data-about-research-management-a-landscape-review

- Jisc offers a range of research management services and support: Research management – Jisc
- We are coordinating the approach to the digital recommendations of the Review
- More focused approaches to identifiable steps:
  - Position data, digital and technology as an enabler
  - Promote shared standards and common approaches
  - Utilise existing effective routes
  - Reduce fragmented systems and proliferated platforms

Collaborating for a sustainable future

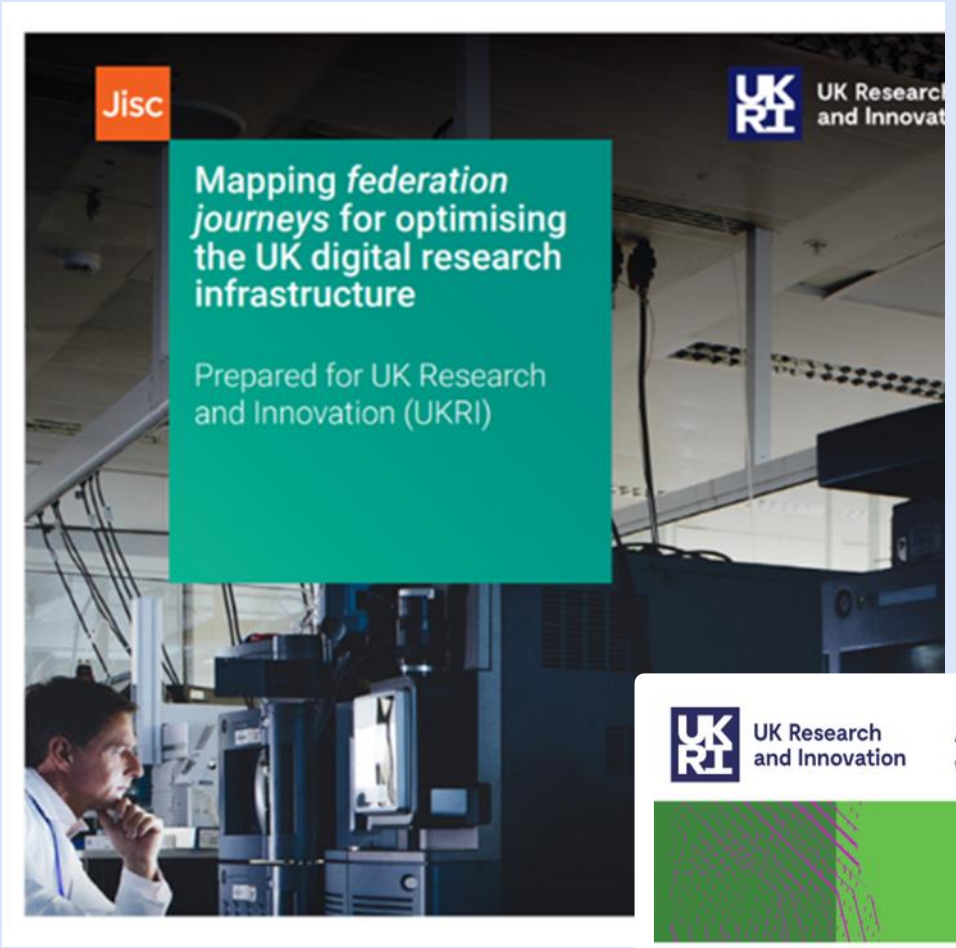
(Jisc is the) “poster child for sector partnership”

Vivienne Stern
CEO, UUK

Collaboration for a sustainable future report:

Supporting federated approaches

Collaborative and sustainable digital research infrastructure is key to sustainability



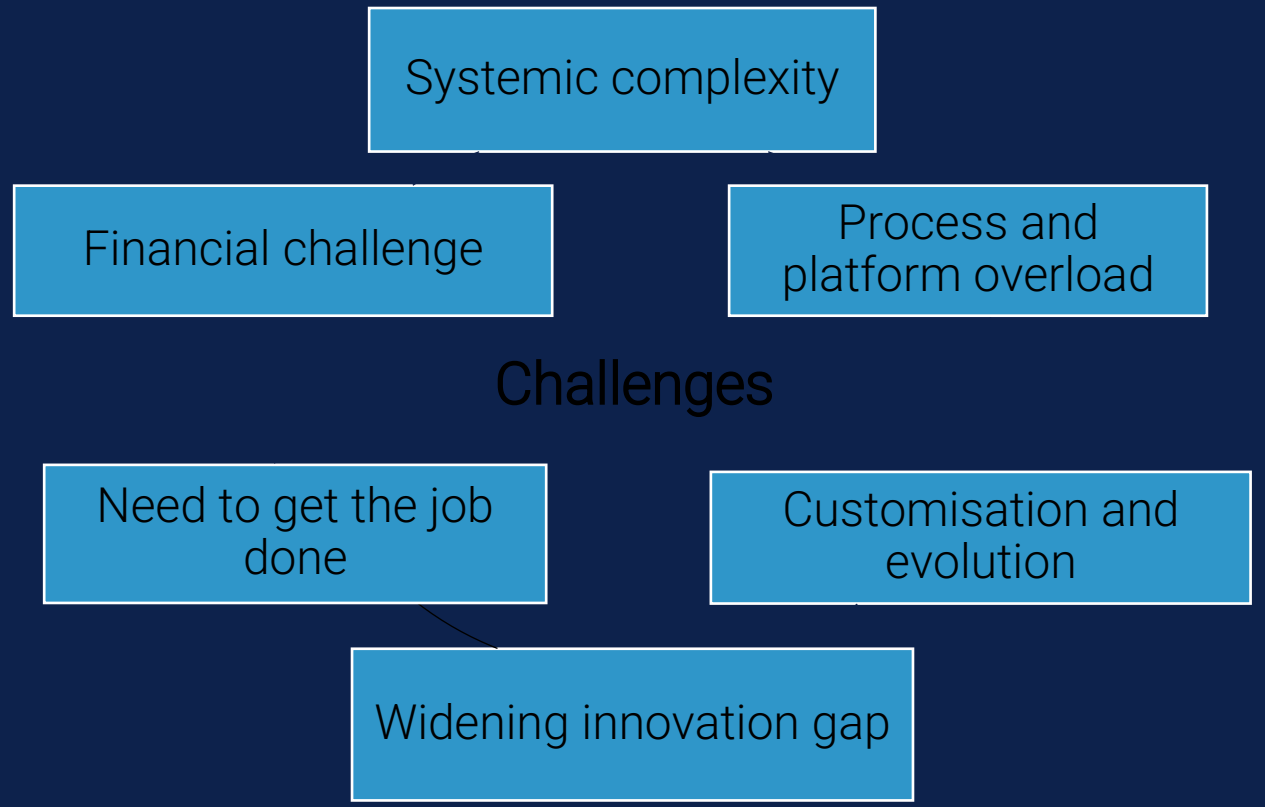
- Jisc Mapping federation journeys roadmap - funded by UKRI
- UKRI response – supporting key recommendations
- Expanding solution focus in key areas for R&I

Addressing technical legacy is key

The sector faces challenges to optimising data, digital and technical infrastructure to keep pace with technological change and innovation, impacting researchers and strategic impact

OUTPUT: We have undertaken research and are coordinating to understand and establish briefings and roundtables to set the ground for addressing technical legacy and debt in the HEI sector

OUTCOME: an evidential basis for advocacy and actions to establish the conditions for more sector-wide legacy-proofing, proving savings, innovation.



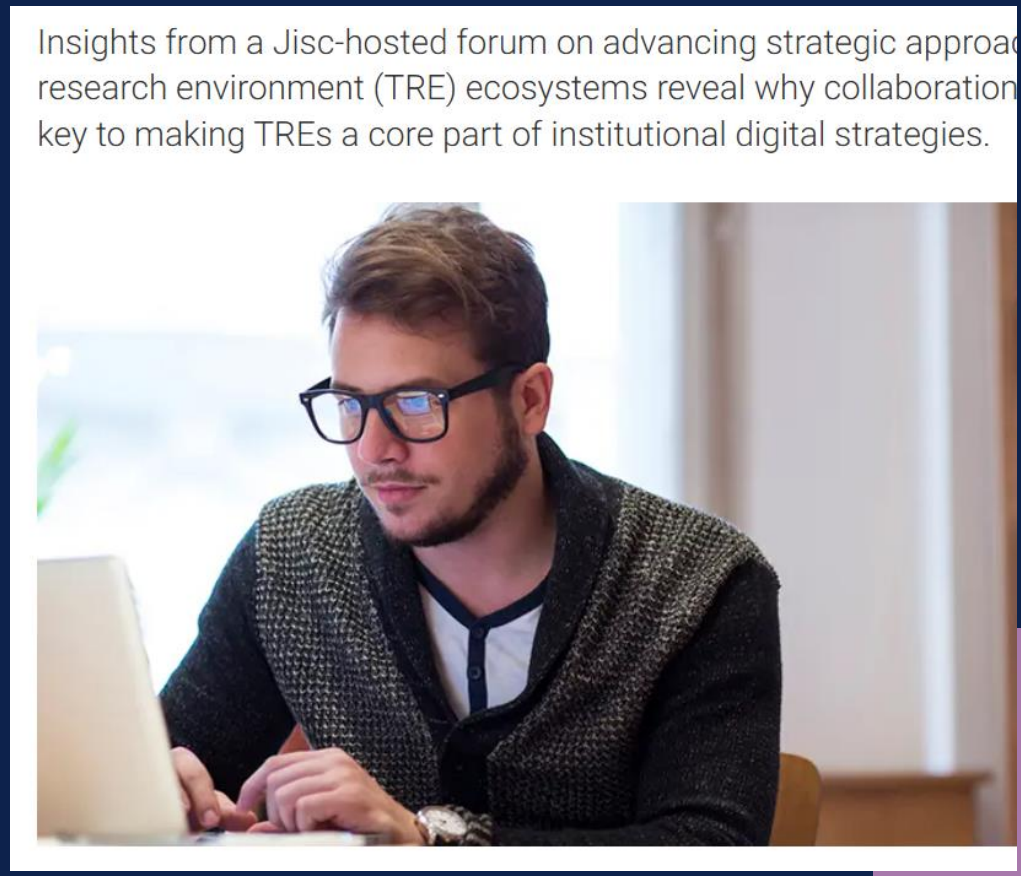
Digital infrastructure to support research: Scale is key

Our footprint and specialist focus: Influencing at scale to meet research use cases

Trusted and secure research as an innovation benefit: Address security challenges posed by a complex landscape of trusted research environments

New infrastructure at scale: Effective sector-wide facilitation of trust and identity AAI - AAAI infrastructure

Policy: Develop the unique capability of the network to support efficiency and collaboration



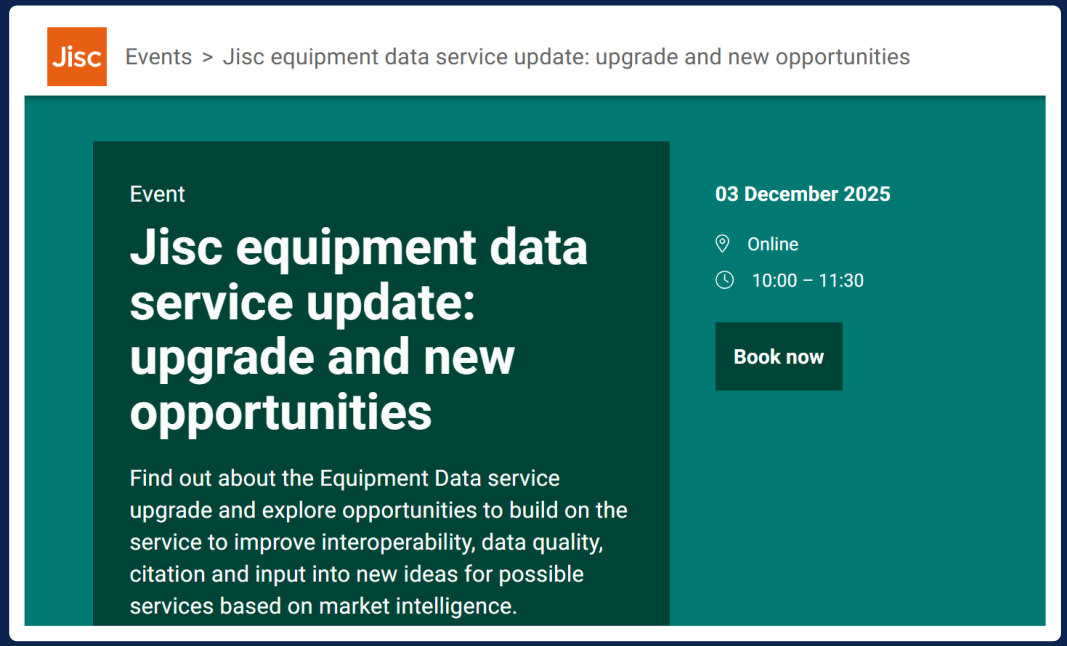
https://www.jisc.ac.uk/blog/why-trusted-research-environments-should-be-at-the-centre-of-digital-strategies-to-fuel-innovation-sustainability-and-growth

Supporting the ambitions of the UK's AI for Science Strategy

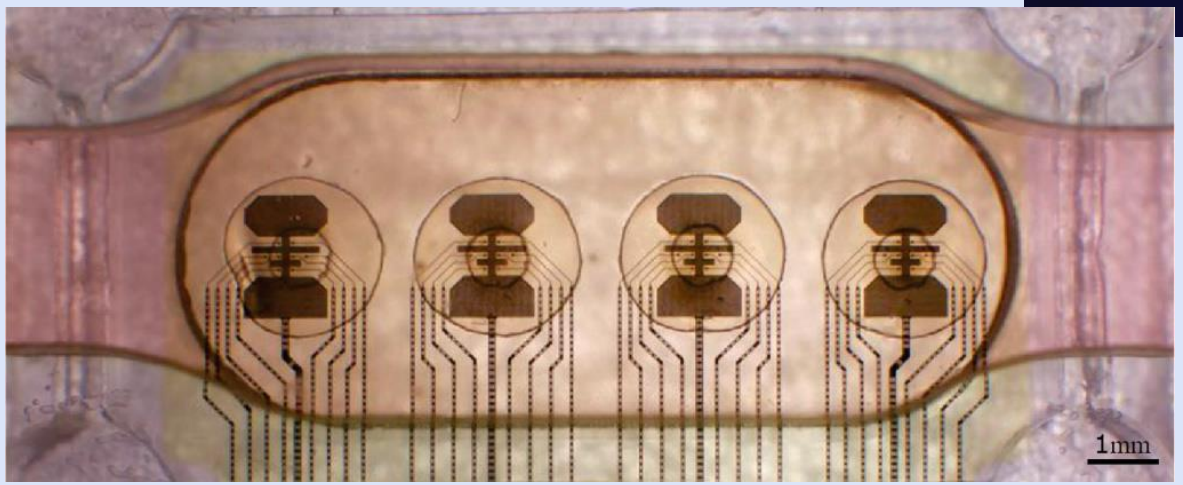
Working with DSIT, UKRI and the UK's research-intensive institutions to explore the feasibility of a system that enables federated coordination of compute downtime and capacity across the JANET network

Equipment data latest

- Creates DataCite Digital Object Identifiers (DOIs) for research equipment
- Uses the Research Data Alliance (RDA) work on schema for Persistent Identifiers for Instruments (PIDINST)
- Enables links between equipment investments and their resulting research outputs and publications
- Potential for expansion to schemas for facilities and associated infrastructure including compute eg GPU capability



Focus on future needs now



The bioprocessor with eight electrodes attached to four arrays housing a cluster of brain cells. (Jordan et al., Frontiers in Artificial Intelligence, 2024)

Systematic approaches to understanding and meeting future needs viably and effectively for our sector

Jisc

Thank you

help@jisc.ac.uk

0300 300 2212

jisc.ac.uk

@jisc.bsky.social

@jiscsocial

linkedin.com/company/jisc