

Understanding Federation

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Objectives

Drive collaboration on the safe use of sensitive, cross-sector data.

Promote engagement and **shared understanding** across the ecosystem and community.

Inform the needs and requirements for solutions that have **utility, scalability, and flexibility**.

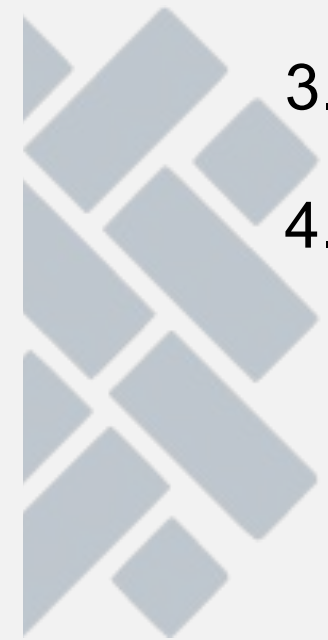


The baseline | UK TRE Community

Federation	A grouping of organisations with their own policies and assets (e.g. datasets or computing resources) who agree to allow use of those assets by the broader group but without the assets leaving control or ownership of the organisation.
Federated Analytics	A form of analytics where data analysis happens across multiple independent organisations, with each organisation keeping complete control of their own data. Instead of combining all data in one place, the analysis program or Workflow is sent to each organisation's data.
Federated Learning	A machine learning methodology that enables numerous devices jointly to train a machine learning model without sharing their data. In federated learning, the model is trained locally on each device and the modified parameters are then transmitted to a central server, where they are combined to form a new model that captures the information distributed across all the devices.

Federation: Benefits, limitations, and value

1. What are the benefits of federation for research?
2. What are the limitations of federation for research?
3. What are the barriers towards the implementation of federation in the UK?
4. What is the value and importance of federation for research?



Broad themes identified from interviews

Based on interviews conducted with representatives from key stakeholder groups:

- Public
- TREs
- Researcher
- Information Governance
- Leadership

Identified nine broad themes

- Standards
- Data access
- Communication
- Risk & safety
- Funding and sustainability
- Trust
- Usability
- Governance
- Research Benefit

Key themes from interviews

Standards underpinned various problem areas, citing that there was no common model, no agreed ontology, and no consistent approach to federation.

Communication from different perspectives:

- the public need education about why federation is safe and beneficial;
- researchers need to know what's possible before they can demand it;
- TRE owners find it hard to even agree on what "federation" means between themselves.

Tension between governance and technology. The technology exists, however, there is a real gap in resources to sustain, shared governance frameworks, and no clear accountability.

Research benefit is understood though no compelling, recent case studies to build momentum.

Next steps

Validation and development of the broad themes | Engagement with active community groups to capture sentiment and insights

Interviews with further stakeholder groups | Identify further stakeholder groups to capture perspectives and insights

Incorporate findings in community group deliverables | these include the language survey, federation atlas, and voices pilot

Publish and disseminate findings | Consolidate themes and findings to be shared broadly

We want you!

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