Trusted Research Environment on AWS

Secure sensitive data and expand your research toolsets

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From research and development (R&D) to engineering, organisations that conduct research using sensitive datasets understand the importance of data security better than most. As new legislation passes to safeguard sensitive data, the adaptability and agility of cloud computing can deliver the advanced technology and capabilities needed to secure, manage and analyse complex datasets.

Trusted Research Environment (TRE) on Amazon Web Services (AWS) is a self-service research solution to help secure and analyse sensitive data, delivering a set of flexible tools and pre-built templates to conduct research at scale.

From data controllers to researchers and IT teams— TRE on AWS helps custodians of sensitive data to:

- Comply with privacy legislation and safeguard the trust of data providers.
- Meet a rapidly growing need to securely collaborate on shared, sensitive datasets.
- Analyse petabyte-scale, modal datasets including tabular, imaging and -omics datasets.
- Closely manage and monitor research costs and the consumption of IT resources.
- Take advantage of the scalability, agility and adaptability of cloud computing.

TRE on AWS delivers this capability in an auditable environment that aligns with the Turing Institute's guidance on TREs, the privacy standards set out by the UK Health Data Research Alliance (UKHDRA), and the Five Safes, as defined by the Office of National Statistics (ONS).

Why TRE on AWS?

Built in the cloud, TRE on AWS features the ability to rapidly scale resources up and down in response to demand, while only paying for the actual resources used. You can also harness the depth and breadth of AWS services including data science, data analytics, artificial intelligence and machine learning tools and techniques.

Key Benefits

Security

IT teams can standardise researcher workspaces and manage access to AWS services with built-in security compliance, cost controls and regulatory safeguards.

Ease of access

24x7 on demand access to the self-service portal allows you to spin up AWS research work environments that are pre-approved by organisational IT.

Collaboration

The ability to securely collaborate with other organisations while retaining control of your respective environments and costs.

Scale

Researchers can create, launch and replicate complex workloads with cloud scalability.

Transparency

Both researchers and IT staff have a transparent view of the cost across projects, including cost centres and accounts for budget management.

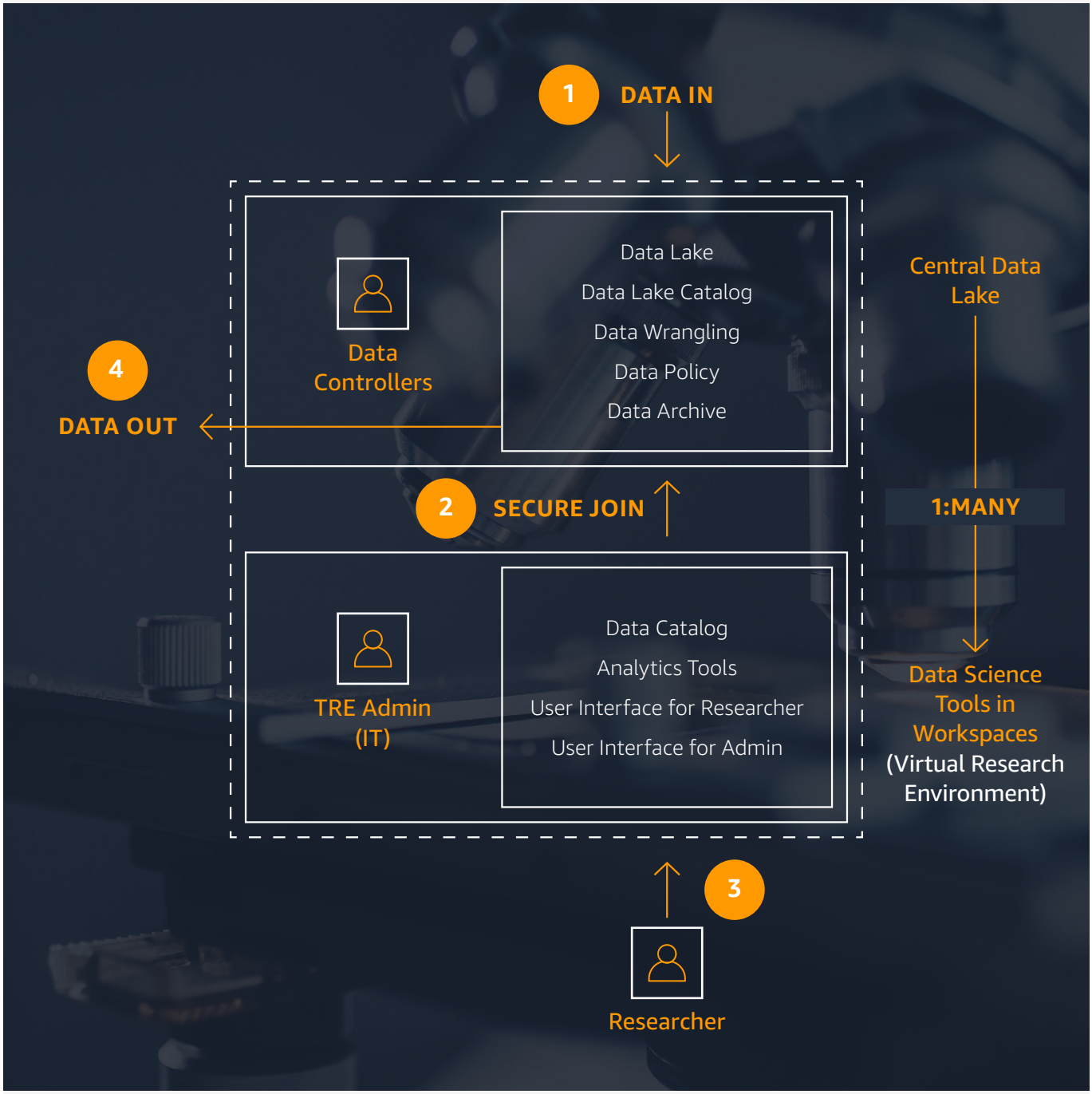
Accelerate results

Researchers benefit from reduced time to results by establishing environments and access to data in less time than traditional methods allow.

Meet the demands of the modern researcher

Trusted Research Environment on AWS uses a secure data lake with predefined workflows to provision specialised compute environments for research workloads and other secure jobs.

The solution automates the creation of a data repository and toolsets to conduct research and analysis. These two key elements are brought together and made accessible via an intuitive front-end portal.



TRE on AWS is designed to fulfil the modern research needs of our customers, supporting data controllers, researchers and IT teams alike with a secure and flexible platform.

For Data Controllers

- Gain in-depth auditing capabilities and comprehensive compliance controls with AWS services.
- Simplify the process of obtaining your own compliance certifications in comparison to on-premises infrastructure.
- Remove the need to distribute data, allowing analysis to start quickly while reducing the potential for data leakage.

For Researchers

- Take advantage of scalable toolset for analysis and data interrogation.
- Securely collaborate while remaining compliant, leveraging native collaboration capabilities.
- Remove the need for hardware procurement and configuration. · Scale up and down on demand, saving time and money.

For IT Teams

- Provide a broad range of scalable services without large capital expenditure on potentially niche or fast-moving technologies.
- Deliver services to researchers via a simple interface, minimising the need for an understanding of the AWS Management Console or underlying infrastructure.

How can I get started with TRE on AWS?

Contact us today via our website contact form or through your institution's regular AWS point of contact.