Economy 2030: An Agenda for Tech-Enabled Growth

Data

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Data, Technology & Economic Growth

Data creates value when it changes what people and organisations can do. It helps businesses build products, researchers unlock discoveries, AI developers train, fine-tune and evaluate AI systems, infrastructure operators prevent failure and improve services for customers, and public services move from crisis response to prevention. Economic growth comes not from more data sitting in a catalogue, but in leveraging that data for better decisions, faster action and new ideas.

The UK context: strong data assets, but weak connections between them

The UK is not short of data assets or initiatives. It has some of the world's richest public data, commercially valuable private sector data, operational data from infrastructure, and successful data-enabled markets. However, much of this data remains hard to discover, slow to access, inconsistently maintained, or held across many organisations under separate arrangements. Users often know the problem they want to solve, but not what data exists, how long access will take, whether it is fit for purpose, or who maintains it.

The UK is comparatively weak at creating accessible public data assets that generate social and economic value. In the OECD's Open, Useful and Re-usable Data Index, the UK scored 0.50, below the OECD average. The UK scored particularly weakly in turning available data into usable data.[62]

To leverage the full potential of its data assets, the UK must make its distributed data ecosystem work more coherently. This means establishing common approaches to data standards, metadata, access routes, data assurance, interoperability and security.[63]

The government cannot achieve this alone and needs to work closely with those that are most familiar with the barriers and opportunities associated with data use: business, infrastructure operators, researchers, and consumers. Coordinating the UK's disparate data assets

62. The maximum possible score in the OECD's Open, Useful and Re-usable Data Index is 1.0. France is the top-scoring country overall with a score of 0.96. The UK also scored 0.55 on data accessibility, compared with France's 0.98, and 0.28 on government support for reuse, compared with 1.00 in France. OECD Digital Government Outlook 2026: United Kingdom | OECD, 2026

63. **Data standards** are agreed rules or specifications for how data is structured, formatted, represented and exchanged. **Metadata** is information that describes and provides context about data, such as its source, meaning, format, ownership or conditions of use. **Access routes** are the mechanisms through which authorised users or systems can discover and obtain or interact with data, such as APIs, secure data environments or controlled data-sharing arrangements. **Data assurance** refers to processes used to provide confidence that data is sufficiently accurate, reliable, complete and fit for its intended use. **Interoperability** is the ability of different systems, organisations or datasets to exchange, interpret and use data consistently. **Security** refers to the measures used to protect data and associated systems against unauthorised access, disclosure, alteration, loss or disruption.

and initiatives – in a way that is accessible to machines but governed by and for humans[64] – is the key to unlocking a data-driven economy fit for the 2030s. The UK needs to make world-class use of its world-class data.

Three routes through which data can support growth

Despite the fragmented nature of the UK's data ecosystem, three routes exist that aim to increase the coherence and usability of data assets: the National Data Library; Smart Data schemes; and various infrastructure data schemes. If these initiatives are given sufficient time and support to embed themselves, they can maximise the economic value of this data.

1. The National Data Library

The NDL is a government-led programme that has the potential to make public-sector data – from government departments, agencies, local authorities and other public bodies – easier to access and reuse.[65] This represents an enormous economic opportunity. The public sector holds valuable data, much of which is unique, difficult to reproduce and capable of supporting innovation.

The NDL's contribution to growth will depend on whether users can find relevant data, understand its permitted uses, access it quickly, link it securely and receive support when use becomes difficult. For more advice on trusted data sharing, see the Royal Academy of Engineering's guidance and case studies.[66]

Introduced in Labour's 2024 General Election Manifesto and with the first public update in 2026, the NDL remains in its initial phase. If implemented effectively, it could support a wide range of data-enabled applications. For example, one of the NDL's first 'kickstarter' pilot projects aims to develop AI-powered legal guidance for businesses by making authoritative legal data from the National Archives AI-ready. This could enable AI systems to use high-quality information, providing businesses with cost-effective legal support and giving them the confidence to invest and grow.[67]

Going forwards, the NDL could also aim to support local authorities by delivering more joined-up data to support vulnerable people. The Royal Academy of Engineering's recent work with Barnsley Council emphasises the importance of using data to improve outcomes in children's services.[68]

64. Where personal data is involved, organisations must comply with applicable data-protection law, including the UK GDPR and Data Protection Act 2018 as amended, and identify a lawful basis before sharing. Legal compliance does not by itself resolve every ethical or safety issue: safeguards should be proportionate to the use, context and risk, drawing where relevant on the government's Data and AI Ethics Framework.
ICO Lawful basis for sharing personal data | ICO, 2024
GOV.UK Data and AI Ethics Framework | GOV.UK, 2025
65. National Data Library National Data Library - The home of UK public data | data.gov.uk, 2026
66. Royal Academy of Engineering Towards Trusted Data Sharing: Guidance and Case Studies | Royal Academy of Engineering, 2018
67. DSIT National Data Library: progress update, January 2026 | GOV.UK, 2026
68. Royal Academy of Engineering Getting the foundations right: what it takes to use data and AI in children's services | Royal Academy of Engineering, 2026

2. Smart Data

While the NDL aims to connect data across the public sector, Smart Data focuses on private-sector data. A Smart Data scheme enables the customer – whether an individual consumer or a business – to securely share their data with an authorised third party. This third party can then offer new services built on the customer's data. In this way, Smart Data increases efficiencies, stimulates innovation and drives greater competition.

Open Banking is the UK's leading Smart Data scheme, allowing over 18 million users to share their financial data securely and seamlessly, based on common rules and trusted standards.[69] This empowers customers to switch to cheaper tariffs in the utilities sector and helps businesses to receive payments faster. Open Banking generates £2 billion in annual value and is an important factor in the development of the UK's world-leading FinTech sector.[70]

The UK plans to build on the success of Open Banking and pursue further Smart Data schemes. Analysis suggests that Smart Data schemes in four additional sectors could generate £71.2 billion in net social value from 2028 to 2043.[71] The government is exploring Smart Data schemes in specific sectors, such as energy, transport or property. But the greatest Smart Data benefits would come from breaking out of sectoral silos and connecting multiple Smart Data schemes.

3. Infrastructure data

Infrastructure data is another area of untapped potential for the UK. This data – which includes the location, condition, performance and maintenance of physical assets and networks – could have many uses. Work by the Royal Academy of Engineering shows how heat-loss mapping can help councils and utilities target retrofit activities, but only if data, models and local decisions are joined up.[72] Sensor data can reveal road safety risks, but the public and private sectors need the tools and capacity to act.[73] This demonstrates that, despite the many use cases, there are also many barriers to turning this infrastructure data into decision-ready information and action.

Infrastructure data is also a vital input for digital twins. A digital twin is a virtual model of a physical object, connected to its real-world counterpart by a two-way flow of data. This allows decisions to be tested virtually before they are made to the physical counterpart. Digital

69. Open Banking Limited About Open Banking Limited | Open Banking, 2026
70. Open Banking Limited Unlocking the Everyday: The value, growth and opportunity of open banking in the UK | Open Banking, 2026
71. DBT Smart Data 2035: The UK's Smart Data Strategy | GOV.UK, 2026
72. Royal Academy of Engineering Practical AI: The 'Google Maps of heat loss' with Kestrix and E.ON | Royal Academy of Engineering, 2026
73. Royal Academy of Engineering How sensor-based AI systems are rewriting road safety to reduce incidents | Royal Academy of Engineering, 2025

twins are being applied across energy, transport, health and urban planning. Higher-quality, timely infrastructure data could improve digital twin simulation and decision-making. However, condition, maintenance and operational data can sit across disconnected systems, creating conflicting records and costly reconciliation before the data can be used.

Several programmes are improving how infrastructure data is shared and used; but these programmes can be fragmented and led by different organisations. For example, the National Underground Asset Register provides standardised location data from over 600 asset owners. The National Energy System Operator is developing the energy Data Sharing Infrastructure. The Department for Transport (DfT) has launched the Integrated Transport Digital Twin programme, while the National Digital Twin Programme is developing interoperable data-sharing, including with a formal Memorandum of Understanding with DfT. Extending these approaches to more data-holders, data assets and sectors, will require cybersecurity, organisational capability and a realistic account of integration and legacy system costs.

Recommendation 1: Data Coordination: create and implement a joint delivery framework for the UK's principal data initiatives

The 2026 machinery of government reorganisation redistributed responsibility for digital, data and AI across several departments, increasing the risk of further fragmentation in the UK's data assets.

By the end of 2026, the Cabinet Office should convene DCMS, BIST, NISTA, relevant regulators, devolved administrations and local government to develop a framework for coordinating and delivering the flagship data initiatives outlined above: the NDL, Smart Data, and infrastructure data schemes.[74]

The framework should act as a practical roadmap and identify:

- The purpose and scope of each data initiative
- What components can be built once, updated and then shared
- Which organisation is responsible for each initiative, and where responsibility passes between organisations
- What each data initiative needs from the others
- What each data initiative will deliver by the end of this Parliament

Once the framework is established, it should be tested through a small number of data 'challenges', where a defined problem requires data from more than one of the initiatives. For example, a home-retrofit challenge could use the framework to bring together public property

74. DCMS: Department for Digital, Culture, Media & Sport. BIST: Department for Business, Innovation, Science & Trade. NISTA: National Infrastructure and Service Transformation Authority.

and housing data (from the NDL), customer-authorised energy and financial data (from Smart Data) and building-condition data (infrastructure data). It is important that these challenges do not become one-off pilots, but lead to sustained improvements in how data is accessed and used. The government should publish a regular scorecard of the framework's outcomes. The primary measure should be value created: new products, better investment decisions and public service outcomes. Supporting measures include time taken to access the data, the proportion of priority datasets with complete and up-to-date metadata and supporting documentation, named data stewards,[75] quality and provenance coverage, and engagement with the framework by firms of different sizes.

Significant public funding is already committed to the NDL, Smart Data and infrastructure data initiatives, so the framework should make funding responsibilities explicit, including who pays for shared components and operation.[76]

Recommendation 2: Data Standards: apply FAIR principles consistently across the joint delivery framework

The joint delivery framework, set out in the previous recommendation, coordinates the UK's flagship data initiatives and explains how they can be harnessed to solve complex data problems that cut across multiple initiatives.

However, the framework alone does not specify what standards the data (and metadata) should adhere to: how it should be managed so it can be found, accessed under appropriate conditions, combined and reused across organisations and programmes.

FAIR principles – that data and metadata should be findable, accessible, interoperable and reusable[77] – provide a useful common foundation. FAIR does not prescribe a single standard or technical approach: it must be translated into practical requirements suited to different types of data, use cases and risks.

75. Data stewards refers here to a clearly identified person or organisation responsible for the management and quality of each dataset.
76. Government has committed over £100 million to the NDL over the Spending Review period, £36 million to support the development of new Smart Data schemes across the economy, and up to £30 million of capital funding for DfT's Integrated Transport Digital Twin programme for 2026-30.
DSIT National Data Library: progress update, January 2026 | GOV.UK, 2026
DSIT AI Opportunities Action Plan: One Year On | GOV.UK, 2026
DfT Applying for the integrated transport digital twin fund | GOV.UK, 2026
77. Findable means the dataset and the information describing it can be located and identified
Accessible means there is a clear route to retrieve and use the data.
Interoperable means the data can be combined with other datasets and workflows because they use shared formats.
Reusable means the dataset is thoroughly described so that it can be reliably replicated and reused in the future.