



The Cabinet Office Data Strategy v1.0

Better Data for a Better Cabinet Office

Cabinet Office Data Strategy Mission: To deliver a 'Data confident' Cabinet Office that leads by example in the use of data and information to ensure organisational success, both now and in the future.

1. Introduction

We exist in a digital age where data and information are widely recognised to be among an organisation's most valuable assets, often second only to their people. The appropriate handling and use of data and information (hereafter collectively denoted simply as 'Data') is increasingly important, if not critical, to an organisation's success. This was recognised in the 2020 National Data Strategy which set out the best approach to harnessing the power of Data for the UK, to drive the digital economy and enhance productivity, innovation and experiences across government, business, civil society and for individuals. This strategy set out a framework for government and placed upon us a duty to do more with Data.

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This Data Strategy acts as a compass to direct the Cabinet Office on a transformative path to Data confidence. Through aligned effort, this Data strategy will empower all levels of the Cabinet Office to make more informed choices, backed by reliable Data insights. It will be a strategic enabler for innovation to drive effectiveness, deliver efficiencies and improve customer experiences. It will position the Cabinet Office to respond rapidly to new Data opportunities and effectively manage the changing risks. It will also ensure that we uphold the highest standards for data privacy and information management in compliance with relevant legislation and regulations. It will enable us to role model best practice in Data, including for transparency and accountability, from the very heart of Government.

Completing this journey cannot be achieved by Cabinet Office Digital alone: it requires an all-of-organisation response to align to the strategic principles, objectives and delivery roadmap, either directly or through business partnering. It is by working together across the Cabinet Office that we can realise this exciting vision for Data, and deliver A Better Cabinet Office that is both better driven and enabled by Data

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3. Intended audience and use

This Data Strategy applies to the Cabinet Office in its entirety, encompassing all corporate functions, Business Units and Arms Length bodies that make up the organisation.

It calls upon every person in every role to ensure that their actions are consistent with the strategic intent, including the objectives and priority deliverables within the delivery roadmap, and guiding principles. This could mean stepping up as a Data Leader, Ambassador, or role model; it might mean taking a personal decision to invest in Data literacy learning; it should mean ensuring strategic alignment in commercial decisions, programmatic delivery and other investment choices, and it must mean making every effort to use data to inform decision making. Each and every one of us has a role to play in making Better Data for a Better Cabinet Office a reality, and ensuring the delivery of this ambitious vision and target state outcomes.

The Data Strategy is owned by Chief Data Officer, Cabinet Office Digital, who is accountable for implementation, including the definition and delivery of the Phase 1 roadmap. Success is critically dependent upon our ability to work in partnership with Cabinet Office business areas to engage with roadmap initiatives, and also to come forward as early adopters. Where you are in a position to contribute, please contact datastrategy@cabinetoffice.gov.uk.

It is intended that this Strategy remains a live document, open to feedback and learnings, and responsive to change. Regular consultation exercises and reviews will be conducted.



Feedback is invited, and should be directed in the first instance to datastrategy@cabinetoffice.gov.uk.

4. Vision

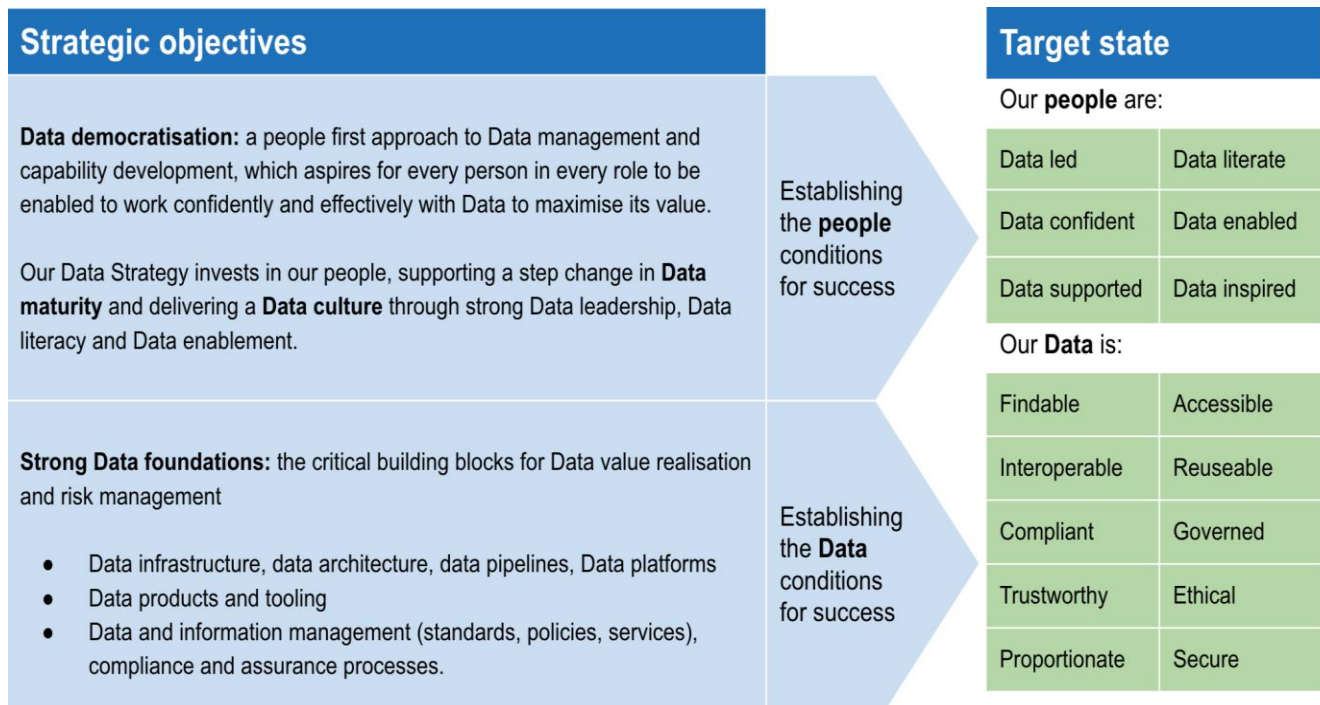
Our vision is for a **Data confident** Cabinet Office which:

- Leverages high quality and timely data as a strategic asset to address organisational priorities and deliver successful business outcomes
- Enables all of our people to harness the power of data and information to enhance decision making, unlock innovation, and drive operational efficiencies and effectiveness
- Is heralded as an exemplar in delivering value and driving down risk in our data and information holdings, achieving the highest standards for data and information management, assurance and compliance.

5. Strategic objectives

This Data Strategy is framed around two high-level, and interrelated, strategic objectives: i. Data democratisation and ii. The establishment of strong Data foundations. These strategic objectives work hand in hand to establish the people and data conditions necessary to deliver the target state outcomes (see section 6. Target State Outcomes). An overview of the strategic objectives and the relationship with target state outcomes is depicted in figure 1.1, and are explained in more detail below.

Figure 1.1. Strategic Objectives and relationship with Target State Outcomes.



Data democratisation refers to the aspiration that every person within the Cabinet Office is enabled to work confidently and effectively with data to maximise its value. This is already recognised as a priority project within the Cabinet Office Outcome Delivery Plan for 23-24, for strategic enablement under ‘Innovation, Technology, Data’.

Our data landscape has shifted to one where data permeates every part of our organisation and touches every role within the Cabinet Office. Therefore the true value of data cannot be unlocked by holding it within individual business areas, but by opening up opportunities to share, work and innovate with data across the organisation. Success hinges on our people having access to the right data at the right time, and equipped with the skills, tooling and ease of processes to work with the data confidently and effectively. Achieving this requires strong Data leadership to drive a Data culture across the organisation and a significant uplift in Data literacy levels across our entire workforce. It requires data to be broken out of silos, with a cultural shift that supports ease of data sharing for wider gain both internally across the Cabinet Office Business Unit boundaries, and externally for greater value realisation across Government.

Data foundations are defined within the National Data strategy to mean ‘data that is fit for purpose, recorded in standardised formats on modern, future-proofed systems and held in a condition that means it is findable, accessible, interoperable and reusable’. They include those fundamental building blocks for managing and leveraging Data assets across an organisation, and are critical underpinnings for the realisation of Data democratisation. Data foundations must also be accompanied by enterprise level commitments to: clearly defined



data and information policies and standards, effective compliance and assurance monitoring, and enterprise data management services. They also rely on the consistent implementation of enterprise data architecture standards that streamline our data landscape and technical investments, enabling the frictionless flow and exchange of data, with interoperability and reusability across our systems.

6. Target State Outcomes

Successful delivery of this Data Strategy will result in the following Target State Outcomes. These outcomes will reflect the stronger and more consistent level of data maturity and capability necessary to realise our vision for a 'Data confident' Cabinet Office, and to ensure that the Cabinet Office is positioned to respond swiftly and effectively to further anticipated changes in the external Data environment.

Our **People** are:

Data led	Our people use Data routinely to inform decision-making at both a strategic and operational level. Data is used to fuel innovation, improve operational efficiency, and ultimately create sustainable data-driven advantages.
Data confident	Our people are confident in their ability to work with Data effectively. This involves being self-assured in their own proficiency in the handling and interpretation of Data, and also in the organisational approach to Data management and use.
Data supported	Our people are supported to work with Data. This includes through data and information training and guidance, ease of process, and access to additional advice and support from our Data experts, local Data Ambassadors and communities of practice.
Data literate	Our people have a strong foundation of knowledge, skills and understanding necessary to work with Data effectively. This includes being able to understand how to draw upon Data to enhance decision-making and communications, and improve outcomes.
Data enabled	Our people are enabled to work with data effectively and efficiently. They are able to find and access the data they need, when they need it. They have the appropriate tools, including for self-service analytics and data visualisations, and are trained and supported in their use.
Data inspired	Our people are inspired in the use of Data, including for improved outcomes and innovation, by sharing case studies and best practices. The contribution of Data to success is recognised, rewarded and celebrated.



Our **Data** is:

Findable	Our Data assets are known, and are discoverable and identifiable across the organisation. Data is catalogued at an enterprise level, with standardised metadata viewable to all Cabinet Office users (unless handling or regulatory arrangements prevent otherwise).
Accessible	Data is available and accessible to both humans and machines. This involves ensuring that Data is stored in a secure and reliable repository or data infrastructure. Access procedures and protocols should be well-defined, with authentication and authorisation mechanisms in place. Where appropriate, Datasets are made readily available at a content level via an Enterprise level Data Marketplace.
Interoperable	Datasets are structured and formatted in a way that allows for seamless integration and interoperability with other datasets and systems. This includes adopting standardised data formats, models and ontologies for consistent data representation and exchange, with clear, documented and unambiguous data semantics.
Reusable	Datasets are well-documented and provided with sufficient meta-data to enable discoverability and reuse, with CDDO guidance adopted for Meta-data standards. Data is traceable, with provenance and lineage known and recorded, including origin, sources, transformations and changes. Any required permissions or restrictions associated with Data sharing or reuse are recorded.
Compliant	Our Data storage, processing and use comply with data protection and privacy regulations, and our obligations under the Public Records and Freedom of Information Acts. Our policies and processes are regularly reviewed and updated in accordance with the evolving legislative and regulatory environment, and best practice, with regular audits to assure standards across the organisation. The risk of non-compliant use of Data is further reduced by building in compliance at source within our technology and product design (such as auto-deletion in line with data retention policy), and mandatory training is given to all staff to ensure clarity on their obligations under GDPR when collecting, storing and processing personal (or other sensitive) data.
Governed	The Cabinet Office works in accordance with the Data Governance Framework, which outlines roles, responsibilities and processes for managing and governing Data within the organisation. All Data categories have clearly identifiable and accountable Data owners, and lines of Data decision making are clear. Data quality is monitored and improved; Digital heaps are prevented and, where discovered, are brought under control.
Trustworthy	The CDDO Data quality framework is in place providing clear data quality principles and guidelines which ensure Data quality is managed throughout its lifecycle according to the six data quality dimensions: accuracy, validity, reliability, relevance, timeliness and completeness. We have established a culture of data quality, treating issues at source, with

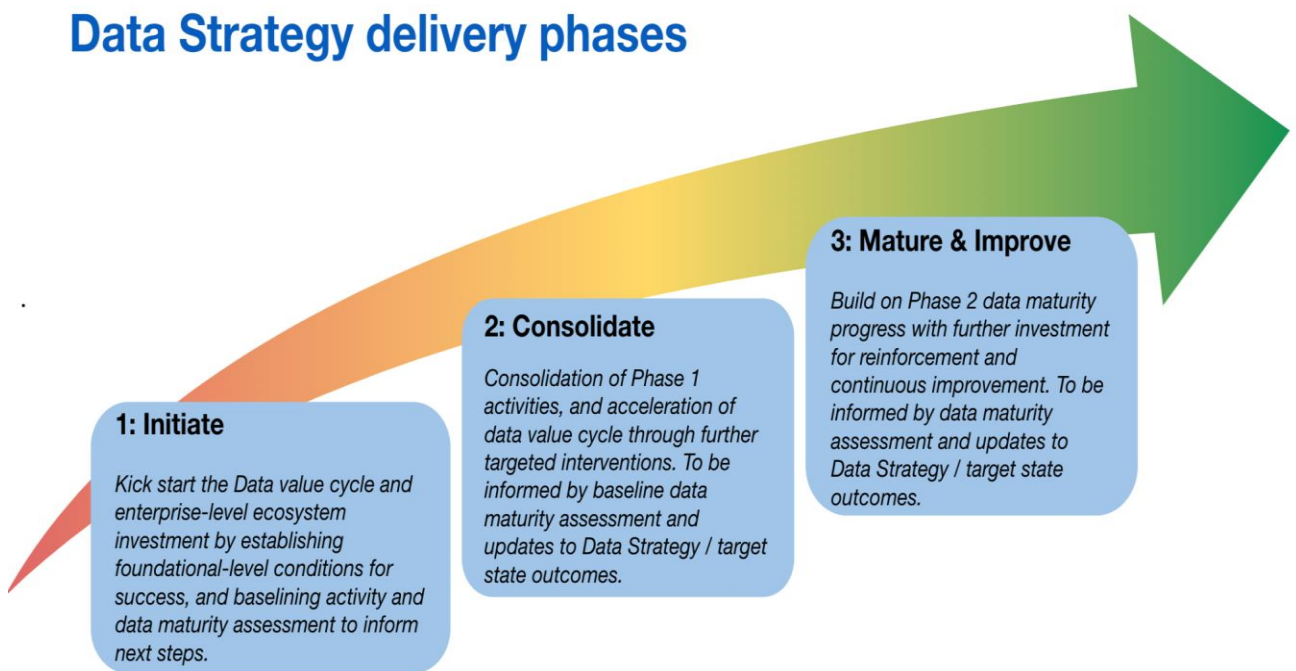


	<p>data improvement action plans in place for critical data, and commitment to ongoing monitoring and reporting.</p> <p>From a user perspective, the data sourcing and quality is known, enabling appropriate judgements to be made on the confidence levels associated with data use and associated insight production.</p>
Ethical	<p>We adhere to the CDDO Data Ethics Framework and guidance to ensure appropriate and responsible use of data when planning, implementing and evaluating a new policy or service. We are conscious of bias and ambiguity in our data, and encourage our people to ask pertinent questions around the sourcing of the data, sample size, trustworthiness and sourcing. Our people recognise that bias or errors can be compounded and/or masked in the production of insights, particularly within automated advanced analytics and AI.</p> <p>Our practices ensure integrity in the presentation of data and objective use to inform decision making. Data is not used to give false justification to a predetermined preference or chosen course of action.</p>
Proportionate	<p>We are judicious in our use of Data, only capturing, storing and processing that which is deemed necessary in pursuit of our organisational goals. Raw or pre-processed datasets are not captured opportunistically: rather, data acquisition is targeted in a manner that enables the required insights to be produced.</p> <p>We have robust retention and disposal arrangements for both data and information, and well-defined processes and thresholds for determining that which should be retained for archiving in the public interest.</p> <p>We consider, and where possible seek to minimise the financial costs and environmental impact of our decisions to capture, store and process Data. This is particularly important for enterprise level policies and processes, and strategic technical investments relating to Data, where the financial and environmental impacts can be significant.</p>
Secure	<p>Our Data is protected against breaches of Confidentiality, Integrity, and Availability, through measures such as access controls, encryption, and data loss prevention tools.</p> <p>Data is protected and handled by an informed workforce, who have received mandatory training on security best practices and Data protection.</p> <p>Our technical estate is protected and monitored against cyber security attacks.</p> <p>Data breaches are promptly detected, investigated and reported, with lessons learned used to further drive down risks across our Data estate.</p> <p>All new data handling solutions embed Privacy and Security by design in their architecture and implementation.</p>

7. Delivering the Data Strategy

The Data Strategy will be delivered in three consecutive phases: Initiate, Consolidate, and Mature & Improve (see figure 1.2). The strategic priorities and objectives within each phase will be informed by a current state / data maturity assessment, alongside a review of progress and barriers to date. The phases, and wider Data Strategy, will also be updated in response to changes in the Cabinet Office purpose, priorities and constructs, and in response to what we anticipate will be continued rapid evolution in the broader operating environment for digital, data and technology.

Figure 1.2. Data Strategy Delivery Phases: Initiate, Consolidate, Mature & Improve.



Phase 1: “Initiate”

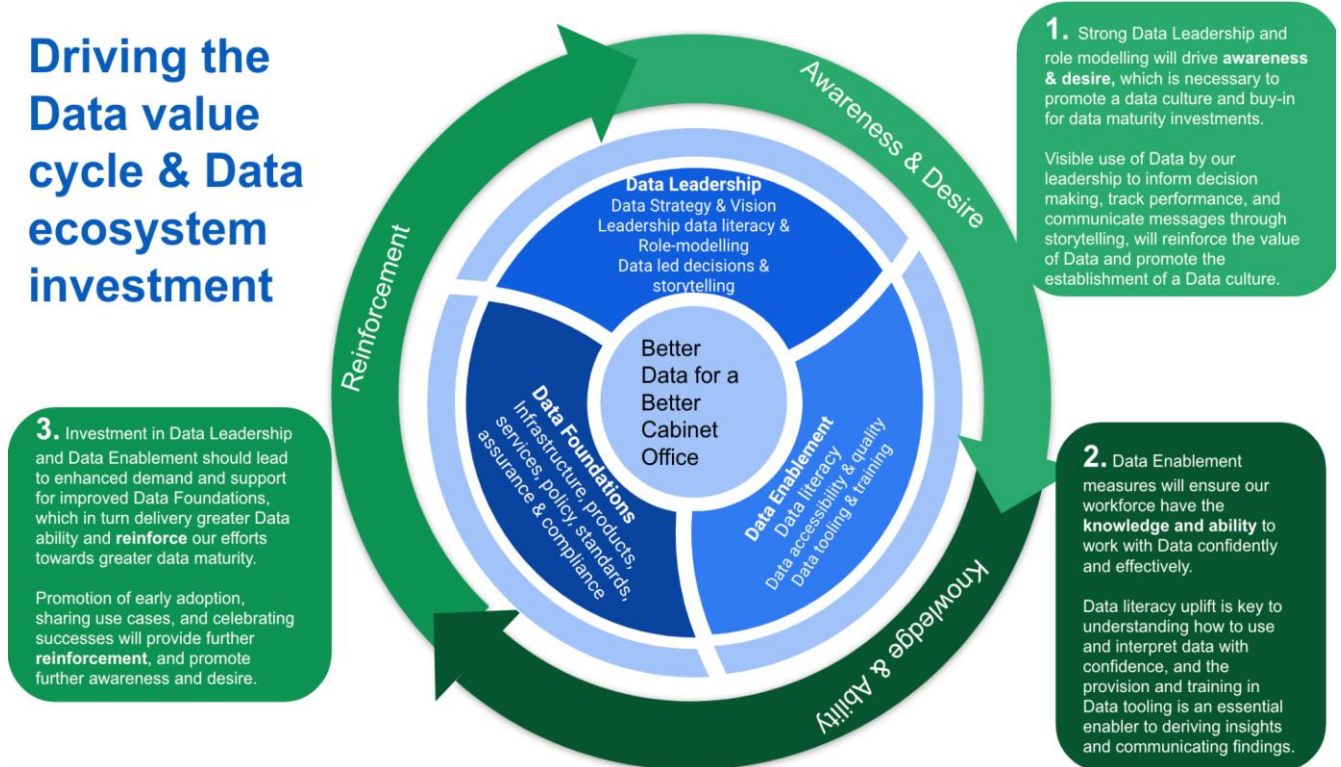
The Phase 1 roadmap sets out high level activities aligned to our strategic objectives, organised across five thematic workstreams: Data Leadership; Data Enablement; Data Management; Data Infrastructure; Data Privacy & Compliance; and Digital Knowledge & Information Management (see figure 1.3).

Figure 1.3. Phase 1 “Initiate” workstreams and high level roadmap

Data Strategy Workstreams	Phase 1 Roadmap		
Data Leadership	Data Strategy and clarity of vision	Data & information literacy for leaders	Leadership role modelling & sponsorship
Data Enablement	Data Literacy uplift	Establishing Data Ambassadors & Communities of Practice	Improved availability of self-service analytics / visualisation tooling & training
Data Management	Initial Data Maturity Assessment	Partnerships to refine and embed Data policies and promote early adoption	Enterprise Data Catalogue
Data Infrastructure	Baseline Data landscape - data sources, pipelines, storage, systems.	Minimum Enterprise Data Standards to align technical and product design	Architecture roadmap to Enterprise Data Platform
Data Privacy & Compliance	Office of Data Protection - consolidation of function	Digital technology and process enablers	Data Privacy & Compliance training refresh and uplift
Digital Knowledge & Information Management (DKIM)	Knowledge strategy	Innovation to manage the digital heap and assurance process	DKIM training and awareness uplift

The Phase 1 roadmap front-loads activities which are designed to kick start a ‘Data value cycle’, driving up engagement and support for Data initiatives and Data ecosystem investments. This approach is based on the PROSCI model for change management, which recognises the importance of building awareness and desire, knowledge and ability, along with positive reinforcement (ADKAR), in order to drive and deliver long-term, meaningful change (see figure 1.4). This includes the establishment of Data Leadership and Data Enablement delivery workstreams, which focus on a range of activities designed to bolster Data awareness, desire, knowledge and ability across the organisation. These will work in conjunction with activities within pre-existing workstreams in the areas of Data Management, Data Infrastructure, Data Privacy & Compliance, and Digital Knowledge and Information Management to take us forward on our journey to realising our vision and target state outcomes. Further detail of Phase 1 activities are provided in Section 8 (Phase 1 Delivery Roadmap: “Initiate”) below.

Figure 1.4. Driving the Data Value Cycle



Phase 2: “Consolidate”

This phase will allow us to embed the work carried out in the “Initiate” Phase and build on our progress towards achieving our strategic objectives and target state outcomes. This phase will see the Cabinet Office Data function accelerate our interventions in a more targeted manner, informed by the work carried out as part of the Phase 1 baseline assessments and progress made. This Phase will also be influenced by the strategic requirements of the Cabinet Office as a whole, and in adaptation with the shifting external environment, allowing the Data function to respond to changing organisational needs in a timely and effective manner.

Phase 3: “Mature and Improve”

This work will build upon the work carried out in the previous two phases. We should be able to build upon established strengths in Data leadership, Data enablement and Data foundations, along with the promotion of early adopter user cases, to reinforce our efforts towards greater Data maturity and continuous improvement. This should see our Data Value Cycle in a self-reinforcing state, taking us ever-closer to realising our vision, and looking even further ahead to an increasingly optimised Data target state.



8. Phase 1 Delivery Roadmap: “Initiate”

A synopsis of each Phase 1 delivery roadmap workstream is provided below, along with a visual that provides indicative mapping to target state outcomes.

Data Leadership

Our **people** are:

Data led	Data literate
Data confident	Data enabled
Data supported	Data inspired

Our **data** is:

Findable	Accessible
Interoperable	Reuseable
Compliant	Governed
Trustworthy	Ethical
Proportionate	Secure

The **Data Leadership** workstream recognises the need for clarity provided here in terms of our Data Strategy and vision. This workstream also looks to Cabinet Office Leaders, at all levels, to role model the use of data (including data visualisations) to track progress, inform decision making and support communications; and to invest in their own Data literacy, including as part of a Leadership learning pathway.

Data Enablement

Our **people** are:

Data led	Data literate
Data confident	Data enabled
Data supported	Data inspired

Our **data** is:

Findable	Accessible
Interoperable	Reuseable
Compliant	Governed
Trustworthy	Ethical
Proportionate	Secure

The **Data Enablement** workstream seeks to instigate an organisation-wide uplift in Data literacy to improve awareness and desire for Data, and build knowledge and ability to work with Data effectively. This workstream also includes a strong focus on the provision of, and training in, appropriate tooling to enable more of our people, across a wider range of ability levels, to begin experimenting and gaining value from data. This includes self-service analytics and data-visualisation software (with an initial focus on Tableau) and, where suitable, access to LLMs/Generative AI. Finally, this workstream seeks to deliver Data support mechanisms to improved Data use, such as through the establishment of Data Ambassadors and key-users across the Cabinet Office, developing ‘Communities of Practice’ (such as in Google Spaces or Slack), and running event-days to encourage peer-to-peer support and promote shared learning.

Data Management

Our people are:		Our data is:	
Data led	Data literate	Findable	Accessible
Data confident	Data enabled	Interoperable	Reuseable
Data supported	Data inspired	Compliant	Governed
		Trustworthy	Ethical
		Proportionate	Secure

The **Data Management** workstream contains three high priority activities for the Phase 1 roadmap:

- an initial Data Maturity Assessment, in line with the framework published by CDDO under the National Data Strategy. This must be completed for at least one strategically significant area of the Cabinet Office in FY 23/24, and will inform future iterations of this Cabinet Office Data Strategy and priorities for Phase 2. We will also explore the suitability of the Data Maturity Framework, or elements therein, for tracking progress against this Data Strategy in subsequent delivery phases.
- Delivery of an Enterprise Data Catalogue (EDC), which is a prerequisite and critical enabler for Data Democratisation: providing the means of data assets being known, findable and accessible across the organisation. The EDC is also a strategic enabler for other Data initiatives aimed at improving data quality and data governance, as well as achieving the ambitions for cross-government data sharing and interoperability set out in the National Data Strategy. It is a technical enabler for efficiencies, enabling the automation of aspects of Data compliance and assurance reporting and data maturity assessments. Successful delivery is critically dependent upon cooperation from Cabinet Office functions, BUs and ALBs to onboard their data (unless exempt).
- Refinement of Data Policies, Standards and Frameworks for Cabinet Office implementation, working in partnership with select areas of the business for early adoption. It is anticipated that by raising awareness of early adoption, and benefits gained, this will contribute to the 'Data Value Cycle', ultimately promoting wider adoption. Focus will also be on the simplification of policy implementation for ease of adoption.



Data Infrastructure

Our **people** are:

Data led	Data literate
Data confident	Data enabled
Data supported	Data inspired

Our **data** is:

Findable	Accessible
Interoperable	Reuseable
Compliant	Governed
Trustworthy	Ethical
Proportionate	Secure

The **Data Infrastructure** workstream focuses on baselining and preparatory activities to define our approach to improving coherence across our technical Data estate. These activities will also act as a central resource, including across technical, product, security and commercial professions, and inform strategic investment priorities for Data in subsequent roadmap delivery phases. Key activities include:

- Baselining the Cabinet Office Data landscape, producing a conceptual, entity-level model that provides clarity on source systems, data flows, data dependencies and data holdings.
- Developing an Enterprise Data Platform Roadmap, to guide incremental investments towards the development of multi-user and multi-purpose strategic data platform.
- Production of Enterprise Data Rules, in the form of 'Minimum Enterprise Requirements' (MERs), that all services and systems must adhere to, to drive coherence in our investments and ensure technical alignment to deliver the target state outcomes within this strategy. The MERs will be assured through the technical design authority (TDA), and in some cases will be applied to third party commercial agreements.

Data Privacy & Compliance

Our **people** are:

Data led	Data literate
Data confident	Data enabled
Data supported	Data inspired

Our **data** is:

Findable	Accessible
Interoperable	Reuseable
Compliant	Governed
Trustworthy	Ethical
Proportionate	Secure

The **Data Privacy & Compliance** workstream focuses on measures designed to improve our critical service delivery, with a focus on standards, efficiencies and improved customer experiences. This includes restructuring to establish the Office of Data Protection (ODP) in line with industry best practice, which will bring together Data Privacy & Compliance, Data Protection and Data Breach together within Cabinet Office Digital, enabling a single front door. Further activities also support Data Democratisation objectives by investing in workflow tooling to improve user experience and efficiency in the processing of SARs, and investment in training as part of our broader desire for an uplift in Data literacy and improved Data culture. The Data Privacy & Compliance function will continue to undertake the quarterly assessment process for data compliance (which reports to PopsCo), and provide broader advisory and assurance services to drive up data privacy standards across the organisation.

Digital Knowledge & Information Management

Our **people** are:

Data led	Data literate
Data confident	Data enabled
Data supported	Data inspired

Our **data** is:

Findable	Accessible
Interoperable	Reuseable
Compliant	Governed
Trustworthy	Ethical
Proportionate	Secure

The **Digital Knowledge & Information Management** workstream also focuses on measures designed to improve critical service delivery. This includes the introduction of a Knowledge Management Strategy, designed to promote value in our stored knowledge and information, ensuring that this is treated as an exploitable Data asset, rather than a dormant resource that could be seen as merely a costly liability. This activity supports the strategic objectives by ensuring that our knowledge and information is made available, knowledge collections are curated to support Cabinet Office objectives, and systems of knowledge are captured to ensure a corporate memory. The fundamental infrastructure has been put in place by the Digital Archiving Service, but this will need building out and development to achieve the aims above. Investment in training will further support the Data Democratisation objective, further enhancing data literacy and contributing to the establishment of a strong data culture, including one which respects and is able to draw upon the value of our knowledge and information assets. The critical innovation to manage the digital heap and ensure ongoing compliance with the Public Records Act, by providing a preservation system that gives integrity and sustainability, whilst reducing the financial cost and environmental burden associated with our Data storage.

The DKIM function will continue to undertake the quarterly assessment process for information management (which reports to POpsCo), and provide broader advisory and assurance services to drive up knowledge and information management standards across the organisation.



9. Guiding principles

The following principles guide the Cabinet Office's approach to Data, including: handling and use of Data; design and delivery of Data related products and services; and in our collective approach to Data learning and change.

1. Sustainable & Ethical Governance

- 1.1 Data acquisition, creation, transformation, exploitation and use must be necessary and proportionate for the purpose of Cabinet Office business.
- 1.2 Cabinet Office functions, BUs and ALBs must ensure that the handling and use of Data is in accordance with Cabinet Office policies and standards, and in compliance with the law.
- 1.3 Data policies, projects and technical investments must consider the financial and environmental impact of data processing and storage, seeking to minimise these wherever possible and ensuring that they are commensurate with the value to be gained. This requires testing assumptions to migrate large quantities of Data from legacy to replacement systems.
- 1.4 Human judgement should be applied to the interpretation of Data with consideration of data sourcing, data quality/trustworthiness, bias and potential for discriminatory or unfair impact. Model outputs should be critically evaluated wherever possible using alternative methods and benchmarks.
- 1.5 Action should be taken to monitor and improve data quality, report known issues to data users in accordance with the Data Governance framework, and action taken to address bias or inaccuracies within datasets where appropriate.
- 1.6 Data is secure, labelled and stored with appropriate classifications and handling instructions, and managed in accordance with the Cabinet Office security policies.

2. Designing for our Data

- 2.1 The Cabinet Office will align to the National Data Strategy, and CDDO cross-government policy, standards and frameworks for Data by default.
- 2.2 A User-Centric approach should be taken to the development of Data products and capabilities, with data democratisation at the heart of our design and delivery objectives.
- 2.3 Policies, standards and frameworks will be streamlined to make them as easy to follow as possible; where possible security and compliance will be built into product and technology 'by design'.



2.4 Drive efficiencies and coherence of our data landscape through consolidation of investment in data infrastructure, platforms, services, tooling and areas of deep data expertise. Build or buy once, and for all.

2.5 All Data must be findable, and content accessible across the cabinet office through access control and permission management. This requires all datasets to be named and catalogued, with metadata recorded according to published standards and accessible by default.

2.6 Data should be produced and stored in a format that is 'ready to share'; processes and culture that reinforce Data silos must be challenged.

2.7 Promote a Data Product mindset, where Business Units proactively govern and publish their datasets to drive wider value, ensuring that it is discoverable, self-describing, of defined quality, accessible, trustworthy and secure.

2.8 Design in readiness for change. This includes building in appropriate flexibility to manage future Machinery of Government (MOG) requirements.

3. Learning & Improving

3.1 All Cabinet Office staff must complete all Data-related mandatory training as a minimum, in addition to that required to risk-manage the use of specific capabilities, such as AI.

3.2 All Cabinet Office staff should undertake at least one day (approximately 7.5hrs) of data literacy or learning each year. Additional Data-related learning should be encouraged within staff development plans, and considered positively within staff assessments.

3.3 Data related successes, innovation, and improvements in best practice should be shared across the Cabinet Office, appropriately rewarded and celebrated. Staff should be encouraged to share their learnings for the benefit of others.

3.4 CO should adopt a growth mindset in the approach to Data, that accepts failure as an important step to learning and improvement. Lessons learned should be captured, shared, and actively drawn upon to inform future practices and investment priorities.