Department for Business, Energy & Industrial Strategy

BEIS Digital, Data & Technology (DDaT) Strategy

2017-2020

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Nicola Holderness

Contents

Vision

We want digital, data and technology to work for everyone.

Within three years, we will have developed capability, built stable and sustainable platforms, and enabled collaboration with our colleagues to deliver exceptional services for our staff as well as the people and businesses we serve.

Executive Summary

The merging of the departments in 2016, involving the combining of teams and functions and the delivery of an ambitious Industrial Strategy, is overlaid by leaving the European Union which impacts on everything that we do. This requires our Department to enable and drive new ways of thinking and working.

Our vision is to provide digital, data and technology (DDaT) that works for everyone. This is underpinned by 5 strategic enablers:

1. **People, skills and culture**: a culture where DDaT is embraced, understood and valued.

2. **Partner, enable, assure**: where everyone enthusiastically seeks out a conversation about the value DDaT brings to the table.

3. **Government as a platform**: the design, build and delivery of services is agile and we deliver value for money by the reuse of components and assembling services more quickly.

4. **Accessible business intelligence**: less time is spent on searching for information and data and more time is spent delivering policy outcomes. We are smarter in the way we store, use and share data.

5. **Continuous improvement**: the ambition to continually improve is instilled in everything that we do. We seek feedback from our users and the data we capture to understand user behaviour, to improve services and inform future service developments

Introduction

The Department for Business, Energy and Industrial Strategy (BEIS) plays a unique and pivotal role in the UK. We lead the Government's relationship with business and we are responsible for developing and delivering an ambitious and comprehensive industrial strategy through which we will lay the foundations to invigorate UK economic performance. With science, research and innovation at its very core, the industrial strategy will build on strengths and foster enterprise to ensure every part of the UK recognises and meets its potential.

It is also our responsibility to ensure that the country has secure energy supplies that are reliable, affordable and clean; for keeping the UK at the leading edge of science, research and innovation; and for tackling climate change.

Leaving the European Union requires us to meet the changing needs of the Department and of business. We will deliver the best results for the UK from exiting Europe through stronger global relationships and by building consumer, business and investor confidence.

To promote innovation and step up to the challenges we face, we ourselves must be innovative and practise internally what we seek to change externally. By harnessing the opportunities offered by the digital age, we can deliver innovative solutions that will make us more internally efficient, that open up Government data and that remove barriers to effective use of that data by UK consumers and businesses.

This will require us to think differently about how we approach and organise our DDaT capability, develop associated skills, and identify, transfer and promote innovation to business, underpinning our vision of an economy that works for everyone.

The Machinery of Government change in 2016 brought together two well-established departments – the Department for Energy & Climate Change and the Business Innovation & Skills - to create BEIS. The priority of the past year has been to oversee a smooth transition to unify the two organisations and to support staff through the change.

Where are we now?

The Department is now an organisation of 3,000 people across 38 directorates, situated in 23 offices throughout the UK, working with 55 agencies and public bodies across Government.

Feedback has revealed a trust and credibility gap for our DDaT function, with a lack of direction of travel for staff and partner organisations, a disjointed approach to the delivery of services and a conflict around their effective use.

We need to repair this gap to gain the respect and collaboration of our partner organisations, as well as our policy, compliance and operational teams.

Why are we writing this?

The purpose of this strategy is to provide a clear vision and direction for DDaT, underlining our Departmental objectives and bridging all of our specific strategies.

Digital means different things to different people. Our working explanation is that digital is a way of doing things. It is how services are designed, built, delivered and connected. It is about building sustainable technical foundations, creating value from our processes, engaging with and understanding our customers and their needs, as well as delivering solutions that are easy to use.

This strategy defines the 5 enablers to ensure that we make best use of DDaT in our everyday work.
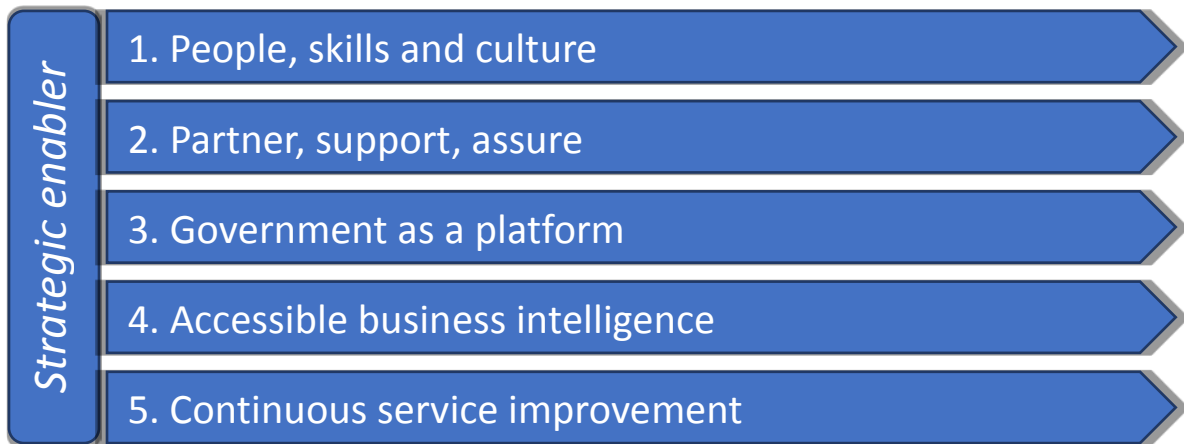
Who are we writing this for?

Our stakeholders have wide-ranging expectations and service requirements, from arm's-length guidance and spend controls to the provision of a full IT service integration and management function.

Stakeholder	Expectations	Outcome
UK citizen and businesses	• consistent, integrated, robust, secure and accessible web-based services	• easy to use and reliable services that meet their needs
Department executive	• DDaT interventions underpin EU exit priorities and Departmental strategic objectives: 1. delivering an ambitious industrial strategy 2. maximising investment opportunities and bolster UK interests 3. promoting competitive markets and responsible business practices 4. ensuring the UK has a reliable, low-cost and clean energy system	• a plan that aligns the DDaT delivery with the priorities and objectives of the organisation • skills and capability to deliver improved services faster and cheaper
Department directorates	• a clear engagement process • provision of expertise to help deliver outcomes • a support model that continually improves the	• clear understanding of how the DDaT function will support the development of policy and delivery of front-end consumer and business

	service, in response to user feedback and analytics • consistent and professional management of services	services • assurance of spend through digital and technology spend controls
DDaT Functional Directorate	• a clear vision, purpose and direction for the DDaT function • clarity of services provided and value delivered • career progression within the Department • the means to attract more talent	• clarity about the development of the DDaT function • direction in how the team will support the wider organisation • exciting career opportunities
Department for International Trade	• provision of stable and reliable services, and operational technical support	• trusted and reliable, mission-critical operational systems
Partner organisations	• provision of high-quality services and timely support to achieve their desired outcomes • collaboration to exploit opportunities for economies of scale	• assurance of spend through digital and technology spend controls
Cross-Government	• alignment with Government Transformation Strategy objectives • sharing and reuse of components and services	• end-to-end digital services i.e. digital transformation of a whole service, not just the citizen facing product • improved use of data and data sharing • a more coordinated approach to developing DDaT capability • alignment with relevant guidance, service standards and assurance processes • greater use and sharing of common platforms and services

How we will achieve our ambition

This section describes the 5 strategic enablers of the strategy.

Strategic enabler	
	1. People, skills and culture
	2. Partner, support, assure
	3. Government as a platform
	4. Accessible business intelligence
	5. Continuous service improvement

1: People, skills and culture

Ambition

Our ambition is to create an organisational culture where DDaT is in our DNA, where diverse and inclusive multi-disciplinary teams bring together in-house specialist DDaT skills with the policy, communications, compliance and operational skills to deliver better outcomes for the community we serve.

Background

In the Civil Service Workforce Plan 2016-2020, the Civil Service Board summarised three broad priorities for the current Parliament, which included: 'Ensuring that the Civil Service is world leading in terms of **digital** transformation'.

The Workforce Plan recognises that 'new technology is both a challenge and an opportunity' that 'put an even greater emphasis on training'. This is transforming how businesses operate, how people work and develop their careers, and the public's expectations of the services they use.

In this context, we must adapt and embrace the change that technology is bringing.

The DDaT function is core within Government. However, it is both less established than other Civil Service functions such as human resources or finance, and more extensive than just the technical work of specialist teams. It demands all staff to have the right knowledge and skills to help build accessible services and deliver better outcomes.

DDaT services have introduced new professions and specialisms to Government, but we must do more to bridge the gap between these technical specialists and our policy and operational experts. We must improve the level of understanding and the methods and language used in order to translate business requirements into technical specifications.

It is not a one-way street; learning is for all. Supporting our non-technical specialist colleagues to understand the potential of new technologies will help to raise digital awareness and capability across the organisation.

To achieve our ambition, we will:

- appoint a Chief Digital Information Officer and establish a DDaT leadership team.

- create an environment where non-digital specialists can experiment and gain confidence in how different tools could help them in their role, such as enabling policy makers to use rapid iteration techniques to analyse user research.

- embed agile ways of working, using people, process and technology to focus on the most appropriate and effective way to deliver.

- recruit specialists to lead and align the core business and technical architecture, data exploitation, knowledge and information management, and service delivery functions.

- develop and implement an operating model and restructure the DDaT function in line with the needs of the wider organisation; support the recruitment of essential DDaT delivery roles into other areas of the Department in line with the Government transformation agenda.

- continue to work with the DDaT Fast Stream and the digital and technology Fast Track Apprenticeship programme to help bring in future talent.

- work closely with the Government Digital Service on pay strategy and framework, including to address recruitment and retention concerns on the risk of different departments competing for a limited pool of people.

- seek to exploit the location of our 23 offices throughout the UK to build local partnerships with universities and professional communities to attract technology talent to the Department.

- prioritise diversity and inclusion in our workforce, by identifying top technical and analytical talent from a range of backgrounds.

- partner with the Government Internal Audit Agency and other Department corporate functions to make improvements following audits, and to provide joined-up corporate service solutions.

- champion digital learning and utilise Civil Service Learning, the Government Digital Service Academy, community forums and professional associations to enhance the level of digital awareness and capability throughout our organisation.

2: Partner, enable, assure

Ambition

We aim to integrate the DDaT function into multi-disciplinary teams developing policies and delivering operational initiatives. A service-oriented organisation which provides BEIS with the most cost savings and evidenced based outcomes, for better targeting and better public services.

Background

Realising our vision of an economy that works for everyone and delivering our four strategic objectives requires multi-disciplinary teams of policy, compliance, operational and digital specialists. It also needs a user-centred, service-oriented principle, which is characterised by its flexibility, innovation and collaboration.

To support our colleagues in these teams, DDaT professionals must first seek to understand and then to be understood. They must understand the challenges, processes and experiences of shaping policy or rolling out operational initiatives. DDaT colleagues must learn to speak in a common language, demystify technical jargon, and bridge the gap as digital business partners.

DDaT professionals will contribute and add value as members of the team. They will bring informed and expert knowledge of technology opportunities, tools, and techniques to the table; and work together to design and deliver user-centred, service-oriented and accessible solutions.

However, the function must balance its role as a business partners with their responsibility to coordinate DDaT spending centrally and provide assurance that all public-facing transactional services adhere to the [Digital Service Standard](#).

Success will not only enable colleagues in the Department to meet their objectives, but also to support our organisation to deliver its vision and, in turn, benefit UK consumers and businesses.

To achieve our ambition, we will:

- work with our colleagues across Government especially the Government Digital Service (GDS) and the Government Communications Service to highlight emerging capability needs and help identify solutions.

- develop 'digital business partners' within the DDaT function.

- build a prioritisation model to assess new business initiatives to ensure that DDaT resources are focused in the right areas and delivering business value.

- ensure that our staff receive training to maximise the benefits of digital tools and services, and agile methods and techniques.

- provide a clear engagement process for policy, compliance and operational colleagues.

- provide the expertise, tools and processes that support and enable multi-disciplinary teams to design and develop solutions with compliance at their core.

- be part of cross-Government communities of practice, professional bodies and industry developments to identify opportunities to exploit emerging technologies, tools or methods.

- work with the Government Digital Service and Cabinet Office commercial teams to assure all digital and technology spend.

- raise the profile of BEIS exemplar initiatives so that they are recognised across Government and help other departments facing similar challenges.

- connect with the Transformation Peer Group of the Infrastructure and Projects Authority to share learning on transformation projects.

- build an infrastructure so that we are effective, efficient and productive, and our staff can collaborate with each other no matter where they are based across our 23 UK locations.

3: Government as a platform

Ambition

We want to harness the shared components of 'Government as a Platform', to make it easier to design, assemble, build and deliver accessible digital services that support inclusive and more flexible working, and allow us to access and import data for modelling and analysis.

Background

In 'World Of Work Is Changing': Case For Change, the Civil Service Workforce Plan 2016-2020 states that technology provides opportunities to work in new ways, with 'increased self-employment and platform working'. The Workforce Plan goes on to note that the 'world of work is changing too, as technology reshapes roles and enables smarter more flexible working'.

The EU exit challenges us to rapidly deliver services that had not been anticipated.

The Government Transformation Strategy published by the GDS states that 'cross-government platforms and cross-government components are the future', and that the GDS will build on the 'Government as a Platform' concept to make greater reuse of components, moving towards common technology.

Common technology enables delivery of user-centred service-oriented solutions across Government boundaries. Sharing and reusing code, patterns, components and platforms make it more cost-effective, faster and easier to develop and implement services for civil servants, as well as UK consumers and businesses.

As GDS notes in its strategy, exiting legacy contracts is a precondition for putting the right commercial models in place to deliver shared platforms, components and business capabilities effectively.

Our contract for our desktop service is coming to an end. Project Cirrus will deliver the new end-user hardware devices, centralised services and support model for the organisation, transforming the provision of services to our colleagues and other Government departments.

Successfully operating a platform approach benefits:

- our workforce by attracting talent through inclusive and more flexible working;
- the civil service through common technologies and techniques across government; and
- UK consumers and businesses through a common interface to our services.

To achieve our ambition, we will:

- appoint a technical design authority to collaborate, liaise and ensure compliance and alignment with cross-Government strategy.

- seek opportunities to reuse or share source code, components and platforms across the organisation and Government.

- improve the provision of technology services to the organisation (Cirrus Project).

- exit large, single-supplier and multi-year IT contracts and use GDS approved shared services and platforms.

- champion accessibility and inclusion, recognising the requirement for more flexible ways of working when designing services and solutions so that the user experience is seamless, whether in the workplace or home.

- utilise shared platforms to deliver world-class digital services to the organisation and transform the way the Department operates – from front-end web services to back-office databases and processes.

- use commodity hardware or cloud-based software where these are supported by open standards.

- set out and communicate a clear funding model for DDaT service provision.

- evaluate whether to buy or build technology on a case-by-case basis, preferring industry-standard commodity components in the first place.

- design with security in mind, building the appropriate cyber and privacy safeguards into every component and platform.

4: Accessible business intelligence

Ambition

We want to put timely and accurate information and data at the fingertips of our stakeholders, improving the quality of research, analysis and decision-making, and enabling UK consumers and businesses to maximise the benefits of accessing our open and transparent data.

Background

Information and data underpins the development of new policy, implementation of new or improved communication and operational initiatives and delivery of our strategic priorities.

Knowing exactly where our information is and being assured of its quality not only supports our strategic thinking, but frees time for our colleagues to focus on what they do best – solving the biggest challenges facing UK consumers and businesses.

We must increase awareness of our information and data, build on our capabilities, tools and techniques to exploit the rich datasets we hold, and drive evidence-based, data-driven decisions.

As we consciously move towards greater openness and transparency of the data held across Government, we must look for innovations in making our data available and accessible. Whether using data science techniques or business intelligence tools, an application programming interface (API) providing access to multiple datasets or logic processes, or an interactive map using geospatial information, we must not constrain our thinking.

The sharing of information and data must be balanced with robust, clear and transparent provisions to protect it from misuse.

The [Digital Economy Act 2017](#), as well as other legislation and initiatives across Government will help us to balance openness and transparency with appropriate safeguards.

To achieve our ambition, we will:

- promote a data-driven, intelligence led, and evidence-based Department.

- collaborate with DDaT professionals to improve methods of using and sharing information and data operationally and corporately.

- support transparency work streams across Government, including the adoption of open document format file types.

- establish consistent policies, standards, processes and tools to enable a single, effective knowledge and information management system.

- seek opportunities to reuse or share information across the organisation and Government.

- create a data catalogue which will challenge duplication, ensure clear ownership and enable process owners to access and share information and data in line with common standards.

- make data registers of Department information publicly available where appropriate.

- develop mechanisms to access further data science capabilities, enabling greater data availability and accuracy, and implementing access to common and shared services.

- transform our physical paper-based and manual processes where we can improve productivity and efficiency.

- encourage use of data analytics and predictive analytics to anticipate demand for services or policy changes.

- engage with professional communities and other Government departments to maximise opportunities for standardisation of data.

- develop and provide assurance that appropriate safeguards are in place to protect the data and information that we hold from misuse or unauthorised release.

5: Continuous improvement

Ambition

Our ambition is to instil a culture of collaboration with our stakeholders, continuously seeking open and constructive feedback on our performance and exploring opportunities to innovate and improve the services that we deliver.

Background

The [Civil Service Workforce Plan 2016-2020](#) talks of 'harnessing the best that modern, cutting-edge technology has to offer, in an open, inclusive culture that embraces continuous improvement and innovation in the business of running a government'.

Across government, departments are setting strategies and undertaking programmes to innovate and improve the services they provide. There is a common imperative to

maximise the cross-department use of open technologies, information and data to the benefit of those that we serve.

In this document, we have set out an ambitious strategy to innovate and improve our DDaT services. We have intentionally set the bar high.

Delivering this strategy does not stop at the end of three years, but involves an iterative cycle of continuous improvement. Using agile methods and inquisitive feedback, we must define, build and then refine our services.

To innovate is to improve. Innovation may arise from the smallest change to a workflow, connecting two systems or databases through an API, or transferring technology from one sector to another. It may also come through collaboration with colleagues from other departments, participating in professional communities as well as maintaining an understanding of the potential for emerging technologies.
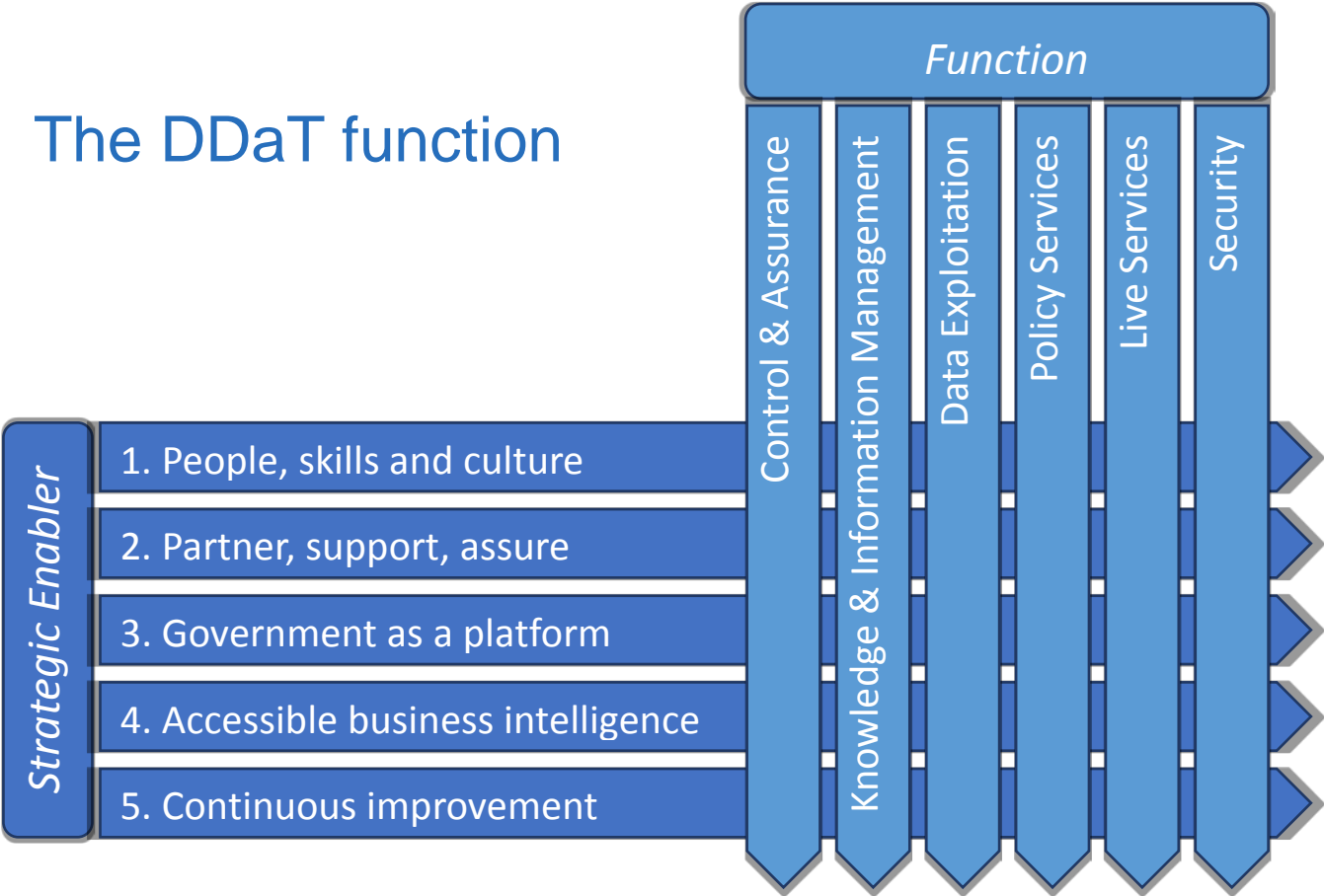
Continuous service improvement is not limited to technology services. It must be an underlying part of our culture, processes and systems.

To achieve our ambition, we will:

- promote the understanding of our consumers, through customer insight capabilities based on their behaviour, their experiences with us and their needs.

- seek open and constructive feedback with our users through user research, satisfactions surveys, service reviews, and training and awareness sessions.

- make our responses to feedback part of an iterative process, so that improvements are monitored and refined continuously.

- use a lifecycle approach to system development and service management, seeking improvements at all stages, from defining a requirement to decommissioning.

- collaborate with our colleagues across Government to identify opportunities to reuse components or services through shared platforms or APIs.

- research developments in emerging technologies, such as artificial intelligence (AI), automation, machine learning, robotics, for innovations relevant to the services we deliver.

- collaborate with our stakeholders in UK businesses, identifying the potential to transfer technologies from one sector to another, or to exploit technology for the services delivered by Government.

- update our public facing content on GOV.UK to better meet user needs and improve the user journey.

- ensure that the security of information, data and systems is at the heart of all our DDaT services.

- ensure clear governance structures for digital programmes, including reporting, decision-making, and assurance.

- embed the Department's risk management framework and principles within all DDaT service activities.

- review this strategy annually.

The DDaT function

Function

	Control & Assurance	Knowledge & Information Management	Data Exploitation	Policy Services	Live Services	Security

Strategic Enabler

1. People, skills and culture
2. Partner, support, assure
3. Government as a platform
4. Accessible business intelligence
5. Continuous improvement

Working to the overarching set of principles below, our DDaT function will work in partnership with their colleagues, agencies, public bodies and other Government departments to meet their **delivery** plan commitments; and they will own the **design** of the Department's services and be responsible for determining the future service landscape.

Principles	How?
Business focus	Prioritise all work against the business, EU exit, legal, commercial and financial priorities.
User focus	Acquire a deep understanding of service users and what is needed for service design.
Lead the way	Provide visible leadership to show how the Department can use DDaT delivery to do things differently and seek opportunities to make our business processes smarter.
Reuse, share, contribute	Deliver full commitment to the Government's Transformation agenda by actively pursuing opportunities to reuse or contribute to shared components and services.
Innovative	Explore and test the potential for current and emerging technologies to transform our digital interactions with our stakeholders.
Collaborative	Share and gather ideas, practices and experiences.

Value information	Maximise the potential benefit of our information by managing it, reusing it, sharing it and ensuring that it is properly protected.
Data driven	Promote the best practices, standards and structures to enable our stakeholders to extract significant value from the data that we hold. Wherever possible, our data is open and transparent.
Proven technology	Provide and maintain a foundation of robust, proven and accessible technologies that are tried and tested, and appropriate to the needs of our organisation.
Secure by design	Comply with applicable policies and standards to ensure that the confidentiality, integrity and availability of our information and data is protected.
Learning culture	Champion DDaT skills across the Department, and support the improvement of digital capability for all.
Accessibility	Ensure that no one is excluded from our digital, data and technology services.

Measuring our services

Measuring the level of use, quality and cost of our services supports our goal of continuous improvement.

We will measure the performance and effectiveness of our services through a combination of operational statistics, data analytics and, importantly, customer feedback.

We will define our performance indicators to ensure that we determine:

- whether the service is accessible, inclusive and meeting the needs of the customer, by providing a positive and intuitive user experience, which enables them to complete tasks quickly and easily;

- how well the platform is performing in terms of responsiveness, processing, clicks per task, transactions per second, uptime and availability;

- whether we are delivering value for money, by maximising the benefit of digital projects and services, reducing costs per transaction, and creating efficiencies over paper-based processes;

- whether we are adding value, early and often, such as by contributing to the development of policy or delivery of operational initiatives;

- the extent to which digital services enable policy delivery.

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Contact us if you have any enquiries about this publication, including requests for alternative formats, at:

Department for Business, Energy and Industrial Strategy
1 Victoria Street
London SW1H 0ET
Tel: 020 7215 5000

Email: enquiries@bis.gsi.gov.uk