Letter to the Committee from Oliver Dowden CBE MP, Minister for Implementation, Cabinet Office

I would like to take this opportunity to thank you and the Science and Technology Committee for launching this important inquiry.

As the Minister responsible for digital government and the Government Digital Service (GDS), I am personally committed to realising the huge potential benefits of digital approaches and innovative technology in government. The attached written evidence sets out the progress made on the digital transformation of government, as well as opportunities for further progress.

In recent years, we have made great strides in transforming public services to be digital by default.

Our GOV.UK website has replaced over 1,800 separate government websites to become the single, simple and clear digital access route for citizens to interact with government.

The scrutiny provided by GDS service assessments and spend controls has helped realise over £1bn in benefits across government, and the Digital Service Standard and Technology Code of Practice have helped to drive best practice in building digital services for citizens.

Centrally-developed digital components such as GOV.UK Pay and Notify have given departments the building blocks to solve common service design problems, and the government cloud Platform as a Service is freeing departments from the need to build and manage their own digital infrastructures.

With the development of the cross-government Digital, Data and Technology function, GDS has helped departments recruit, develop and retain the right people with the right skills to transform government services.

The Digital Marketplace’s approach to IT procurement has helped government departments and public bodies make substantial savings by helping them buy the right services, and giving suppliers of all sizes a fair and transparent way to work with the public sector.

The Government understands the rapidly changing technological landscape and the need to innovate to meet citizens’ needs. That is why I am championing the creation of an Innovation Strategy, which will set out how government will harness emerging and innovative technology to improve the lives of citizens, and deliver more for less. I have also this year launched the £20m GovTech Catalyst, which is helping to bring private sector innovation to bear on some of our biggest public service challenges.

I wish the Committee well in its inquiry and I look forward to discussing these issues further in due course.

28 September 2018
Purpose

1. The purpose of this submission is to provide the Science and Technology Select Committee with information about the progress of digital government since the Government Digital Service (GDS) was founded in 2011. Information is presented to address the questions in the inquiry’s Terms of Reference.

Introduction

2. Digital technology is transforming every aspect of our lives, and citizens increasingly expect government services to offer the convenience and ease of use they experience when shopping, banking, or using social media online.

3. The Government is committed to harnessing the opportunities offered by the rapid development of new digital technologies. Building on the principles set out in our Industrial Strategy, the 2017 UK Digital Strategy describes the Government’s ambitions for a world-leading digital economy that works for everyone: making the UK the best place in the world to start and grow a digital business, trial a new technology, or undertake advanced research.

4. A world-leading digital economy requires a world-leading digital government. In recent years, huge progress has been made in transforming public services to be digital by default, while still ensuring the security of personal and sensitive information and providing greater open access to data for wider public benefit.

5. GDS leads the Government’s Digital, Data and Technology (DDaT) function, helping departments build and run services that are digital by default and focused on the needs of citizens.

6. GDS was created in 2011 in response to Martha Lane Fox’s report ‘Directgov 2010 and beyond: revolution not evolution’ to implement her ‘Digital by Default’ recommendation, and was tasked with enacting a radical transformation of culture and practice in central government.

7. Since its inception, GDS has been at the forefront of the digital transformation of government, developing digital products, standards, guidance, training and support that has seen the UK recognised internationally as a world leader in digital government. Substantial progress has been made since then, and the role of GDS has changed and adapted to reflect the advancement of digital transformation in government. GDS is now at the forefront in driving innovation and the use of new technologies to deliver better public services, and is significantly increasing the digital capability of the civil service.

8. The technology landscape is rapidly evolving. The emergence of new digital technologies present unique opportunities and challenges for the delivery of public services in the UK. In order to fully benefit from these changes, government must set a vision for the role of innovative technologies in making government smarter and improving public services. In Spring 2019, the
Government will publish an Innovation Strategy setting out the ways in which new and emerging technologies can transform public services.

9. The Government welcomes the opportunity to set out to the Committee the progress that has been made in making government more digital, and the steps we are taking to remain a world leader in this field.

The progress of Government digital services, the areas where further development is particularly needed, and how well the UK compares with other countries.

10. The Government is committed to making it easier for citizens to interact with the state, providing individuals and businesses with a range of options to access government information and services in ways that work best for them. Increasingly this means making government services available through online channels, while ensuring alternative access routes are available for those who are less able to use digital channels. It also means building a civil service that has the capability to operate in a digital world.

11. Across government, departments have seized the opportunities created by advances in digital technology to transform their public-facing services and their internal operations. More and more, citizens have the convenience of interacting with government from their home or on the move at a time of their choosing.

12. Evidence shows that citizens like using digital public services. An increasing proportion of citizens use digital public services, with 58% of citizens now having used government services online at least once.¹ There are indications that users are beginning to prefer digital over non-digital channels. For example, while only 18% of users accessed the Government’s Check your State Pension service in early 2016 through digital means, digital uptake increased to over 90% by September 2017, with user satisfaction at over 90%.² Over 16 million customers now access their Personal Tax Account online;³ over 90% of the Driver and Vehicle Licensing Association’s (DVLA) transactions (over 1 billion in 2017/18) are now completed online;⁴ and over 5.7 million people have used the voter registration digital service.⁵

Since Martha Lane Fox’s report and the first Government Digital Strategy in 2012, substantial progress has been made in making government more digital.

Departments have built their digital professionalism and capability, with over 10,000 civil servants now having been trained by the GDS Academy; new standards have made services across government consistent, accessible and intuitive; and departments have delivered exemplary digital services to make essential transactions with citizens easier and more efficient.

Central to the digital transformation of government has been the GOV.UK website. Launched in January 2012, GOV.UK replaced 1,882 separate legacy websites and has saved government £63m per year (the ongoing avoided annual cost of government having multiple sites and publishing platforms). It currently sits in the top thirty most-visited sites in the UK with 4.6 billion visits (3.6 million visits per day on average). GOV.UK helps GDS collaborate with nearly all central government bodies, enabling compliance and innovation at scale across government. GOV.UK has delivered on Martha Lane Fox’s recommendation that it should become “the government front end for all departments’ transactional online services to citizens and businesses”.

New digital government services are launching all the time. At the time of writing, over 780 government services are listed on the Government’s Performance Platform web page, with performance data available on each one. In all areas of life - running a business, working, accessing justice, healthcare, learning and driving - services are now available online that would previously only have been accessible on paper or in person.

An example of this is the Carer’s Allowance online service. Users of the service can now complete the application in approximately 20 minutes on a mobile phone or tablet; they receive decisions more quickly than by post; and the service is available 24 hours a day, 7 days a week. User research when developing the service also led to simplification of the application itself, with 170 questions being removed (49% of questions), which has further helped speed up the process for users. Further examples of the widening scope of digital public services include NHS Online; applying for a divorce; applying for a visa; MOT testing service; and online crime reporting.

By doing things digitally, government has produced services that are simpler, clearer and faster for users, and are significantly cheaper to run. GDS and Crown Commercial Service (CCS) estimate that they jointly delivered £3.56bn in savings between April 2012 and March 2015 as a result of their work in supporting departments to build digital services and make better use of technology. Since then, GDS estimates to have enabled departments to realise

---


over £1bn of benefits by scrutinising government’s digital and IT spending requests, through the application of cross-government spend controls. In 2016/17, frameworks available through the Digital Marketplace contributed towards CCS delivering £725m in savings, including commercial benefits for taxpayers. In 2015/16, Digital Marketplace contributed to £521m in savings.

19. The UK Government is recognised as a world leader in digital government, consistently ranking in the top five countries in a range of international surveys for digital government, open data and e-participation by organisations such as the United Nations, the OECD and the World Wide Web Foundation. This reflects the collective digital, data and technology efforts of government as a whole. For example, the UK currently ranks fourth in the UN E–Government Development Index,¹⁰ and first in the World Wide Web Foundation’s Global Open Data Barometer¹¹. 

20. There is also significant demand for UK digital government expertise from overseas governments and multilateral institutions. GDS fielded over 230 overseas enquiries and hosted over 70 foreign delegations in 2017, and our cross-government communities include more than 3,300 civil servants. GDS has helped establish national ‘Digital Services’ for the governments of the USA, Australia, Canada and Singapore.

21. While a great deal of progress has been made in making government digital by default, technology continues to develop at pace and, with it, citizens’ expectations of their public services continue to rise. Many public services remain offline, including many within the local government domain. To help address this, central and local government organisations have recently launched the Local Digital Declaration, a set of principles and commitments by which central and local government will work together to share tools and best practice in order to help get more public services online.¹²

22. Helping local government solve problems will further be assisted by the 2019 Innovation Strategy and programmes like the GovTech Catalyst, that invite public-sector organisations to submit challenges they think might be solved by the innovative use of emerging technologies.

23. GDS also continues to work with departments across central government to build digital capability, develop and implement common tools and standards, and ensure we all remain focused on the needs of end users when designing digital services.

---

How well the Government Digital Service (GDS) has helped spread the use of digital services across Government, including promoting the use of new technologies and uses of data.

24. GDS works with every part of government and the wider public sector to help build, run and maintain services based on users' needs.

25. GDS champions the user and has helped establish a more user-centric model of digital government. For example, in order to pass GDS Service Assessments, government digital services are required to demonstrate that they have researched and addressed the needs of different groups of citizens or expert/business users. By using prototypes, proofs of concepts, and pilot programmes, government departments are working more closely together to create better public services and improve efficiency.

26. GDS supports the spread of digital services to all of government in a number of different ways:

Tools, products and support to build user-focused end-to-end services

27. GDS launched GOV.UK in 2012 as the single website for all government departments' online content and the starting point for digital services.

28. Because of the strong, single domain of GOV.UK and central levers such as the Digital Service Standard (soon to be renamed the ‘Government Service Standard’), Service Assessments and Spend Controls processes, GDS has been able to bring about fundamental changes in the way government designs and delivers digital services and IT investments.

29. As well as continuing to run GOV.UK, GDS has invested in the development of common digital tools and approaches that can be built once and used many times across the public sector. This is in order to avoid costly and confusing duplication in government services. In 2015, GDS established Government as a Platform (GaaP), a suite of technology products that solve common problems which government service teams have to tackle repeatedly when designing and building services for citizens. GaaP does this by providing a range of shared components, which include:

- **GOV.UK Pay**: the simple, secure way to pay for government services online, making it easier and more efficient for government to process payments, and saving time and effort for service teams across government.
- **GOV.UK Notify**: making it easier and more cost effective for service teams across government to keep people updated by sending text messages, emails or letters to their users.
● **GOV.UK Platform as a Service**: hosting for services on a government cloud platform, which frees up service teams from building and managing their own digital infrastructure.

● **GOV.UK Registers**: helping government design and build services on consistent and high-quality data infrastructure.

● **GOV.UK Verify**: the safe and secure way for citizens to prove their identity to government online. This also supports the wider opportunity for digital identity to grow the digital economy, prevent cybercrime and identity fraud, and enable digital transformation in government.

30. These common components are used by more than 400 services across more than 100 public sector organisations. So far more than 159 million messages have been sent using GOV.UK Notify,\textsuperscript{13} and over 1.78 million payments taken using Pay, at a value of over £80m.\textsuperscript{14} Approximately 3 million GOV.UK Verify accounts have been created to perform 7.5 million transactions. Adoption of these platforms has increased substantially over the past year, and it is expected to accelerate further over the coming years as the services become mature and are adopted by more organisations outside central government.

**Guidance and standards to help build the right things in the right way**

31. GDS created the Digital Service Standard in April 2014. This is a set of 18 criteria to help departments create and run good digital services. All public-facing transactional services must meet this standard and it is used across government to check whether a service is good enough for public use. The standards GDS has set for government have inspired similar initiatives in other governments internationally.

32. Part of the Digital Service Standard is the use of ‘Open Standards’, which are publicly available and give users permission to copy, distribute and use technology freely or at low cost. Open Standards help provide equal access to government IT contracts for open-source and proprietary software providers, no matter the size of the organisation. They also mean that software components can be reused by others, instead of duplicated across government, which helps share data and reduces the overall costs of digital services and projects.

33. One of the key recommendations from Martha Lane Fox’s report was to make GOV.UK “a wholesaler as well as the retail front shop for government services and content by mandating the developing and opening up of Application Programming Interfaces (APIs) to third parties”. In February of this year, GDS published API technical and data standards to help departments open up their data for re-use in a consistent way. It is currently working with other government departments to create guidance, training and workshops around designing APIs, and helping other European governments to set their own API strategies.

\textsuperscript{13} GDS, GOV.UK Performance Platform, GOV.UK Notify dashboard, 2018.  
https://www.gov.uk/performance/govuk-notify

\textsuperscript{14} GDS, GOV.UK Performance Platform, GOV.UK Pay dashboard, 2018.  
https://www.gov.uk/performance/govuk-pay
34. GDS also created the Service Manual to provide guidance and tools for government service teams so that they can build services that meet the Digital Service Standard and prepare for service assessments.\textsuperscript{15} The Service Manual is an easy to use service on GOV.UK that is regularly reviewed and updated to reflect any changes to service standards.

35. Further, GDS’s updated Technology Code of Practice is a set of criteria to help government design, build and buy better technology.\textsuperscript{16} It is used as a cross-government agreed standard in the spend control process. Departments must follow this code from the start of any technology programme or project they run.

\textbf{Accessibility}

36. Government is committed to ensuring that websites, mobile applications and services are as easy as possible for people to use, especially for older people and people with disabilities. GDS has been working across government to ensure the accessibility of services.

37. The creation of GOV.UK led to a step-change in the accessibility of government websites. It is designed so that most users can access it without having to adapt the site. Content is written using plain language and the interface is distraction-free, and GOV.UK connects seamlessly to assistive technology.

38. GDS ensures that all of the common components which it provides to teams across government are accessible by design, so they provide a robust basis on which to build accessible services. GDS also provides guidance to support departments, has created an accessibility community of over 800 members to enable collaboration, and reviews the accessibility of digital services.

39. Further, GDS leads on The Public Sector Bodies (Websites and Mobile Applications) Accessibility Regulations 2018. These implement an EU Directive on the accessibility of the websites and mobile applications of public sector bodies. They came into force on 23 September 2018. The aim of the Regulations is to improve the accessibility of public-sector websites. Public-sector bodies will have to take measures to improve the accessibility of their websites, unless it is disproportionate to do so. GDS will also be creating a monitoring and reporting body, responsible for analysing a certain number of websites each year to ensure compliance with the Regulations. This body will also raise awareness, produce guidance and, where appropriate, provide training.

\textbf{Help to buy the right things and to get value for money}

40. Through the Digital Marketplace, launched in November 2014, GDS and the CCS are transforming the way the public sector buys digital and technology services, making the whole process simpler, clearer and faster.

\footnotesize{\textsuperscript{15} GDS, Service Manual, 2018. \url{https://www.gov.uk/service-manual}
41. The Digital Marketplace provides a fair and transparent way for suppliers of all sizes to offer their services to the UK public sector. The process of applying to become a supplier has also been made simpler and faster so more businesses of all sizes can work across the public sector.

42. Total sales through the Digital Marketplace have grown substantially year on year and, at the time of writing, have reached £4.2bn in total. In the past three years alone, spending has increased from £658.25m in 2015/16, to £1.02bn in 2016/17, and to £1.38bn in 2017/18.

43. The service has given small and medium-sized enterprises (SMEs) better access to the public sector and has helped drive supplier competition. This in turn helps government get the best deal when purchasing services. So far, 46% of total sales by value (£1.35 for every £3 spent) and 69% by volume on the Digital Marketplace’s G-Cloud cloud hosting framework have been awarded to SMEs.

44. The Digital Marketplace has a symbiotic relationship with the GDS Spend Controls Team, ensuring the correct approach to market is used, and thereby saving departments time and money.

45. While the Digital Marketplace gives government broad access to suppliers, GDS Spend Controls are an integral part of ensuring government buys the right things and gets value for money.

46. The Spend Controls process exists for projects and programmes to make sure that services bought are in line with the Technology Code of Practice. This means that services bought must demonstrate that user needs are considered; that they are good value for money and transparent for the public; that they are line with government digital and technology strategies; that risk assessments have been put in place; and that they are developed using agile development practices.

47. As a result of the changes GDS has introduced, government has already produced services that are simpler, clearer and faster for users, and are significantly cheaper to run. For example:

- GDS estimates that it has enabled departments to realise over £1bn of benefits by scrutinising government’s digital and IT spending requests, through the application of cross-government spend controls.

- The DVLA increased uptake of its digital services by 92.3% in 2015/16 and, using this, exceeded its target of achieving 10% reduction in net operating expenditure in 2015/16 against the 2013/14 baseline of £405m. The agency reduced expenditure by 19%, equating to around £78m.

- Disclosure and Barring Service’s (DBS’s) new online Request a Basic DBS Check service allows people to complete their user journey entirely online. By using GOV.UK Notify, it avoided build, management and template change costs of £220,000. Further, by allowing users to pay for their check online but still providing them with a form they can print off and
take to the Post Office, it could save £33,000 over a 5-year period, compared to third-party providers.

- The Department of Work and Pensions (DWP) Pension Wise service uses GOV.UK Notify, allowing the switch to digital email versions of appointment documents. Following this, there has been a 90% take-up of digital versions following telephone appointments and a 50% take-up from face-to-face appointments. Using Notify has meant avoiding £100,000 in build and run costs and enabled £53,000 in annual savings by switching from letters to emails.

- Her Majesty’s Passport Service’s (HMPO’s) online service processed more than 1 million passports between June 2016 and February 2018, with an average turnaround time of 6 days. Digital applications increased threefold between January 2017 and 2018.

48. Changes in our approach to IT procurement have also led to significant savings:

- GDS and the CCS estimate that they jointly delivered £3.56bn savings between April 2012 and March 2015 as a result of their work in supporting departments to build digital services and make better use of technology.

- In 2016/17 frameworks available through the Digital Marketplace contributed towards CCS delivering £725m in savings, including commercial benefits for taxpayers. In 2015/16, Digital Marketplace contributed to £521m in savings.

Building digital capability and skills across the civil service

49. GDS leads the cross-government strategy to help departments recruit, develop and retain the right people and skills needed to transform public services, including the opportunities created by leaving the EU. There are currently around 17,000 digital, data and technology specialists working across government. GDS supports them through projects such as the DDaT capability framework, which brings consistency to technical roles across government. Further detail is presented in the section below.

50. The flagship skills programme GDS Academy teaches civil servants the digital skills, awareness and knowledge they need to transform and build the best public services. It offers training in subjects including agile project delivery and user-centred design. The GDS Academy runs across the country, with courses in Leeds, London, Manchester and Newcastle, as well as a partnership with the Scottish Government. More than 10,000 civil servants have been trained since it was set up in 2014.

---

17 GDS, GDS Academy, 2018. [https://www.gov.uk/government/groups/gds-academy](https://www.gov.uk/government/groups/gds-academy)
Helping government take advantage of innovative technology

51. GDS will continue to lead work with departments to better coordinate projects, share best practice and drive technology innovation in government. In August, GDS published the Technology Innovation Survey, which gives an overview of how government is using emerging technologies to improve public services.\(^\text{18}\) It shows what departments are using or what they are interested in with regard to innovative technologies, including artificial intelligence, to deliver public services.

52. GDS can also identify where more needs to be done for the public sector to embrace the huge opportunities for better services at lower cost provided by using technology. This will include working with industry and academia to develop an Innovation Strategy for Public Services for publication in Spring 2019. The strategy will share the vision of how government can use emerging technologies to deliver world-class public services.

53. This will additionally support the aims and ambitions of the Government’s Industrial Strategy, which is designed to create an economy that boosts productivity and builds a Britain fit for the future.

54. Leaving the EU is also prompting a large number of changes to government digital services. These changes provide opportunities to develop cross-cutting, user-centred solutions and better integrated data.

55. Every emerging technology, particularly those featured in the recent Innovation Survey, has life-changing potential. It is for government to ensure that innovation is not about picking the latest, most attractive technology and then trying to find things to do with it. Government must focus on the user need, identify the public challenges that need to be solved, and then look for how different emerging technologies might help with a solution.

56. The GovTech Catalyst is a £20m, 3-year programme that funds private-sector innovators to solve public-sector operational service and policy delivery challenges across the UK. Through competitions, the programme is a testing ground for new technologies such as artificial intelligence and distributed ledger technologies. It allows public bodies to experiment early so that they can scale the right solutions.

57. The GovTech Catalyst supports private-sector companies, not-for-profits and social enterprises of all sizes to develop and trial these technologies. It is an easy way to help them work directly with government and public bodies, and means the public-sector partners can quickly and efficiently test them and help make them available to buy across the whole public sector.

58. GovTech expects to launch a total of 15 competitions to solve public-sector challenges over 3 rounds, and has announced the first 10 challenges selected

for funding. The third round will open for competition proposals from public bodies in October 2018.

59. So far, round 1 of the competition has included challenges on identifying Daesh still imagery (Home Office); tracking waste through the waste chain (Department for Environment, Food and Rural Affairs (Defra)); tackling loneliness and rural isolation (Monmouthshire County Council); and cutting traffic congestion (Department for Transport (DfT) and the Royal Borough of Greenwich).

60. Round 2 competitions and phase 1 implementation are planned to run from autumn 2018 to summer 2019. Challenges were submitted on improving operational response and firefighter safety (Mid and Western Wales Fire and Rescue Service); ensuring prescriptions are not interrupted when people move between care providers (Northern Ireland Health and Social Care); automatically detecting and identifying illicit goods during the journey across the border without impacting fluidity of trade (UK Border Force); and better understanding where overlapping regulatory requirements are placed on businesses (Department for Business, Energy and Industrial Strategy (BEIS)).

The digital skills capacity in Government departments and agencies, to be able to deliver effective digital services to the public and businesses.

61. The 2017 Government Transformation Strategy sets out our ambition to create “one of the most digitally skilled populations of civil servants in the world”. The DDaT Profession established at GDS in 2016 has been leading collaboration across government to ensure departments attract, develop and retain the people and skills they need to transform public services.

62. GDS’s leadership of the Civil Service DDaT Profession, as mentioned previously, covers approximately 17,000 specialists working across government, and enables us to act at scale through cross-government strategic programmes and initiatives including:

- The DDaT Capability Framework, a single structure of job roles and career paths with common skills and competencies. This helps departments recruit consistently to similar job roles; provides civil servants with a clear understanding of career progression; and gives external talent greater visibility of opportunities that exist across government. GDS is facilitating its adoption across government and also provides guidance on pay to support attraction and retention.

- Workforce planning by collecting data and mapping roles from across departments to the Capability Framework to understand our workforce, identify capability and diversity gaps, inform our strategy and measure change over time.

- Learning and development to raise DDaT proficiency across the Civil Service, delivered through the GDS Academy to over 10,000 civil servants
Written evidence submitted by the Cabinet Office (DIG0023)

to enhance their skills, awareness and knowledge they need to build the best possible public services. Having transferred to GDS in 2017 from the Department of Work and Pensions, the GDS Academy has also assessed e-learning solutions and advised departments on how they can acquire licenses quickly and cost effectively.

- Recruitment of digital specialists, including cross-government Senior Civil Service (SCS) recruitment or targeted campaigns, and the management of the DDaT Fast Stream graduate and Fast Track apprenticeship programmes. Both recruitment and programmes have been expanded to meet government’s short- and long-term needs.

- Investing in growing our own talent by upskilling civil servants in critical skills areas with programmes like the Data Science Accelerator,\(^\text{19}\) the Emerging Technology Development programme,\(^\text{20}\) and an accelerated apprenticeship giving civil servants the opportunity to retrain as software developers.

- Establishing a User-Centred Design Community, which now has over 3,000 designers, user researchers and content designers working on services across government.\(^\text{21}\) GDS has trained over 1,000 people in user-centred design since 2016 in over 50 sessions; created a design leadership network and recruited 12 heads of design to lead key delivery departments; and has run 56 meetups around user-centred design attended by up to 150 civil servants from multiple departments.

63. GDS continues to support departments through a mixed approach of central recruitment campaigns, learning, upskilling, expansion of talent schemes, diversity initiatives, cross-government tools and guidance, Communities of Practice, SCS induction and collaboration opportunities, and joint commercial solutions, all of which help government to build and deliver better services to citizens.

---


\(^{21}\) GDS, GDS Blog: Building a cross-government service design community, August 2018. [https://gds.blog.gov.uk/2018/08/14/fostering-a-cross-government-service-design-community/](https://gds.blog.gov.uk/2018/08/14/fostering-a-cross-government-service-design-community/)
How well the Government and its agencies deploy their datasets to maximise their value for money, effectiveness and delivery of digital services.

64. The Government is committed to using data more effectively in order to design and deliver high-quality and efficient public services.\(^{22}\)

65. Government holds datasets with a range of different characteristics. Some of this data is unstructured and some contains personal data relating to individual citizens. Other data sets contain information that is collated and curated by the Government on behalf of the nation, such as lists of schools and hospitals.

66. The Digital Economy Act 2017 and the Data Protection Act 2018 give government a renewed legal framework on which to build the modern data infrastructure needed in order to build more effective and user-focused services.

Providing the right infrastructure

67. GOV.UK Registers is a service that provides up-to-date and consistent datasets to government and the general public to help build high-quality services.\(^{23}\) Registers are authoritative sources of data that can be used to build services both within and beyond the public sector. Reliable data is essential as incorrect information can have dangerous repercussions: for example, a food allergens register providing inconsistent or unclear data could lead to health implications for citizens. So far 44 registers have been created, sourced from 14 government organisations and used by 13 services, and since 2016 there have been 372,000 requests for the datasets.

Putting data to use

68. A number of initiatives have been established to generate data and analysis for the modelling of different policy scenarios and to inform thinking and development (such as Policy Lab\(^{24}\) and What Works\(^{25}\)). Government is also looking to adapt services using data analytics to optimise service delivery. For example, the Pensions Regulator\(^{26}\) is using machine learning to improve response rates from businesses on their scheme returns, and the Department for Education (DfE)\(^{27}\) is using predictive analytics on survey data to optimise the timing of repairs to school estates.

---


\(^{23}\) GDS, GOV.UK Registers. [https://www.registers.service.gov.uk/](https://www.registers.service.gov.uk/)

\(^{24}\) Cabinet Office, Policy Lab. [https://openpolicy.blog.gov.uk/category/policy-lab/](https://openpolicy.blog.gov.uk/category/policy-lab/)


\(^{27}\) Department for Education, Capital GitHub. [https://github.com/DFE-Capital/blockbuster2](https://github.com/DFE-Capital/blockbuster2)
Making sure we have the right skills

69. In order to deploy data effectively, government must also ensure it has the right skills. The establishment of the Government Data Science Partnership, a joint project between the Office for National Statistics (ONS), GDS and the Government Office for Science (GO-Science), has enabled training programmes including the Data Science Accelerator scheme to develop, and communities of interest and practice to grow. The Data Science Accelerator provides mentors and laptops to train individuals in data science techniques, and the approach has been replicated in hubs across the country, with over 100 analysts now trained.

Dealing with privacy and ethical use of data

70. The UK has moved quickly to respond to technological developments and ensure that legislation is in step with innovation to ensure that personal data and citizen privacy is protected (for example, the Digital Economy Act 2017 and Data Protection Act 2018). The UK’s digital agenda balances the potential of new forms of technology and innovation with policies and practices to ensure that data work is adequately scrutinised and that data protection and privacy regimes are robustly upheld.

71. To ensure that government departments are using data in transparent and appropriate ways, we have developed the Data Science Ethics Framework for appropriate data use in government and the wider public sector. Ethical use of data will be galvanised further through the forthcoming Centre for Data Ethics and Innovation, which will have an explicit and unique mandate to advise the Government on the measures which are needed to ensure safe and ethical innovation in data and AI.

72. By prioritising open data and transparency measures, government ensures datasets provide value for money to the digital economy and society. Through the identification and opening up of high-value datasets, data equity is created through subsequent analytical insight and use in the development of apps and platforms beyond its initial collection point for government operations.

73. The Department for Digital, Culture, Media and Sport (DCMS) has begun working with departments to develop a National Data Strategy to unlock the power of data in the UK economy and government, while building public confidence in its use. The UK Government has a strong record on data and this

move will build on the UK Digital Strategy, Digital Charter, Industrial Strategy and Grand Challenges\textsuperscript{32} to break new ground on data.

74. In the 1 April 2018 Machinery of Government change, government data policy and governance moved to DCMS, while GDS retained responsibility for capability via DDaT and digital transformation of government services. As such, the approach to delivering the data strategy will be joined up, making best use of policy, delivery and technical skills across both departments.

The extent to which Government datasets are made available to private sector and academic service developers, and how well its ‘open data’ arrangements are operating.

75. Government recognises the need to continue publishing high-value data under the Open Government Licence wherever possible. This will mean continuing to improve understanding of the data government holds, increasing accessibility and boosting the quality of data being held and released. So far, government has published over 40,000 datasets publicly on data.gov.uk\textsuperscript{33}

76. The UK was a founding member of the Open Government Partnership (OGP), an international organisation formed in 2011 to promote transparency, open government and citizen participation globally.\textsuperscript{34}

77. Commitments to Open Data in the UK’s 2016 OGP National Action Plan (NAP) include being the first G7 country to commit to the Open Contracting Data Standard (OCDS) for contracts, administered by the CCS.\textsuperscript{35} This is part of a global shift to open public contracting to reduce fraud and corruption, save governments around the world money and time, and create opportunities for SMEs.

78. The UK Government is in a strong position globally and, as mentioned previously, ranks number 1 in the Open Data Barometer and joint second in the Global Open Data Index. However, government recognises the need to continue innovating in order to remain at the forefront of this important agenda, and the focus has now shifted (both in the UK and internationally) to the importance of data quality, use, and the importance of publishing in standard formats and unique identifiers.

\textsuperscript{34} Open Government Partnership. \url{https://www.opengovpartnership.org/} \\
Helping government publish open data

79. The Find Open Data service helps people find and use open government data and supports government publishers to maintain data. It works towards the commitment in the 2017 Government Transformation Strategy to “improving data discovery tools for users both within and beyond government.”\(^{36}\) The UK has released tens of thousands of central government, local authority and public body datasets to help build products and services. At the time of writing, there are currently 20,000 people accessing datasets published by 2,000 publishers.

80. The GDS Open Standards team has been successful in ensuring that Government departments publish datasets in open formats. The Open Standards Board has approved 14 data standards to ensure as wide a range of data as possible is presented as 'open data'.\(^{37}\) In the last quarter, GOV.UK recorded over 1 million downloads of files in an open data format.

81. The Government is committed to collecting and publishing operational performance data. The Performance Platform covers over 780 high-volume services which have gone through service assessments and are therefore required by the Digital Service Standard to publish their performance data.\(^{38}\) As well as supporting decision-making across government, the Performance Platform has contributed to the UK’s leading position on international open data rankings and the ability of external actors to hold government to account. GDS is refreshing the platform to include data on all the channels through which citizens access services (rather than just online channels) and to bring the platform into line with recent technical and design standards.

Open data in use

82. The 2016 UK Government NAP also committed government to publish to the 360Giving standard, an open data standard for philanthropic giving.\(^{39}\) This was delivered in October 2017 by the Cabinet Office Grants team, publishing £106bn of grant spend data to the scheme level standard, with the Ministry of Justice (MoJ) and Department for Transport (DfT) publishing at an award level.

83. By using data linked to location, geospatial technology is also transforming services across the private and public sectors to help them contribute to the #SmarterGov campaign, which helps deliver wider economic growth and productivity. From emergency services, transport planning, and 5G networks, to housing, smarter cities and drones, the Government recognises the value of geospatial data.

84. The Government also established the Geospatial Commission to maximise the value of all UK government location data, and to help create jobs and growth in a

---

\(^{36}\) GDS, About Find open data, 2018. [https://data.gov.uk/about](https://data.gov.uk/about)

\(^{37}\) Cabinet Office, Open Standards Board. [https://www.gov.uk/government/groups/open-standards-board](https://www.gov.uk/government/groups/open-standards-board)

\(^{38}\) GOV.UK, Performance Platform. [https://www.gov.uk/performance](https://www.gov.uk/performance)

modern economy. It will set the UK’s first National Geospatial Strategy next year. In August this year, the Commission launched a call for evidence to inform this, focusing on supporting innovation, enhancing public-sector geospatial assets and driving investment into the UK’s geospatial economy.  

**Driving best practice**

85. The Technology Code of Practice requires departments to make their data open by default and to follow open data principles when publishing data. It provides extensive guidance on how to make data available for others to consume, both inside and outside government, while still protecting the privacy of individuals. It also requires departments to reuse open data that is already available and minimise collection of new data. GDS has also formed a working group with the Office for National Statistics to develop data standards for government.

86. We are continuing a dialogue with key stakeholders in the open data community such as the Open Data Institute (ODI), and across government through the Data Advisory Board and Data Leaders Network, to ensure that nascent topics and areas of emerging interest relating to data are addressed in a timely and appropriate fashion.

**The implications for GDS following the move of its data policy and governance functions from the Cabinet Office to the Department for Digital, Culture, Media and Sport.**

87. As noted previously, on 1 April 2018, responsibility for aspects of public-sector data policy transferred to the DCMS from GDS. The transfer included responsibility for data sharing (including co-ordination of Part 5 of the Digital Economy Act 2017), open data and data governance.

88. DCMS was already responsible for significant aspects of policy on the use of data in the wider economy, including data protection, data ethics, free flow of data and the value of the data economy. Given the huge opportunities the smart and safe use of data offers to deliver economic growth, improve public services, make us more productive and raise living standards, there is merit in considering these complementary issues in the round with a single strategic lead in government. DCMS and GDS work closely together with departments across government to realise the benefits of effective data use.

89. GDS continues to lead on transforming government services, setting direction and providing support and guidance for departments across government, and

---

41 The Open Data Institute. [https://theodi.org/](https://theodi.org/)
42 GDS, GDS Advisory Board. [https://www.gov.uk/government/groups/gds-advisory-board](https://www.gov.uk/government/groups/gds-advisory-board)
building civil service capability through the DDaT Profession. GDS’s work on developing and deploying data science into government services and operations, and building data science capability and data literacy, continues as before.

90. GDS also continues to lead and promote the adoption of common standards to improve the interoperability of services, helping to make government services easier and more seamless for users, and continues to expand the availability and use of registers - authoritative sources of data that can be used to build services both within and beyond the public sector.

91. Further, the GDS Advisory Board brings together senior leaders from across government to stimulate collaboration, examine innovative projects, and to tackle the barriers to effective use of data in government. It supports and challenges departments and agencies on the importance of user needs, it reviews emerging trends and progress on commitments on the Government Digital and Transformation Strategies, shares best practice and external industry expertise, and is a supportive public voice on government transformation and raising awareness of progress and issues.

How well Government digital services are protected from cyber attacks

92. The Government’s vision is that the UK is secure and resilient to cyber threats, while still prosperous and confident in the digital world. To meet this challenge, it has put in place the UK National Cyber Security Strategy 2016-2021, supported by £1.9bn of transformational investment.  

93. The core of the strategy is to defend citizens, businesses and assets across the public and private sectors, to deter attacks by detecting hostile action taken against us and prosecuting offenders, and to develop critical capabilities to build skills, support growth and stimulate science and technology. This includes support for UK firms to export to existing and new markets.

The role of Government functions and departments

94. The National Cyber Security Centre (NCSC) within GCHQ provides expert advice and support for the public and private sector in how to avoid cyber security threats and how to protect digital services.  

95. The Government Security Group (GSG) within the Cabinet Office is responsible for the oversight, coordination and delivery of protective security of government’s
people, information and buildings from security threats within all central departments, their agencies and arms-length bodies. It also oversees the Government Security Function, and supports Ministers, the Cabinet Secretary and Chief Executive of the Civil Service by monitoring departmental security performance and managing serious or pan-government security risks and incidents.

96. GDS sets out the Government’s security objectives relating to transformation in the Government Transformation Strategy. GDS helps departments across government understand and address threats to their digitally-transformed services and work, and to ensure that security is designed into new services as an enabler to successful transformation.

97. Individual Government departments are responsible for securing their own digital services and managing all associated security risks (not limited to cyber risks).

98. Through the combination of these activities, the UK is considered a world leader in global cyber security standards.

Making government services secure

99. Working together, GDS, GSG and NCSC have published standards detailing departments’ required minimum level of security and have developed the Departmental Security Health Check to assesses their maturity in doing so.

100. GDS has published service and technology security guidance in the Digital Service Standard. Departmental services are assessed on this and enforced by GDS’s digital spend controls process.

101. The NCSC’s Active Cyber Defence tool reviews designs and provides incident management to help protect government services. This tool scans services and helps prevent fake UK Government content (including phishing sites), detects spoof Government emails, blocks access to bad domains and performs other security checks.

102. GSG has also delivered the Minimum Cyber Security Standards and has performed intelligence-led Penetration Testing for government, including cyber onsite assessments to over 100 NHS organisations.

103. The Minimum Cyber Security Standards will also be used to help departments and suppliers better understand cyber security risks in government supply chains. Government will assess whether suppliers meet them, and they will be written into new contracts to enforce full compliance. This will be done in conjunction with the cyber security equivalent of a ‘credit check’ on suppliers, allowing easier risk assessments of suppliers.

104. GSG also directed National Cyber Security Programme funding to create the Cyber Security Operations Centre, which utilises state-of-the-art defensive cyber capabilities to protect the Ministry Of Defence’s (MOD) cyberspace from malicious actors.\(^{48}\)

**Ensuring security skills and capability**

105. In order to keep the UK at the forefront of cyber security, the Government has invested heavily in building skills and capability. The Government Security Profession Unit addresses the recruitment and retention of cyber skills, and improves the security profession across government.\(^{49}\)

106. GSG further established the Government Security Function, the Government Chief Security Officer and established the MOD Defence Cyber School to deliver training across government.\(^{50}\)

107. NCSC also has several initiatives to help develop the cyber security skills needed in the UK, including programmes in schools, apprenticeships, bursaries and scholarships, and degrees.\(^{51}\)

108. The UK government is one of the most secure in the world but, as technology changes, there are still areas in which we must make further progress. This will be assisted by ensuring that we continue with digital transformation across government to provide end-to-end digital services for users that utilise the latest security tools and techniques provided by cyber security-certified suppliers.

**The implications and opportunities for GDS arising from Brexit, including areas where the nature of digital services may have to change.**

109. The role of GDS, as the central digital function providing DDaT expertise, is proving pivotal in meeting the challenges of EU Exit and engaging with associated opportunities that the EU Exit context can accelerate. GDS is engaged directly with the Department for Exiting the European Union (DExEU), the Infrastructure and Projects Authority (IPA) and other cross-government functions across over 300 workstreams, focusing attention and resource on the most significant digital programmes. The impact of EU Exit on the role of the Centre of Government is transforming the nature of cross-functional support and engagement.


GDS assurance and controls are enabling EU Exit projects to deliver by making decisions on spend faster, and helping to ensure technologies and services are scalable and flexible to scenario planning.

GDS has established a triage process to identify where service design expertise can best help departments meet EU Exit challenges in a forward-thinking way. Through workshops, service mapping, sharing best practice and education, GDS has helped departments understand their services and use the opportunity to embed agile governance and user focus. Examples include:

- **DfT Marine Accident Investigation Branch**: GDS helped the team replan its response and adopt an agile procurement approach.

- **BEIS Market Surveillance**: an embedded team has led on developing a strategic, transformative service which uses data better.

- **DfE Erasmus**: through support and prototyping a digital service, GDS helped them choose a transformative digital approach in place of the manual workaround they had planned.

- **BEIS Emissions Trading**: an embedded team has developed a view of the service landscape to help shape research and policy decisions as well as the design of the service.

**Building capability**

GDS assurance and controls are enabling EU Exit projects to deliver by making decisions on spend faster, and helping to ensure technologies and services are scalable and flexible to scenario planning.

Aside from maintaining the overview of status for EU Exit digital systems (the delivery confidence of which can differ from the wider programmes they sit within), the associated insight is driving support for the building of digital capacity across the function arising from additional EU Exit work. The insight is also steering direct interventions within departments.

DDaT Workforce data, collected on a quarterly basis, enables GDS to understand the cross-government landscape, facilitating the identification addressal of EU Exit capability and capacity requirements in the wider workforce.

GDS has also designed and implemented a number of tactical and strategic sourcing solutions in response to workforce data insights. This includes the optimisation of commercial frameworks; targeted deployment of expertise in the form of individuals and teams; and design of recruitment, talent and upskilling programmes to address cross cutting needs for specific skills in the medium to long term.

The combination of different sourcing solutions enables provision of interim resource which can be phased out over time as permanent capability is built.
Hands-on support work

117. For the highest priority programmes (as categorised by DExEU), GDS has provided targeted support (funded through EU Exit budget) by deploying multi-disciplinary teams, aligning such support with other functional colleagues as appropriate. This has required flexible prioritisation of current work to build and embed a GDS team at short notice.

Supporting EU Exit and beyond

118. A further critical role that GDS plays is to work alongside departments and the Government Communication Service to plan the changes needed to online information and advice, as well as access to new services, on GOV.UK. Forecasting future EU Exit content changes requires flexibility to cover the different scenarios and implications, for example through any implementation period. This will remain a core priority for GDS, given the importance of supporting departments to give the public and businesses accurate and clear information. We anticipate that the role of GOV.UK in acting as a key communication portal will be sustained over any period of implementation.

119. Leaving the EU is prompting a large number of changes to government business, and this scale of change creates significant opportunity to transform government's digital services even further. Taking advantage of these opportunities will require work beyond March 2019 and into any implementation period. GDS and the DDaT function will be central to ensuring these opportunities, and many more, are delivered successfully.

September 2018