

ONS DIGITAL AND TECHNOLOGY STRATEGY (2019 -2023)

updated April 2022



Introduction

by Simon Sandford-Taylor

Chief Digital and Information Officer, ONS

Supporting ONS

The Digital Services and Technology (DST) strategy was launched at the start of 2019 and set out some ambitious targets to move our technology base to the cloud and optimise our ways of working for flexibility and speed.

Our strategy underpinned the UK Statistics Authority (UKSA) strategy Better Statistics, Better Decisions, which ran until 2020. It was deliberately radical in outlook as we recognised the need for the ONS to utilise the emerging "everything as a service" direction the IT industry was heading in to help it innovate at the speed and scale it aspired to.



Introduction

May 2021 update

There had been a number of changes to our operating context since launching our strategy:

- a new Chief Statistician;
- a new and very ambitious UKSA strategy and supporting Diversity & Inclusion strategy
- a global pandemic which has changed the way we work and driven a need for rapid delivery of new surveys and insights to inform Government;
- the evolution of my role to Chief Digital and Information Officer (CDIO) and Head of Practice for the Digital, Data and Technology (DDaT) function in the ONS.

These changes prompted me to conduct a robust review of our strategy to ensure that our vision, direction and approach continued to deliver the services the ONS needed.

Our review concluded that our strategy was sound and only required minor changes to align with the UKSA strategy and Diversity and Inclusion strategy.

The biggest change was to reposition it as the ONS Digital and Technology Strategy, recognising that digital and technology skills are distributed across the organisation and reinforcing the message that we are one ONS.

Introduction

The review also identified the opportunity, with three years remaining, to:

- sharpen our view of where we will be at the end of 2023
- clarify the strategic ambitions required to reach our destination, especially around legacy transformation
- strengthen the principles we needed to apply to help us get there

We also took the opportunity to refresh the look and simplify the key messages, making the strategy easier to understand and follow.

April 2022 update

We recognise that the change of strategic focus from DST to the ONS is essential for the ONS to operate as one organisation and ensure that digital and technology has a seat at the table to help shape, influence and accelerate the adoption of leading-edge technology and digital ways of working.

We also acknowledge that there was still some work to do to ensure that the strategy fully represents the ONS digital and technology landscape, takes on board feedback and reflects the changes we have made to the DST target operating model and the DDaT profession driven by transformation and the ONS BASE review.

Introduction

The key updates in this latest iteration of the strategy are:

- removal of the story so far sections to supporting documents;
- refinement and simplification of the strategic principles to make them easier to live by;
- an update to our delivery approach, adoption of strategic roadmaps and our approach to Legacy removal;
- inclusion of the DDaT function hub and how it will support the DDaT profession across ONS.

A further update is planned later in the year, driven by wider consultation across the ONS.

Significant progress

Over the last three years we have made significant progress:

- the data access platform (DAP) has enabled step changes to the ways we collect and process data;
- we have moved vast amounts of our technology estate to commodity cloud environments with Microsoft, Amazon and Google, reducing our reliance on our own data centres and hardware;
- we delivered the world's largest and most complex online census - designed, built and supported in-house;
- we have also radically changed our ways of working to leverage the opportunities of "everything as a service" and move at pace to a hybrid working model.

Introduction

Progress on legacy transformation has been a lot slower than planned and is a significant challenge for the organisation. Our legacy systems are affecting our ability to innovate at pace and are keeping our baseline running costs high. Legacy transformation is being addressed as a priority going forwards.

We should all be proud of the progress we have made. We now have a robust foundation to build on as we head towards 2023 and beyond.



Moving forwards with ambition

The UKSA strategy, ONS strategic business plan and ONS inclusion and diversity strategy outline an exciting future for the organisation, with digital and technology capability playing a key role across the four core themes.

Our use of cloud native technology and "everything as a service" has been radical, ambitious and inclusive, allowing us to deliver the largest and most complex online census to date. We are building on that capability and leading the creation of an Integrated Data Platform (IDP) to enhance cross-cutting statistical analysis and research.

Our collaboration with business areas on legacy transformation will further help the ONS to innovate at speed and scale and maintain a more sustainable baseline going forwards.

Meeting ONS core themes

We are confident that our strategy underpins the ONS's core themes. It aligns to and complements both the UKSA, and ONS inclusion and diversity strategies.



Radical

in taking opportunities to innovate and collaborate, using data for the public good.

We will be radical in our adoption and exploitation of leading-edge technologies that support cross-cutting analysis and integrated data.

Ambitious

in setting out to answer the critical research questions the public needs the government to answer, and informing the decisions that citizens, businesses and civil society take.

We will be ambitious in the way we work to enable rapid and iterative delivery of value to the organisation.

Inclusive

in our approach to workforce, talent management, and the design of data, statistics and analysis.

We will be inclusive in everything we do, including how we collect data, what we publish, how we work and the partnerships we build to deliver products and services.

Sustainable

in delivering a unique service in a way which delivers value for money with lasting benefits and minimises impact on the environment, all through partnership and collaboration.

We will develop a sustainable skills base, and deliver and maintain sustainable and efficient products and services.

Our purpose

To enable innovation at speed and scale to keep the ONS at the forefront of providing high quality data and analysis to inform the UK, improve lives and build the future

As a trusted partner, we work collaboratively to identify leading-edge technologies and ways of working to deliver technical and digital solutions that meet the needs of the ONS and wider government.



Our strategic drivers

The strategic drivers that shaped our strategy have been updated to reflect our current situation.



External drivers

Technology

- To be able to respond quickly to rapid and significant advances in technology and to be at the leading edge of technological change.
- To ensure the technology estate meets user needs and is fit for purpose.

Data

- To ensure we have the technical capability to provide a wealth of readily accessible data.
- To provide technology services which are trusted and ensure all data is secure by design.
- To utilise the potential of freely available big data to enhance ONS data.
- To be able to make use of new data sources as they arise.

Digital

- To be able to deliver digital solutions with a fully flexible and dynamic approach.
- To provide technology solutions which place users at the centre of their design and delivery.
- To ensure our Digital, Data and Technology capability meets Central Digital and Data Office (CDDO) guidelines.

Society and people

- To keep pace with the changing workforce demands, ensuring we are an employer of choice.
- To provide innovative solutions to allow the ONS to stay ahead of society's ever-growing data appetite.

Internal drivers

UKSA strategy

- To provide a digital and technology strategy to support the overarching UKSA strategy and the ONS inclusion and diversity strategy.

Business needs

- Enabling the ONS to meet government and society demands for data utilising technology.

Collaboration

- To provide and develop services which can be used by other government departments and internationally.
- To utilise services made available from other government departments.
- To support a more geographically diverse post-pandemic working model.

Costs and efficiencies

- To optimise and strengthen all enabling functions in the ONS BASE review.
- To be cost effective and ensure value for money.
- To continually improve our efficiency and effectiveness.
- To proactively reduce our dependence on technologies and systems deemed legacy.

Capability

- To ensure colleagues develop the knowledge, skills and behaviours required to future-proof the organisation as best we can.
- To work across DDaT communities at the ONS to share best practice and improve consistency.

Our strategic drivers



Our strategic outcomes

Our strategic outcomes directly address digital and technology needs across the organisation.

Taking a holistic approach, these four outcomes:

- help us focus on our people and the way we work together
- ensure the technologies we use benefit the efficiency of the services we create and support.
- bolster the radical, ambitious, inclusive and sustainable aims of the UKSA
- compliment the ONS inclusion and diversity strategy for Digital and Technology

Highly capable, digitally skilled colleagues



Efficient and automated services

Flexible and adaptive ways of working



Robust leading-edge technology

Highly capable, digitally skilled colleagues



We will help deliver the ONS inclusion and diversity strategy, where everyone has a positive and meaningful experience of work. We will attract people from a wide range of backgrounds with varying levels of skill and expertise, develop them by creating opportunities for them to learn and grow professionally and retain them by maintaining an inclusive and diverse culture that makes DST, the DDaT profession and the ONS great places to work.

Efficient and automated services



As the ONS's use of technology evolves, we need to ensure that our digital and technology services stay reliable, relevant and sustainable. We need to regularly review our services and processes to ensure they are delivering the performance and value required, are easy to use and cost effective to manage. We will continuously improve our strategic services, buying "everything as a service" solutions by default and keeping our bespoke services simple and easy to maintain. We will use automation to run repetitive and routine business and operational tasks, enable our users to configure services where possible and offer self-service where it benefits the user, simplifies processes and reduces costs.

Flexible and adaptive ways of working



We will continue to use Agile as our driving principle in the product development space, with our empowered, multi-skilled DevSecOps teams delivering easy-to-manage solutions incrementally, generating value early and often. We will manage priority demand on our services flexibly, delivering strategic technical capability that can be used by all wherever possible. This is underpinned by a commitment to provide development opportunities for our staff in both DST and the DDaT profession. Having proven through the pandemic that location is no barrier to delivery, the hybrid team will be our default model. We will continuously improve our use of technology and ways of working to ensure inclusion and equality for all colleagues, wherever they are based.

Robust leading-edge technology



We will enable the ONS to innovate and collaborate at pace by exploiting "everything as a service" offerings, ensuring that we are at the leading edge of all strategic technology developments. We will provide corporate and business services using trusted commodity technology platforms with security built in from the start. Services will be designed to meet the changing priorities, needs and drivers of the ONS and the UK government. For services that are not strategic, we will stabilise, reduce and remove at pace. We will continue to follow best IT industry practice, reaching out to participate in the wider IT world, seeking to contribute and learn from partners outside the ONS and the civil service.

Our approach

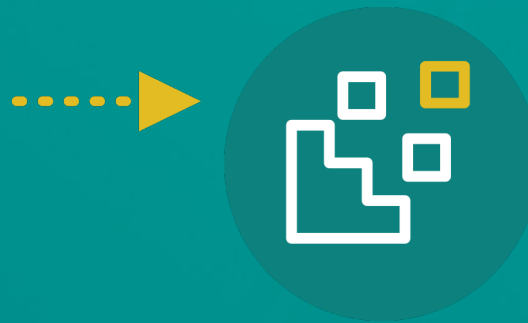
To deliver successfully, we need to ensure our message and approach are consistent. We need to keep in mind the broader context in which we work, listen to our users' needs, and try things out incrementally but at a pace that makes a difference.

All our work follows the “think big, do small, and act fast” approach.



Think big:

the bigger our ambition, the more we will achieve. We will not be constrained by what is possible today; instead, we will consider the full range of futures and opportunities.



Do small:

by breaking tasks down into smaller chunks, we will be more likely to deliver quick wins and succeed on our path to the big thing.



Act fast:

We know that the faster we act, the faster we learn from our failures and successes. We will feed our findings back to improve continually.

Our strategic principles

Working together as one ONS is essential to our success. These principles are there to help and support us as individuals, our teams and how we operate across the organisation.

They are helping us plan, prioritise and make better decisions as well as keeping us aligned and working effectively together.

Putting these principles at the centre of the way we work makes a significant contribution to making ONS a great place to work and enabling us to innovate at speed and scale to support the ONS with its goals to inform the UK, improve lives and build the future.



**We put
people first**



**We keep
things simple**



**We deliver
together**



We put people first

We make time for each other to learn and grow.

We all know where we fit and have the autonomy we need.

Our people are where our true value lies. This principle helps each of us ensure that we have everything we need to perform effectively in our roles and that we prioritise learning and development alongside delivery of digital and technology services.



We keep things simple

We adopt good practice and converge our technology.

We continuously improve to maximise our efficiency and effectiveness.



Simplicity in the way we work and our use of technology is an essential part of innovating at speed and scale. In addition, adoption of good practice, reuse and convergence wherever we can and continuous improvement are at the core of maintaining our delivery velocity.





We deliver together

We are all proud of what we do.

We trust and respect each other and demonstrate this in our behaviours.

We work together to do great things.

To ensure our products and services meet ONS and Government standards, we will also continue to follow:

- Government Design Principles
- Technology Code of Practice
- Digital Service Standard
- Open Standards principles
- ONS Data Principles
- ONS Security Principles

Our Delivery Approach

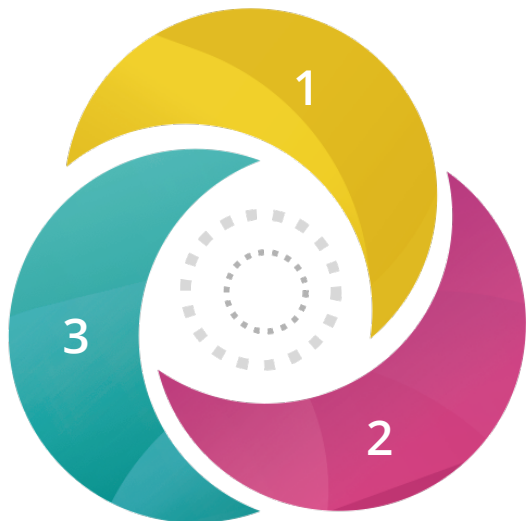
Innovating at speed and scale

Our refreshed approach to delivery builds on what we have learnt since launching the Digital and Technology Strategy in 2019.

It builds on our successful adoption of cloud native technologies and agile ways of working. It also addresses the current challenges in our demand and planning processes. These challenges are impacting on the benefits of working together as one ONS and slowing our innovation capability.

Our approach is built on three things: collaborative planning; effective service design; consolidated strategic roadmaps.





1. Collaborative planning

Our collaborative planning activities are improving each year. Our understanding of ONS digital and technology requirements is also at its strongest. Our plan is to further develop relationships so that all directorates of the ONS share the information required to ensure we all deliver what is expected.

2. Effective Service Design

Introducing service design teams to oversee each of our strategic roadmaps is key to our delivery approach. Our intention is to drive improvements to the way we work together by:

- Promoting digital approaches and technology good practice across the service portfolio to drive convergence, reuse and compliance with legislation
- Enabling consolidated roadmaps to optimise delivery speed and minimise the creation of bespoke solutions and technical debt
- Driving proactive updating of technology to keep our strategic services current, effective and innovative

3. Consolidated Strategic Roadmaps

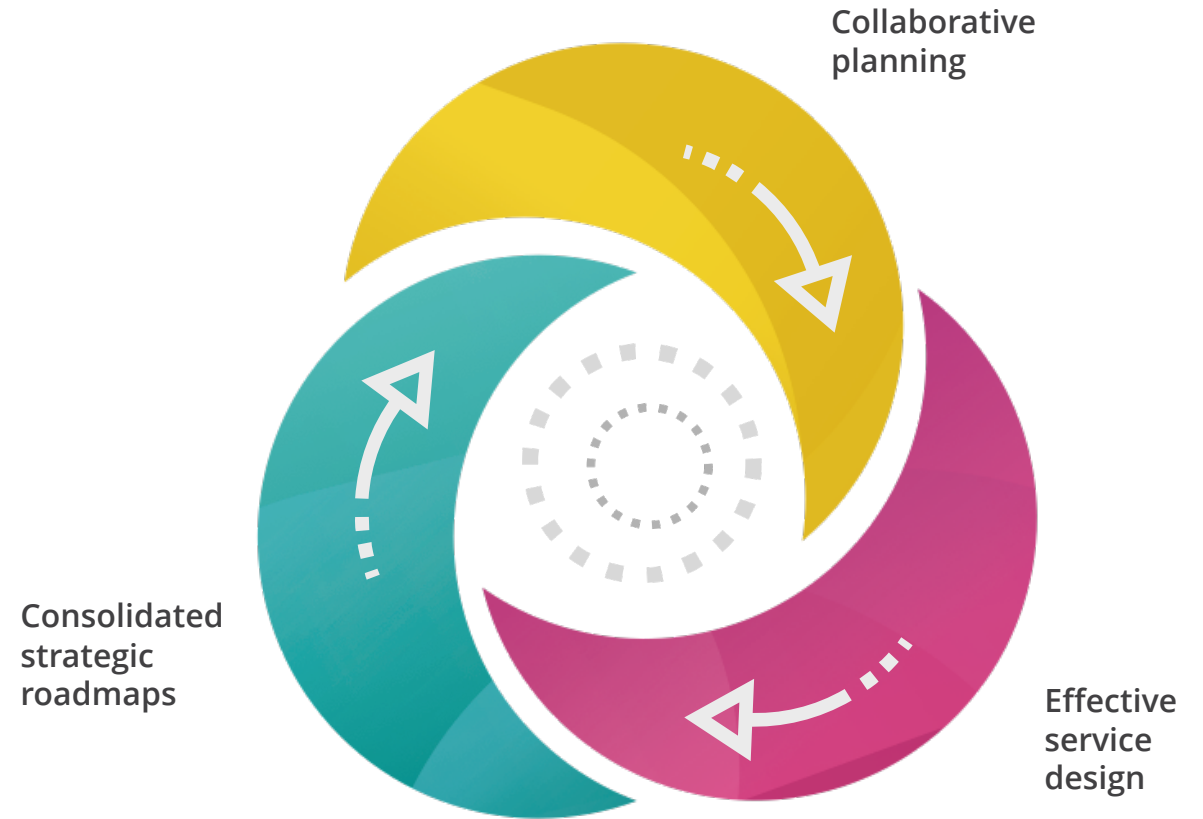
The requirements that emerge from collaborative planning will shape the strategic roadmaps. This will ensure that capabilities are built in a streamlined way that maximises reuse, delivery velocity and value for money. It will also minimise the need for tactical solutions and the creation of technical debt.

Doing this well requires us all to work as one ONS and align our use of a capability to the timelines in which it can be delivered, rather than delivering tactical solutions to meet a deadline; in turn increasing our legacy estate. Tactical/interim solutions may be needed at times, but we will ensure there is a plan to move to a strategic solution when it is available.

Creating a cost-effective path to successful delivery

Each aspect of our approach adds value. When taken together, they outline an approach to digital and technology delivery that allows the ONS to align to the critical path for each of their strategic services. This will allow us to move forward at a pace we have yet to fully realise.

There will be times when the ONS will need us to deviate from the optimum path by creating tactical/interim solutions. As this results in increased delivery time and effort, we aim to ensure this course of action is by exception, and always accompanied by an agreed plan to move to a strategic solution within a reasonable timescale. This will ensure that our technology estate remains relevant, technical debt is minimised and allows us to focus on the future needs of the ONS.



Strategic Ambition Roadmap

To continue to reduce our reliance on legacy systems, including Lotus Notes retirement, and a commitment to create a Strategic Business Register (SBR) to replace the IDBR as part of INGRES reduction.



retire Lotus Notes >



Embed our target operating model, "grow our own" and reduce contractor use to below 10% of the DST workforce.

Consolidate our move to cloud technologies, with an aim to move a significant amount of our data centre operations from Crown.

Provide the technology capability to deliver a successful Integrated Data Platform.

To be completed by:

Q1

Q2

Q3

Q4

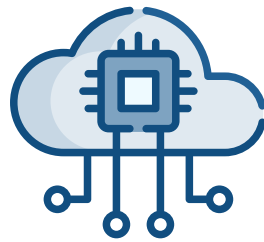
Q1

Q2

2021/22

2022/23

Complete the move of the data exploration and analysis functions to cloud native technologies.



Building on the success of Census 2021, we will continue to develop our strategic data collection platforms to support social and economic survey transformation.



Building on the success of RSI/Dtrades we will continue to develop our statistical production capabilities to support social and economic statistics transformation.

Consolidate the ONS's move to, and use of, Microsoft technologies, focusing on functionality that supports effective collaboration, improves user experience and lowers support overheads.

Q3

Q4

Q1

Q2

Q3

Q4

2023/24

Digital, Data and Technology Profession



Introducing the profession

The Digital, Data and Technology (DDaT) profession is guided by the Central Digital and Data Office (CDDO) within Cabinet Office. In the ONS DDaT professionals work across all business areas, often working together in collaborative teams to deliver key ONS products and services.

Simon Sandford-Taylor is the Head of Profession (HoP) for DDaT in the ONS.

Wide range of roles

There are a variety of DDaT roles spanning nearly all business areas, including:

- Software, Data and Infrastructure Engineers

- User researchers
- Graphic, Content and Service Designers
- Delivery Managers
- Data, Technical and Enterprise Architects
- Business and Data Analysts
- Data Scientists
- Product Managers, Performance Analysts and Service Owners

DDaT Function Hub

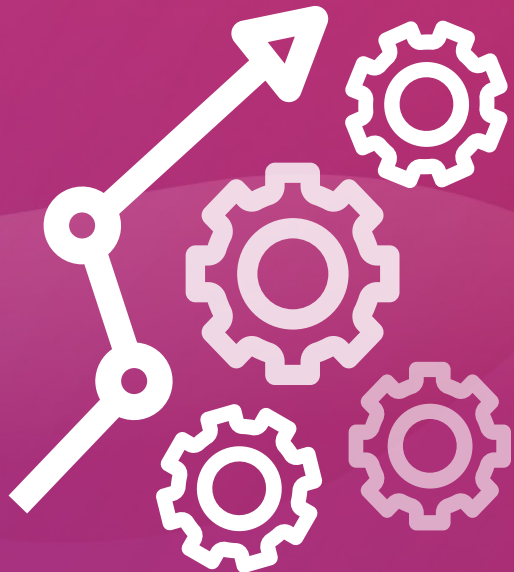
We need a more holistic view of the profession across the ONS to ensure we focus on priority activities which will help us to innovate at speed and scale.

To facilitate this an autonomous DDaT Function Hub has been established. The Hub is governed by the DDaT Governance Group (DGG), chaired by the Head of Profession with representation at Deputy Director level from areas in the ONS with DDaT professionals.

The Hub will promote the evolution of the DDaT profession within the ONS. It will also ensure that the ONS has the right balance of DDaT skills across the profession to maintain delivery pace and quality.



Our approach to legacy



Enabling ambition across the organisation

Digital & Technology is at the heart of enabling the One ONS agenda. We aim to build services which use strategic technologies and tools to allow us to innovate at speed and scale. We need to manage our products and services to ensure that they remain efficient in terms of the outputs they produce. Ensuring that they function on technologies that are current is a challenge that we must all address in order to keep the ONS at the forefront of providing high quality data and analysis to shape the UK, improve lives and build the future. Moving away from legacy technologies is more than just a technical activity and is something we must tackle together.

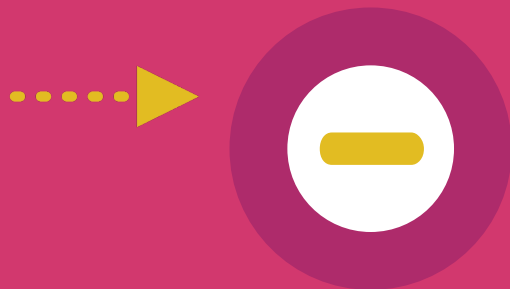
Managing the balance

The ONS recognises that our continued use of legacy technologies is significantly impacting on our speed of innovation. Reducing our baseline costs and proactive legacy management are a priority for the organisation. The ONS also recognises that legacy is a catch-all term for technologies, services and platforms that are no longer viewed as strategic, and the impact of maintaining legacy technologies can vary significantly in terms of effort and cost.

Legacy

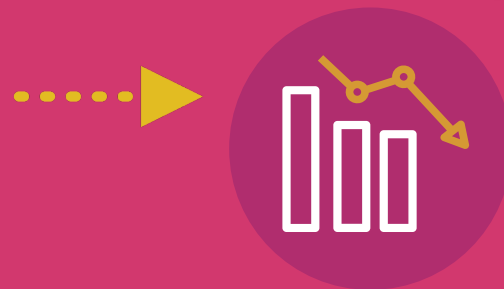
Our approach to delivery is designed to minimise legacy creation. It does this by reducing the creation of new tactical solutions and technical debt, and keeping our services running on strategic technologies through proactive technology replacement.

To deal with our existing legacy estate we are taking a three-pronged approach:



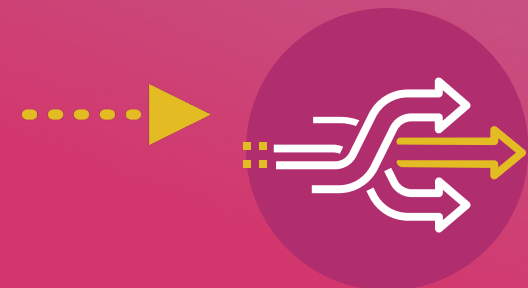
Remove –

where the underpinning technologies are a burden to us we will remove them, transforming the products and services they support and optimising them to exploit new strategic technologies



Reduce –

Where removal is not currently viable, we will reduce our dependence on the technology, repurposing products and services to run on strategic solutions



Stabilise –

As our more recent technology platforms become legacy we will stop any new developments or significant changes to the platforms wherever possible as this will minimise the work needed to transform these products and services to strategic solutions

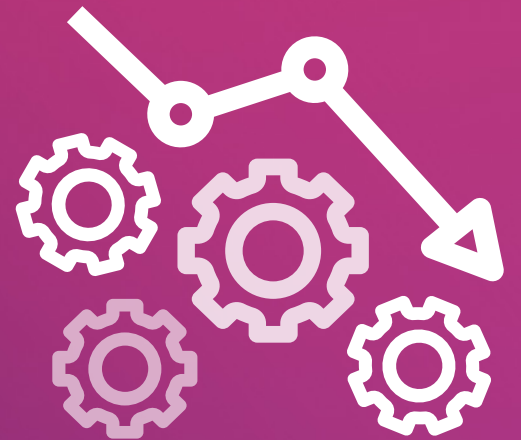
Third parties

Wherever viable we will transfer the support of stabilised and reducing technology stacks to third parties, focussing our people on supporting our strategic solutions and making our legacy solutions a purely financial burden until removal.

Minimising technical debt

Unless there is an agreed exception, only tasks associated with the daily operation and running will be carried out on products and services on legacy platforms and technologies. Any changes will be facilitated through our strategic solutions when the capability becomes available or by automation.

There will be times when the needs of the ONS require a tactical change to the legacy estate, but these should be exceptions. The long term impact and cost of the change will be factored into these decisions.



Highly capable, digitally-skilled colleagues



We will help deliver the ONS inclusion and diversity strategy, where everyone has a positive and meaningful experience of work. We will attract people from a wide range of backgrounds with varying levels of skill and expertise, develop them by creating opportunities for them to learn and grow professionally and retain them by maintaining an inclusive and diverse culture that makes DST, the DDaT profession and the ONS great places to work.

Destination

Nurturing talent

We will develop our own talent where we can. All DDaT roles will align to a professional framework, have appropriate progression in place with clear learning and career pathways managed by effective communities of practice.

We will use this internal talent market to develop the majority of our roles, attracting skilled individuals from across the public sector and industry, reducing the reliance on contractors in DST to less than 10% of the workforce by Q4 21/22.



Agile working

We will be an organisation optimised for agility. We will have fully implemented an organisational design with underpinning principles, policies and processes that supports our ways of working, allows us to be radical, ambitious, sustainable, and to respond rapidly to evolving ONS priorities.

Inclusive workforce

We will have a diverse and inclusive digitally-enabled workforce. Our teams will be virtual by design, made up of digitally-skilled colleagues working across the UK with policies and processes in place that enable virtual collaboration, continuous professional learning and ensure accessibility, inclusion and fairness for all.

Efficient and automated services



As ONS's use of technology evolves, we need to ensure that our digital and technology services stay reliable, relevant and sustainable. We need to regularly review our services and processes to ensure they are delivering the performance and value required, are easy to use and cost effective to manage. We will continuously improve our strategic services, buying "everything as a service" solutions by default and keeping our bespoke services simple and easy to maintain. We will use automation to run repetitive and routine business and operational tasks, enable our users to configure services where possible and offer self-service where it benefits the user, simplifies processes and reduces costs.



Destination

Rationalisation

We will rationalise and reduce the bespoke business products used for corporate IT. Our Business Support Products team will have:

- reduced or replaced 60% of bespoke business applications with either commercial products, more reusable Business Activity Workflow or Power Platform based products, which align with our enterprise architecture.
- reduced the complexity of the remaining bespoke business applications (through use of reusable components) to lower support costs by 30%.

Our key
2023
targets for ONS:

Cloud services

Our IT service availability will be underpinned by strategic technology using cloud solutions. We will take advantage of the high service availability provided by cloud-based "as a service" solutions where it is cost effective to do so.

Continuous improvement

Continuous improvement, automation and self-serve will be at the heart of the ONS service provision.

- All products and services will be supported by teams with a strong focus on continuous improvement.
- Standards for pipeline management will be in place for each of our cloud vendors with proactive monitoring and alerting the norm across the service portfolio.
- Repetitive operational tasks will be automated and self-service implemented where practical.
- DST IT Operations division will maximise their use of automation and implement proactive monitoring and alerting across our service portfolio.
- An IT Disaster Recovery Capability that is continuously improving and minimises the impact of unplanned system outages on critical business processes.

Automation

Business process automation will be standard practice at ONS. It will be considered a key element to delivering digital transformation and efficiencies across the board, from the very small pieces of automation work used by individuals in a team to the very large automation applications cutting across multiple directorates.

In our technology landscape, automation will be embedded into our reference architecture and form a key part of our delivery techniques, with the benefits of using automation recognised as part of the initial solution development.

Flexible and adaptive ways of working



We will continue to use Agile as our driving principle in the product development space, with our empowered, multi-skilled DevSecOps teams delivering easy-to-manage solutions incrementally, generating value early and often. We will maintain a single view of prioritised demand to ensure our deliveries fully support the strategic outcomes of ONS, which will also include initiatives that support the evolution of DST and the DDaT profession. Having proven through the pandemic that location is no barrier to delivery, the hybrid team will be our default model. We will continuously improve our use of technology and ways of working to ensure inclusion and equality for all colleagues, wherever they are based.

Destination

Digital-first mindset

We will be a cohesive team of digital colleagues. We will have a "digital-first" mindset embedded across DST, the DDaT profession and the ONS, responding to the evolving needs of the business by readily adopting emerging digital technologies and making changes in the way we work to optimise our capability.

Best practice playbooks

We will adopt ways of working that best support the services we provide. DevSecOps will be the norm across all bespoke product teams. We will have playbooks for each commodity cloud platform to ensure best practice is adopted by all teams and evolved collegiately by our mature communities. For products and services closer to the commodity space, we will have optimised our ways of working to best support and improve them.

Our key
2023
targets for DST

Digital champion

We will be connecting, collaborating and engaging with the business. Working as a partner with business areas, we champion the digital evolution in the ONS, creating new ways of working through successful implementation of digital delivery, embedding new delivery approaches and behaviours, and developing a positive attitude towards change.

Better collaboration tools

As we continue to enable a flexible and inclusive working approach, we will enhance the user experience by providing the ONS with up-to-date equipment, corporate systems and tools built around the Microsoft 365 ecosystem which support effective hybrid working and collaboration. Our management of end user devices will be proactive, user friendly, self-service, automated and easy to support. Standard, cloud-based developer toolsets will have been adopted for each cloud vendor and be managed and iterated by the developer community.

Robust leading-edge technology



We will enable the ONS to innovate and collaborate at pace by exploiting "everything as a service" offerings, ensuring that we are at the leading edge of all strategic technology developments. We will provide corporate and business services using trusted commodity technology platforms with security built in from the start. Services will be designed to meet the changing priorities, needs and drivers of the ONS and the UK government. For services that are not strategic, we will stabilise, reduce and remove at pace. We will continue to follow best IT industry practice, reaching out to participate in the wider IT world, seeking to contribute and learn from partners outside the ONS and the civil service.



Destination

Microservice design

We will adopt a modern architectural approach to building systems, incorporating microservice design to enable development at pace and efficient consumption of cloud-native services.

Corporate services

We will be collaborating with business colleagues to improve digital capability and capacity across the organisation as part of the corporate systems improvement programme.

Our key
2023
targets for ONS:

Cloud-Native

We will go cloud-native. Our ambition has seen us move 100% of our strategic data processing capability and virtual server infrastructure onto secure commodity compute platforms. Each platform has a securely optimised reference architecture and is supported by a dedicated DevSecOps team.



Securing data

We will be recognised for securely managing data in the cloud. Our secure use of commodity cloud services will be recognised by wider government and key data suppliers, making it easier for ONS to secure the data it needs to inform the UK, improve lives and build the future. We will pioneer the development of the first pan-government Integrated Data Platform.



Managing legacy services

We will stabilise all non-strategic services, reduce usage by 50% and remove Lotus Notes from the organisation.



Delivering for ONS

We will deliver for the ONS on all agreed technology commitments outlined in our strategic ambitions roadmap and strategic business plan.

Conclusion

Challenging targets

When DST and the ONS started on this strategy in 2019, we set ourselves some very challenging targets. At the time, some colleagues found it hard to see how we would achieve some of them and no-one had envisaged we would spend so long in the midst of a global pandemic.

The changes we have made over the last **three** years have been massive and are all down to the fantastic colleagues we have working in DST, the DDaT profession and the ONS.

We managed the move from office-based working to effective hybrid working with efficiency and pace.

In 2021 we delivered the largest online data collection activity ever seen, which we built in-house using a commodity technology platform and cloud-native tools.

But there is still much to do. We still have the ongoing challenge of getting the right balance between legacy transformation and the delivery of radical and ambitious new services and capabilities.



Together we can do great things

On behalf of the DST senior leadership team and the ONS, and as the head of the DDaT profession, I would like to thank all of you for your hard work, commitment and collaboration in getting the ONS to this point.

I encourage you to take a moment to reflect on how far we have come together, as a directorate, the DDaT profession and an organisation. We still have **two** years left on this part of our journey and many radical and ambitious things to do.

But we have demonstrated that by working well together and supporting each other we can do great things.



Remaining ambitious

As we look ahead, the future is far from predictable with none of us knowing what the new normal will look like.

We will be reviewing the strategy regularly to ensure:

- it fully represents digital and technology teams across the organisation
- our direction is aligned with the evolving needs of the ONS
- it continues to be radical, ambitious, inclusive and sustainable

We are on a journey together. May it be an exciting one where we keep each other safe and keep thinking big,



by Simon Sandford-Taylor

Chief Digital and Information Officer, ONS



Glossary

Agile is an iterative approach to project management and software development that helps teams deliver value to their customers faster and with fewer headaches. Instead of betting everything on a "big bang" launch, an agile team delivers work in small, but consumable, increments. Requirements, plans, and results are evaluated continuously so teams have a natural mechanism for responding to change quickly.

Accountability Framework Objective is a Level Zero milestone that directly maps to one or more ONS strategic objectives and is owned by a particular ONS business area.

BASE review is a review of the enabling functions across ONS.

Big Data is a term that describes the large volume of data – both structured and unstructured – that inundates a business on a day-to-day basis. But it's not the amount of data that's important. It's what organisations do with the data that matters. Big data can be analysed for insights that lead to better decisions and strategic business moves.

Blockchain is an expanding list of cryptographically signed irreversible transactional records shared by all participants in a network. Each record has a time stamp and reference links to earlier transactions. Anyone with access can trace and view the details of a transactional event, at any point.

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Bots are microapps or apps that can be used on other bots, apps, or services in response to event triggers or user requests. They may invoke other services or apps, often emulating a user or app, or using an API to achieve the same effect. Bots automate tasks based on predefined rules or artificial intelligence.

Business Process Automation involves the usage of software to execute routine and repetitive functions or procedures within an organisation often where excessive and or repetitive human intervention is needed. The software simply automates the tasks that are time-consuming.

Central Digital and Data Office (CDDO) will lead the DDaT function across departments, leading the cross-government community of DDaT professionals and putting the strategy, standards and assurance mechanisms in place to deliver transformation at scale.

Chatbots are stand-alone conversational interfaces that use an app, messaging platform, social network or chat solution for its conversations. Chatbots vary in sophistication, from simple, decision-tree-based, to implementations built on feature-rich platforms. They can be text or voice based.

Cloud native is an approach to building and running applications across private, public and hybrid clouds. When an app is "cloud native" it's designed specifically to be developed and managed within a cloud environment.

Commodity Cloud Service are widely available, easy to consume public cloud offerings such as Google Compute Platform (GCP), Amazon Web Services (AWS) and Microsoft Azure. ONS is using all these platforms at the time of publishing.

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Community of Practice (CoP) is a group of people who "share a concern or a passion for something they do and learn how to do it better as they interact regularly".

Containerisation is a way of packaging code and allows it to run on any machine. Code can be in different languages, rely on other software, install packages from an internet and require specific system requirements (like memory size) to run properly. In containerisation, containers hold all the figurative nuts and bolts needed to run a programme. Kubernetes is a key technology employed to deploy, manage these containers and to scale services up and down to manage demand.

Conversational User Interfaces is a high-level design model in which user and machine interactions primarily occur in the user's spoken or written natural language. Typically, informal, and bidirectional, these interactions range from simple utterances through to complex interactions, with subsequent complex results.

Crown Data Centre: the Crown Hosting Data Centres framework provides physical data centre space for public sector organisations.

Data Access Platform (DAP) is a collection of software that can be used to store, process, and analyse large datasets by taking advantage of something called distributive computing.

Glossary

DevSecOps is short for development, security, and operations. Integration of security at every phase of the software development lifecycle, from initial design through integration, testing, deployment, and software delivery. In the past, security was "tacked on" to software at the end of the development cycle.

Digital, Data and Technology (DDaT) is a capability framework which describes the job roles in the profession and provides details of the skills needed for each role.

Distributive trades (Dtrades) is a pathfinder transformation project. It aims to produce short term statistics for the retail, wholesale and motor trades sectors using a combination of survey and VAT data. It will use new methods, technology and business processes and is part of our Statistical Processing Platform (SPP).

Edge computing describes a distributed computing landscape where information processing is placed close to the things or people that produce and/or consume that information. The goals are to reduce latency and unnecessary traffic.

Enterprise architecture maps out the structures and behaviours of a business, especially business roles and processes that create and use business data.

Evergreen IT refers to running services comprised of components that are always up to date. Evergreen IT encompasses not only the services at the user level but all of the underlying infrastructures, whether on-site or outsourced.

Glossary

Everything as a service (XaaS) is a general, collective term that refers to the delivery of anything as a service. It recognises the vast number of products, tools and technologies that vendors now deliver to users as a service over a network, typically the internet, rather than provide locally or on-site within an enterprise.

Government Digital Service (GDS) is a government department tasked with transforming the provision of online public services. It was formed in 2011 to implement the "Digital by Default" strategy. Since January 2021 it has changed its focus to building, supporting and iterating digital products, platforms and services that can be built once and used across government. Some GDS responsibilities have been taken up by the Central Digital and Data Office (CDDO).

Hybrid team: a hybrid team is made up of people that are office based, home based and work flexibly between the two. Their ways of working assume that the team will rarely if ever be in the same place at the same time and support the team to work this way without disadvantaging any team members due to their location.

Hybrid workforce is a type of blended workforce comprising employees who work remotely and those who work from an office or central location. This way, employees can work from the places they want to, either in a central location, such as a warehouse, factory or retail location, or in a remote location, such as the home. However, a hybrid workforce isn't just about working from home or working from the office; rather, it's about helping employees achieve a flexible work-life balance.

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Hybrid working tends to allow more freedom around when and where to work. It generally grants more autonomy to employees to fit work around the rest of their lives, rather than structuring other parts of a weekday around hours logged in an office. Ideally, it's the best of both worlds: structure and sociability on one hand, and independence and flexibility on the other.

Integrated Data Programme (IDP) is a cross-government programme building user-centred products and services, which will underpin the analytical and statistical communities. The aim is to achieve quicker access to data, make data easier to share, make collaboration simpler and create opportunities for richer data analysis and insights.

Intelligent Process Automation (IPA) is a suite of next-generation tools that remove repetitive, replicable and routine tasks away from workers. The key technologies enabling IPA are Robotic Process Automation (RPA), workflow tools, machine learning, natural language generation and virtual assistants.

Inter-Departmental Business Register (IDBR) is the fundamental spine of official business statistics for the UK. In addition to providing the sampling frame for business surveys and statistics for ONS and other government departments.

Internet of Things is the network of physical objects that can sense or interact with themselves and the external environment. The ecosystem includes the technology products themselves, communication protocols, supporting applications, data and analytics.

Glossary

Kubernetes – see **Containerisation**

Legacy services in the context of computing, refers to outdated computer systems, programming languages or application software. At ONS, this includes core business application services, such as Lotus Notes, Ingres etc.

Machine learning is an application of artificial intelligence that provides algorithms and programmes with the ability to automatically learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programmes that can access data and use it to learn for themselves.

Microservice is an architectural approach in which a single application is composed of many loosely coupled and independently deployable smaller microservices. These can be updated more easily, with the right technology stacks for the different microservices.

Natural Language Processing is the technology used to aid computers to understand, interpret, and manipulate human natural language. Natural language processing helps computers communicate with humans in their own language and scales other language-related tasks.

Pipeline management: the management and assessment of all opportunities as they progress through a multi-step sales cycle to a successful close.

Glossary

Platform: a group of technologies that are used as a base upon which other applications, processes or technologies are developed.

Product: something (physical or not) that is created through a process and that provides benefits to a market.

Robotic Process Automation (RPA) is a technology that mimics the way humans interact with software to perform high-volume, repeatable tasks. RPA technology creates software programmes or bots that can log into applications, enter data, calculate and complete tasks, and copy data between applications or workflow as required.

Service: a means of delivering value to customers by facilitating outcomes customers want to achieve without taking on the ownership of specific costs and risks.

Software-Defined Wide-Area Networks (SD-WANs) combine new router technologies and virtual appliances with a central approach to the management of wide area networks providing a software control. This overlay allows for automated traffic optimisation, intelligent routing and automated policy-based management.

Statistical Production Platform is set to deliver the transformation of statistical production. Replacing legacy applications for the benefit of our social and business surveys. This includes the replacement of legacy platforms such as Lotus Notes and the introduction of new capabilities such as Business Process Management tools (BPM) in order to meet the future needs of complex business processes and statistical pipelines.

Glossary

Retail Sales Index (RSI) measures the value and volume of retail sales in Great Britain monthly. Data are collected from 5,000 businesses in the retail industry, with all businesses employing over 100 people or with an annual turnover of more than £60 million receiving an online questionnaire every month.

Workflow creation tools enable the automation of repeatable patterns of activity which produce business results. They are dynamic and are created based on a project's desired outcome, working approaches and team skills. Creation tools are used to streamline the creation and management of workflows.

