

ONS DIGITAL AND TECHNOLOGY STRATEGY (2019 -2023)

updated May 2021



Introduction

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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 organisation to utilise the emerging "everything as a service" direction the IT industry was heading in to realise their goals on wider use of available data sources.



Introduction



Significant progress

Over the last two 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.

We are running the world's 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".

Progress on legacy transformation has been a lot slower than planned and is becoming an increasing 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 needs to be 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.



Introduction




Moving forwards with ambition

We have undergone significant changes over the last two years.

Under the leadership of our new National Statistician, Professor Sir Ian Diamond, our direction has been set by the new UKSA strategy, *Statistics for the public good*, which is underpinned by four core themes:

- radical
- ambitious
- inclusive
- sustainable

This includes new priorities for the ONS generated by the Covid-19 pandemic that have reinforced our position as a trusted source of cross-cutting analysis and high



quality statistics, helped us embrace new ways of working and accelerated the adoption of hybrid working and the tools and technologies to support it.

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 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 help the ONS maintain a more sustainable baseline going forwards.

Introduction



Robust review

The time was right for 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 approach was sound and only required minor changes to ensure there is a golden thread running through to the UKSA strategy.

The biggest change has been 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.

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, in particular the prioritisation of legacy transformation
- strengthen the principles we will apply to help us get there

The detail of what we will deliver over the next three years and the roadmap of how we will get there can be found in the ONS Digital and Technology Strategic Business Plan.

Introduction

We recognise that the change of strategic focus from DST to the ONS is essential for us 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 across the organisation.

We also acknowledge that there is still some work to do to ensure that the vision, direction and destination in this strategy fully represent the ONS digital and technology landscape and embrace the findings from the ONS BASE review.

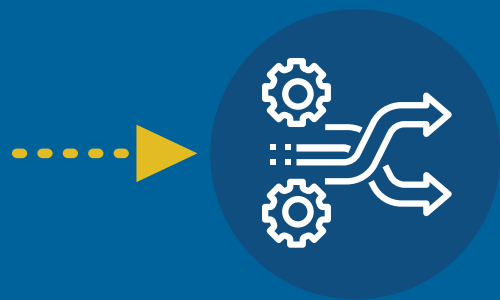
We will work in partnership across the Digital, Data and Technology (DDaT) profession and with business colleagues to complete this transition over the coming months.

Our purpose

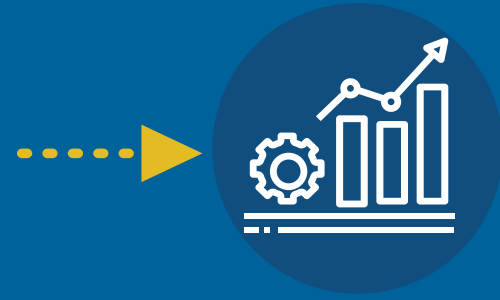
Our purpose is at the core of everything we do and has not changed:

Our purpose is 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.

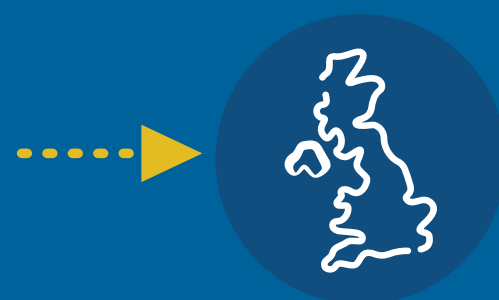
As a trusted partner, we work collaboratively to identify leading-edge technologies and ways of working to deliver technical and digital solutions that meet the needs of the ONS and wider government.



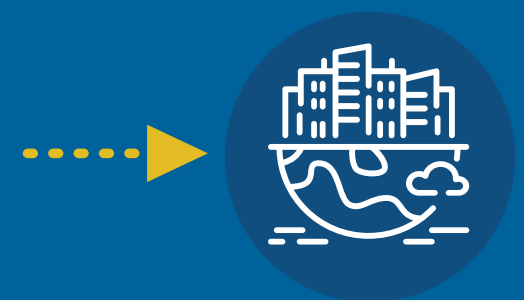
Innovation at speed and scale



Providing high quality data



Inform the UK



Build the future

Our strategic drivers

The strategic drivers that shaped our strategy are still relevant and 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.

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 be able to make use of new and different data sources.

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.

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 use advances in technology and clear prioritisation to continually improve our efficiency and effectiveness.

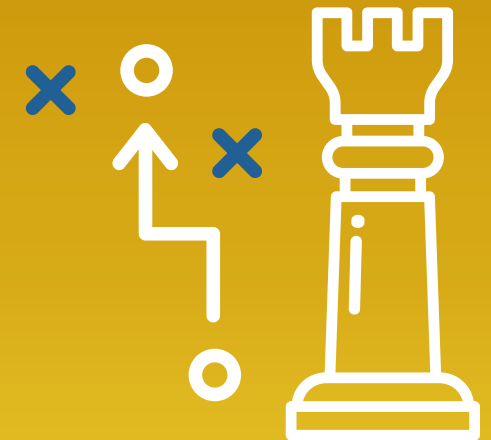
Collaboration

- 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.

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.

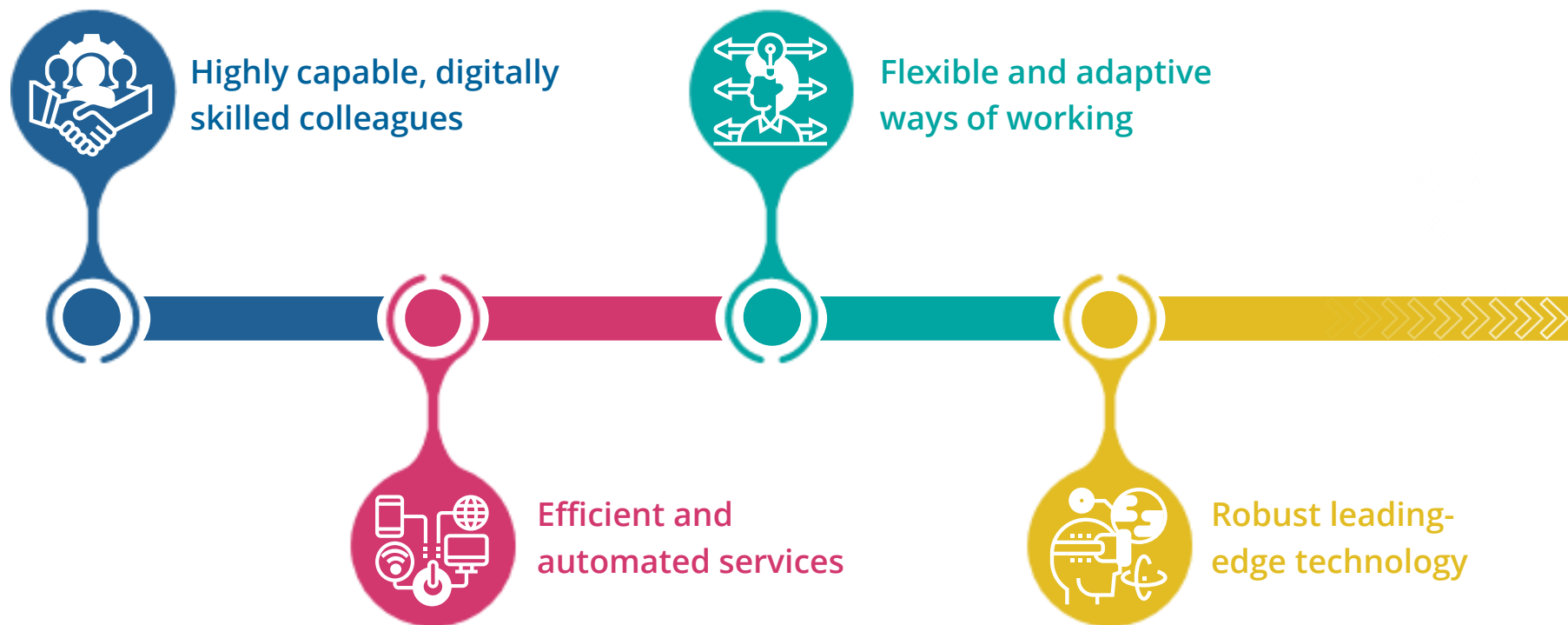
Our strategic drivers



Our strategic outcomes

Our review established that the strategic outcomes we have been delivering against only needed some minor tweaks to:

- improve their alignment to the UKSA strategy and the ONS inclusion and diversity strategy
- complement and support the radical, ambitious, inclusive and sustainable themes
- take into account our learning over the last two years.

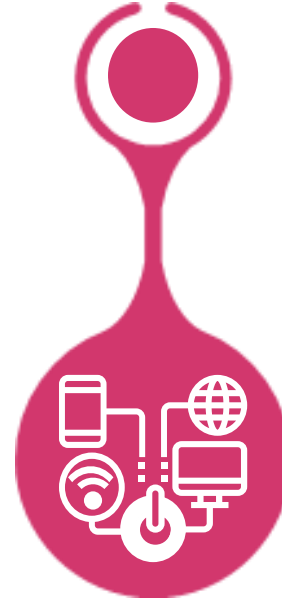


Highly capable, digitally skilled colleagues

Efficient and automated services



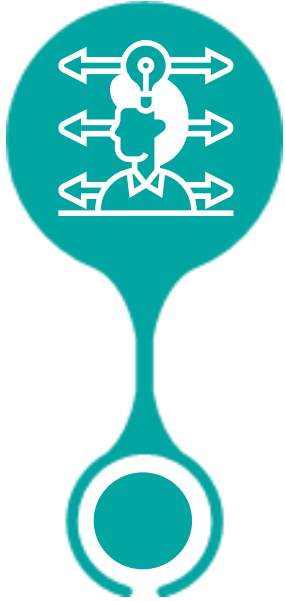
We will help deliver the ONS inclusion and diversity strategy, where everyone has a positive and meaningful experience of work. We will attract people from a wide range of backgrounds with varying levels of skill and expertise, develop them by creating opportunities for them to learn and grow professionally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



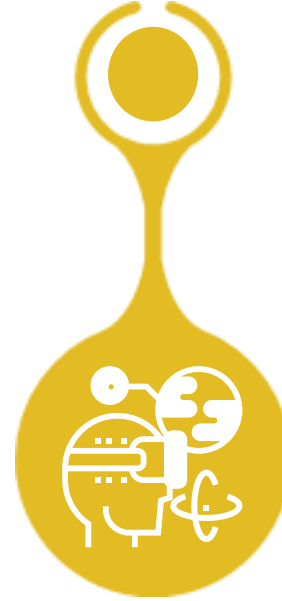
As the ONS's use of technology evolves, we need to ensure that our digital and technology services stay reliable, relevant and sustainable. We need to regularly review our services and processes to ensure they are delivering the performance and value required, are easy to use and cost effective to manage. 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

Robust leading-edge technology



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 the 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.

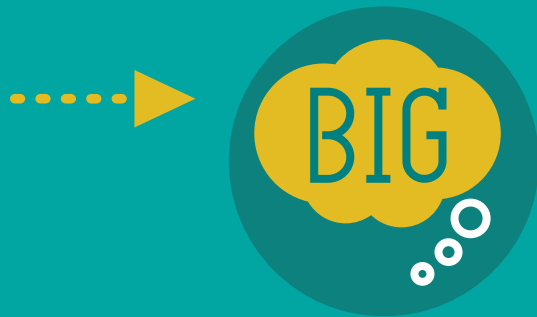


We will enable the ONS to innovate and collaborate at pace by exploiting "everything as a service" offerings, ensuring that we are at the leading edge of all strategic technology developments. We will provide corporate and business services using trusted commodity technology platforms with security built 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

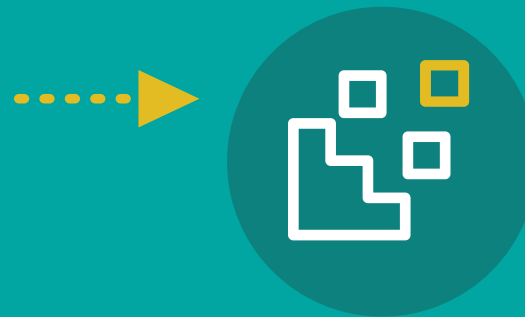
To deliver successfully, we need to ensure our message and approach are consistent. We need to keep in mind the broader context in which we work, listen to our users' needs, and try things out incrementally but at a pace that makes a difference.

All our work should follow 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.

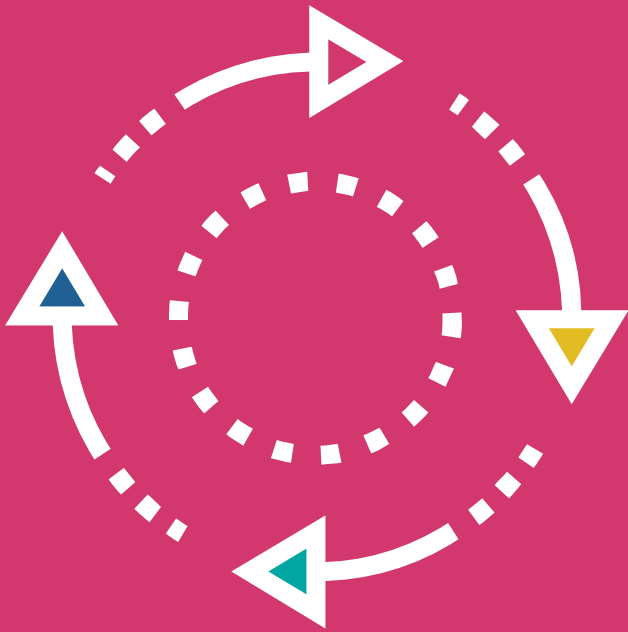


Act fast:

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.

Meeting ONS core themes

We are confident that our updated strategy and approach will help to deliver on the ONS's core themes.



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 strategic principles

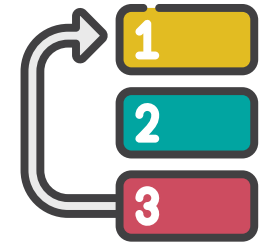
We have learnt a lot over the last two years and have used that learning to create five simple strategic principles to keep us on target for 2023.

These principles will be a key part of our planning and decision-making to help us innovate at speed and scale to support the ONS with its goals to inform the UK, improve lives and build the future.



Business partnering:

Be proactive in growing our knowledge, capabilities and relationships to shape future demand, while modernising and simplifying our technology usage to maximise our delivery capability.



Prioritisation:

Be consistent in our focus on the strategic priorities and ensure that we always jointly agree these priorities between DST and the business through the appropriate governance structures.



Organising for success:

Be ambitious in standardising our products, services and patterns to create sustainable and high-quality components, thereby enabling us to be innovative and act fast.

Be disciplined in prioritising our functional needs and keeping our processes and practices simple and consistent to make it easy to do the right things with pace.



Growing our capabilities:

Be supportive of an inclusive work environment that:

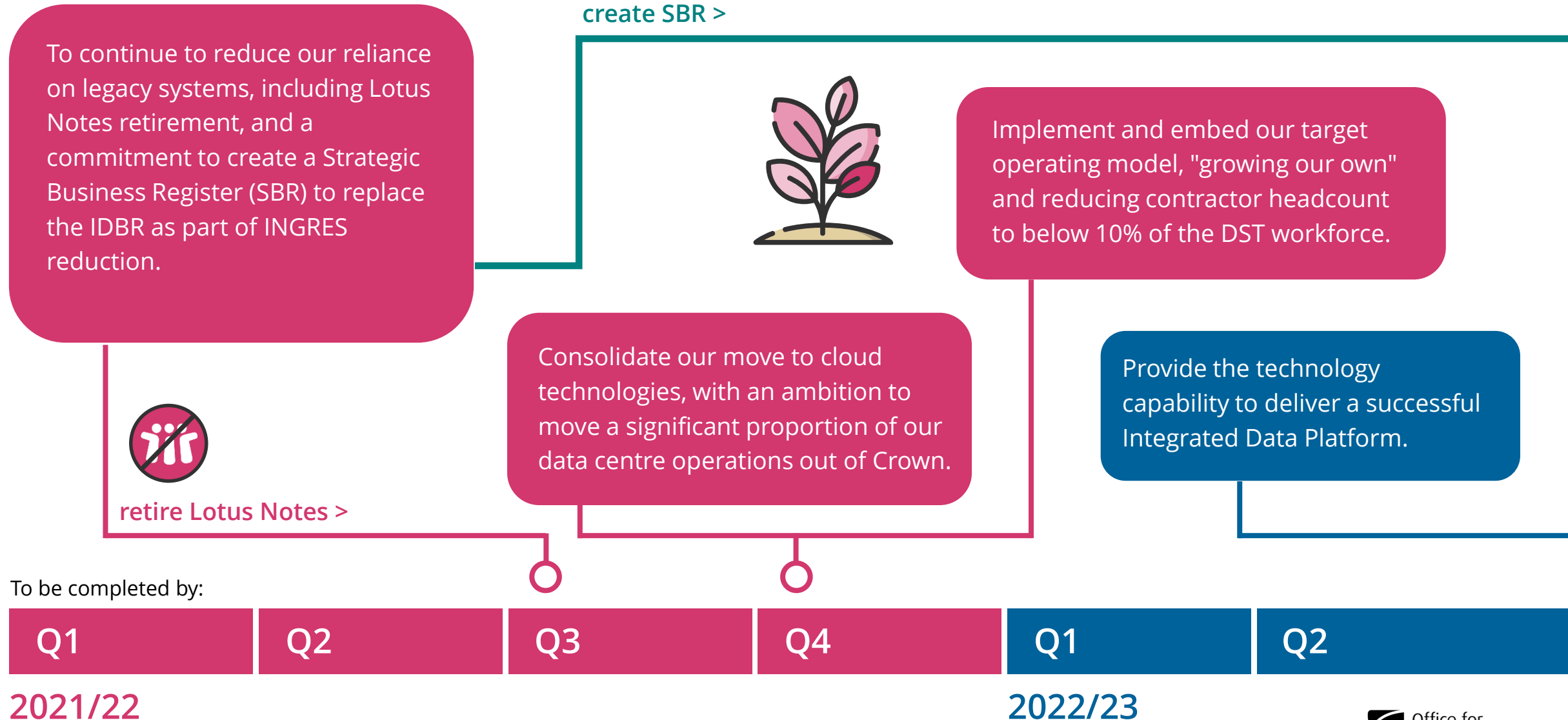
- encourages a growth mindset
- seeks creative and radical thinking
- develops the talents of our people
- encourages initiative and accountability
- aligns to the ONS inclusion and diversity strategy



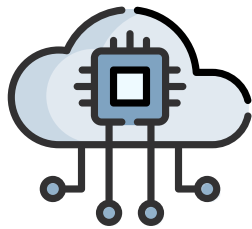
To ensure our products and services meet ONS and government standards, we will also continue to follow:

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

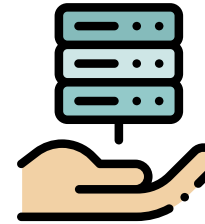
Strategic Ambition Roadmap



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

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.

The story so far

Only by focusing on developing our colleagues to become highly capable and skilled will we be able deliver our strategy. To meet this key outcome, we have delivered many activities since we set out our roadmap in 2019.



—● Skills review

To benchmark our current skills and to help us support and develop our future needs, a skills review has been completed by DST Professional Development.

Results were analysed and communicated to the relevant communities of practice and Grade 6 staff to inform the identification and scheduling of role-based learning.

—● Training plan

Regular engagement between community leads and Professional Development has enabled the planning and putting into place of learning needs, with a training plan that now gives overall visibility of training at a directorate level.

Learning pathways have been created for all DST roles (aligning to DDaT where appropriate) by communities of practice and are continually reviewed based on membership feedback. Our communities of practice continue to mature and remain the mechanism for providing all DDaT staff across the ONS with the professional support they require.

Well-being initiatives

We take the well-being of our colleagues seriously. DST and corporate well-being initiatives are delivered and made available to all. These have included mental health awareness sessions, mental health first aider training, promoting the use of the Well-being Conversation Map and participation in the Activ8 initiative.

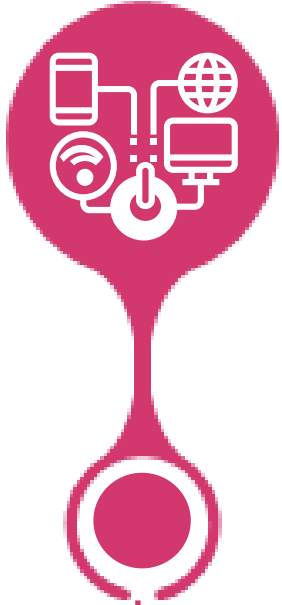
People from DST are part of the health and well-being volunteer group and support the development and publicising of well-being support materials, events and activities.

Recruitment

To grow the DST team, we have improved the effectiveness of recruitment activities. We have adopted new recruitment approaches, extended our range of entry level programmes and increased participation in external outreach activities.



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.



The story so far

To make the most of the skilled colleagues we have in DST and ONS, it is essential that efficient and automated services are delivered. This allows those colleagues to make the best use of their valuable skills.



—● Evergreen IT

The first instance of evergreen IT has been delivered. This sets out how we will make use of always up-to-date services which reduce the burden on colleagues when planning upgrade paths.

The use of cloud vendors and exploiting "everything as a service", such as Office 365, has been key to this success. We have begun to define and implement what a DevSecOps model will look like for DST and will continue to refine this across all our development and operational teams with an aim of redefining the ways in which we develop and support our solutions.

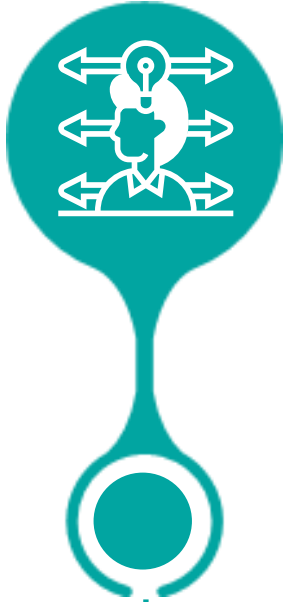
—● Census 2021

A key deliverable for ONS is the census. We successfully established a support model for the census trial and live events.

—● Automation

A growing capability to automate routine tasks, and a far greater level of proactive monitoring will allow us to realise our goal of "efficient and automated services".

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.

The story so far

We have a team of business partners in DST who are working closely with their ONS counterparts to:

- strengthen relationships
- better understand demand
- provide expert advice



This provides the foundation to build towards DST's objective of being a recognised partner within business areas rather than being seen as just the "IT supplier".

We introduced a Programme Management Office (PMO) function within DST to help create a cohesive environment.

This has improved governance, assurance and risk management. It has also improved prioritisation and decision-making across the digital and technology delivery portfolio.

The PMO function has allowed us to align business plans and DST strategy with the ONS Accountability Framework. This will continue to evolve with the new UKSA strategy.

Community culture

We have delivered DST strategy events to reinforce this need for cohesive teams and explain our DST brand. Collaborating and reaffirming the community culture has been a consistent feel of all our events and in July 2020 we dedicated it to flexible and adaptive ways of working.

Cloud-first

We have adopted the government approach to delivering new products and services using commodity cloud, with our multi-cloud approach. A target of 50% of new development effort utilising the cloud native way of working has been achieved. We have also adopted the GDS cloud-first policy in our approach to new services.

User-centred

We have built brilliant digital services that work first time by understanding our users and designing interactions that meet their needs. We will continue to collaborate across our digital professions, including design, user research, product and performance, to make sure we learn from what we develop. We will build a design system that:

- describes our approach to service delivery
- documents the correct way to build
- becomes the reference for the best ways of working to meet user needs



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.



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.

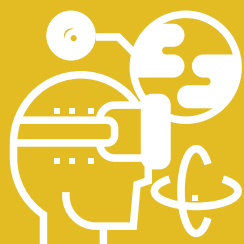


Delivering for ONS

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

The story so far

The key to DST and the ONS achieving this objective is to fully exploit cloud services. We have developed our cloud approach in partnership with our security colleagues.



Cloud workshops

To ensure ONS was comfortable with our approach to using commodity cloud platforms, we delivered numerous workshops and events to explain cloud services, the risks and advantages. This approach was fully endorsed by the ONS Executive Team.

Shared learning

Census 2021 was delivered on cloud infrastructure - making full use of its many benefits, such as:

- massive scaling capability enabled by a micro-service architecture
- containerisation
- Kubernetes

- cloud-native services such as messaging, logging and monitoring, infrastructure as code and well-defined continuous integration pipelines.

Our move to the cloud together with our agile ways of working, including a DevSecOps culture and extensive user research, has optimised our use of leading-edge technology.

One roadmap objective was to run Census 2021 across multiple clouds. Early experimentation with cloud identified that running services across multiple cloud vendors was not ideal. This work has helped inform other government departments and has been adopted by GDS.

—● Integrated Data Platform programme

Our ambition to reduce the overheads of moving data, including legal and technical constraints, has seen the trial of data at source technologies, which process data at its existing location. This was undertaken in the United Nations Global Programme and is now being trialled in the Integrated Data Platform programme.

—● Shared learning

We have made significant progress towards our objective of replacing 80% of our legacy services. The migration of legacy services into the VMWare managed service in AWS is underway and will be a key deliverable in exploiting additional services that AWS cloud offers.

—● Cloud workshops

Our experience of commodity cloud platforms allowed us to act fast in delivering the UK Covid-19 Hotspot service. Working with the Data Science Campus and Joint Biosecurity Centre, we built, tested and implemented the service in six weeks.

The design pattern of the Hotspot service made it suitable for reuse and allowed us to rapidly build a natural language processing service in collaboration with the Data Science Campus and NHSX. An advanced version of the Hotspot pattern, Polestar, underpins the ONS Coronavirus (COVID-19) Infection Survey.



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 two 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.

We are in the process of delivering 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 three 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.



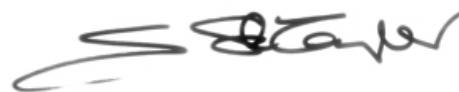
Remaining ambitious

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, doing small and acting fast.



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.

Glossary



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.



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.



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.



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.



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.



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.