Social Security Scotland
Tèarainteachd Shòisealta Alba

Digital and Technology Strategy

2022 – 2025

Dignity, fairness, respect.

Glossary

Application – an application is a software programme that enables you to perform a range of useful tasks. Examples of applications are word processing programmes, spreadsheet software, databases or graphics packages.

Application Programming Interface (API) – is a set of instructions that allow software systems to communicate with each other.

Client – a person using the services of Social Security Scotland.

Cloud First – when procuring new or existing services, an organisation adopting a Cloud First principle would consider and fully evaluate cloud-hosted solutions first before considering any other (on premise) options.

Department for Work and Pensions (DWP) – is responsible for welfare, pensions and child maintenance policy. As the UK's biggest public service department, it manages the State Pension and a range of working-age, disability and ill-health benefits for around 20 million claimants and customers.

Devolved powers – powers where responsibility has passed to the Scottish Government from Westminster.

Digital First Service Standard – is a set of 22 criteria that all digital services developed by Scottish Central Government sector organisations and Scottish Government corporate services must meet. This includes services for users (for example submitting an application) or corporate services (for example checking your payslip online).

Digital as appropriate – we will focus on user needs and services that are both accessible and usable and will use digital solutions when it is appropriate, ensuring that those who cannot or choose not to adopt digital methods will not become isolated through technology.

Driver and Vehicle Licensing Agency (DVLA) – holds more than 49 million driver records and more than 40 million vehicle records.

Executive Agency – Executive Agencies are agencies that are part of Scottish Government but have separate management and finances.

Experience Panels – were established in 2017 to help design a social security system that works for the people of Scotland. Members have experience of at least one of the benefits delivered by the Department for Work and Pensions (DWP) that has been or will be devolved to Scotland.

Her Majesty's Revenue and Customs (HMRC) - is the UK's tax, payments and customs authority.

Local Authorities – are responsible for providing a wide range of public services. They also promote the interests of the local community, including the social, economic, environmental, recreational, cultural, community or general development of an area.

Local Delivery – our staff teams offering face-to-face support based in each of Scotland's 32 Local Authority areas.

National Records of Scotland (NRS) – is a Non-Ministerial Department of the Scottish Government. They collect, preserve and produce information about Scotland's people and history and make it available to inform current and future generations.

Office for National Statistics (ONS) – the UK's largest independent producer of official statistics and its recognised national statistical institute. Policy – a set of ideas or plans used as a basis for making decisions. An official organisation's policy on a particular issue is their attitude and actions regarding that issue.

Policy – a set of ideas or plans used as a basis for making decisions. An official organisation's policy on a particular issue is their attitude and actions regarding that issue.

Procurement – sourcing and buying goods and services for business use from an outside source. Procurement is usually guided by a specific policy and process.

Scottish Government Directorate Programme – work with the Department for Work and Pensions to make sure social security powers from the UK Government are safely and securely transferred, under the Scotland Act 2016. They are responsible for developing the necessary policies and legislation and establishing a social security agency to deliver the devolved benefits. They also work with the Department for Work and Pensions on the benefits that the United Kingdom Government retain responsibility for administering.

Social Security Scotland Act 2018 – allows the Scottish Government to establish a new social security system better suited for Scotland and which has dignity, fairness and respect at the heart of everything we do.

Value for Money – is the best balance between quality and cost. Cost includes the purchase price and all other associated costs over the lifetime of the requirement, such as maintenance and disposal.

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Foreword

Andy McClintock, Chief Digital Officer

The Chief Digital Office joined Social Security Scotland from the Social Security Directorate, Scottish Government, on 1 April 2021. It is timely to refresh and update the previous Digital and Technology strategy that was published in September 2018 when we were still part of the Social Security Directorate in the Scottish Government.

This refreshed Digital and Technology strategy sets out our plan to continue to develop digital services that supports the benefits being transferred from the UK Department for Work and Pensions and the new Social Security Scotland benefits.

At the time of writing, we are in year five of a multi-year journey that has proven to be increasingly complex with fast-paced delivery since our inception in 2017.

Social Security Scotland is the most significant new public service to be created in Scotland since devolution. We have been building a new social security system from scratch. We are not simply 'lifting and shifting'. Instead, the devolved benefits have to be detached from the UK system, moved onto a new Scottish system and then connected back into the UK system of reserved benefits to ensure social security functions as seamlessly as possible for clients claiming benefits from both Governments.

This is the first time two governments will share clients. Many people will be eligible for payments from both the UK Government's Department for Work and Pensions (DWP) and Social Security Scotland, and those payments will affect and in some cases interact with one another.

We must make sure our systems work together seamlessly, so people get the right money at the right time; and we will be dependent on the Department for Work and Pensions (DWP) to do their part to make this happen. Without some of the constraints of legacy issues, we are taking the opportunity to set up our systems in a way that they can continue to evolve and improve over time.

This is the first time any country has attempted to devolve powers from such an integrated and complex system of social security.

This strategy will underpin and support our Corporate Plan 2020-2023. The work we will do over the rest of the period covered by our current Corporate Plan will lay the foundations for this new public service. A public service that, when fully operational, will be responsible for 20 benefits/payments, 17 of these through Social Security Scotland including seven completely new forms of financial support. Supporting 1.8 million children and adults – around one in three people in Scotland. Once fully operational Social Security Scotland will administer around £5 billion in payments per annum.

We are not doing this on our own. We will continue to work with our colleagues in the Scottish Government Social Security Directorate Programme, who are designing the services we will develop and deliver to pay benefits.

This joint approach will help us to make sure that when a benefit is transferred from the Department for Work and Pensions to us, the process is safe and secure with children, young people and adults all continuing to receive the right payment, at the right time, to the right place.

There will be significant growth and change in our organisation over the three-year period covered by this strategy, including in the number and complexity of benefits that are launched, the number of people we employ and the job roles we need.

This strategy sets out our vision for how we are continuing to design and build the complex systems we need to provide a Scottish social security system that we all want to see and can be proud of – a rights-based service that is in line with our principles of dignity, fairness and respect.
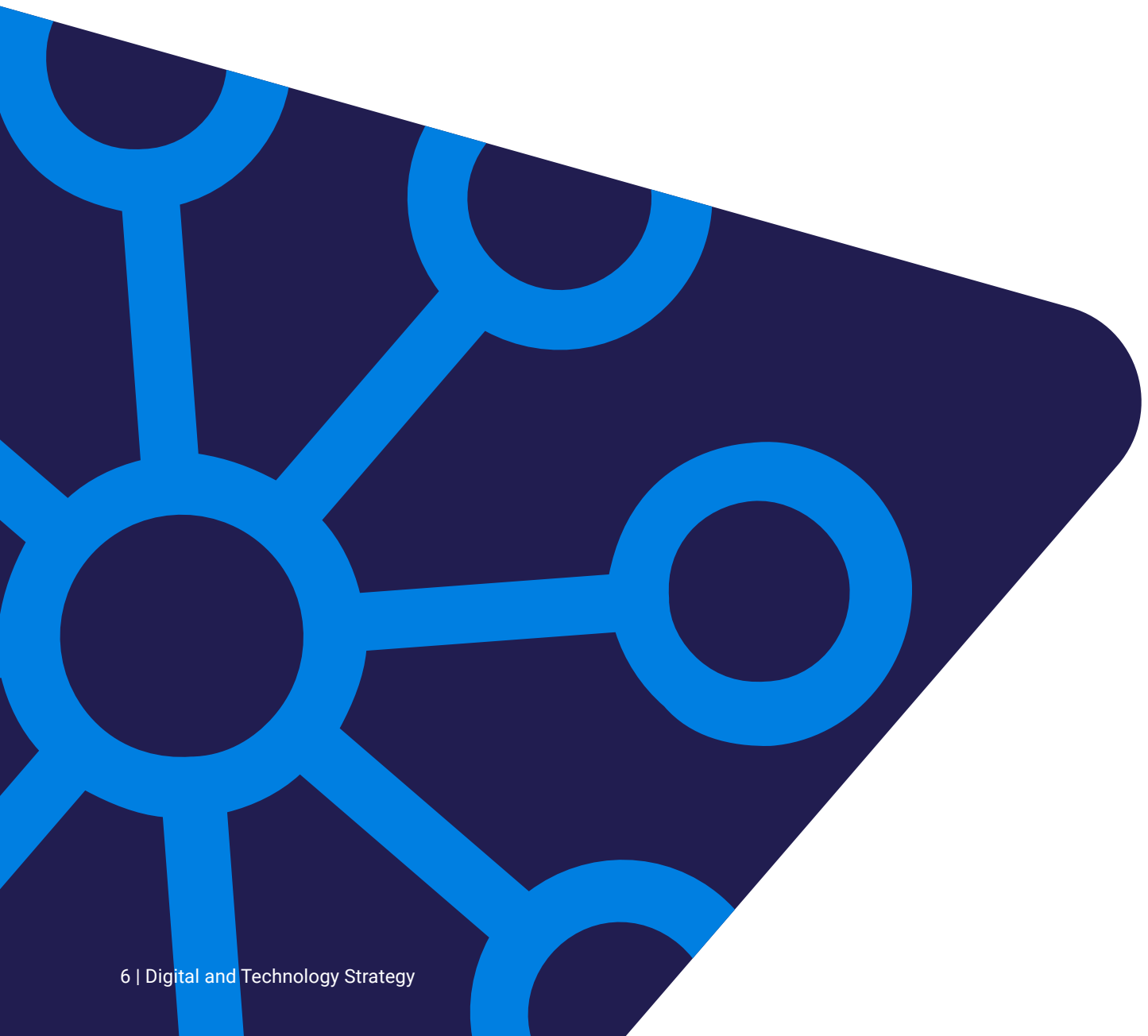
Our background

Social Security Scotland is an Executive Agency of the Scottish Government. We were established in September 2018. Our head office is in Dundee, and we have a second main site in Glasgow. During the three-year period covered by this strategy, people providing face-to-face support will be based in communities across every Local Authority area in Scotland.

The Chief Digital Office is one of five divisions within Social Security Scotland, employing over 350 people. It is responsible for making sure fit-for-purpose digital systems are available to support Social Security Scotland across all locations in Scotland.

The Chief Digital Office has built a highly complex social security digital system from scratch. It has not simply used existing systems, it has had to detach the devolved benefits from the UK system, move them onto a new Scottish system and connect them back into the UK system of reserved benefits to ensure social security functions as seamlessly as possible for clients claiming benefits from both governments. This will continue to be enormously complex with the Chief Digital Office being responsible for all digital systems, technology and infrastructure that support the services Social Security Scotland provides.

We have an important role in delivering a new social security system for Scotland. To achieve this, we are working with our colleagues in the Scottish Government Social Security Directorate who are responsible for setting social security policy and shaping the design of systems we use to provide benefits to the people of Scotland.

As an Executive Agency, we are accountable to Scottish Ministers who are themselves accountable to the Scottish Parliament for delivering the devolved powers relating to social security in the Scotland Act 2016. The Director General for Communities is our Portfolio Accountable Officer within the Scottish Government.

The Social Security (Scotland) Act 2018 (the Act) allowed the Scottish Government to establish a new social security system that is more suitable for Scotland and which has dignity, fairness and respect at the heart of everything we do.

Our objectives

Our Corporate Plan 2020-2023, which we published in 2020, sets out who we are, what we do and how we will do it.

There are four main themes in our Corporate Plan; two of these are directly relevant to our technology strategy – 'Supporting people in Scotland to access devolved benefits that they are entitled to' and 'A commitment to provide our services in a responsible way'.

Our objectives

How we will support people in Scotland to access devolved benefits they are entitled to:

- promote our benefits in a range of ways to make sure people know what is available and how to apply

- provide a range of ways for people to access our service – including face-to-face or in a community setting

- build relationships with stakeholders to help more people access our service

- provide people with a range of ways to communicate with us.

How we provide a range of ways for people to access our service and communicate with us:

- we have introduced technology solutions that are designed and implemented with the user at their core. Through the engagement of users from the Experience Panels we have involved those with real experience of previous welfare systems in the design, usability and testing of systems that underpin the operations of the benefits being delivered

- we recognise that applicants will require options and choices for how they interact with us and we have pursued a multi-channel approach – online, telephone, video, webchat and face-to-face support to ensure that those who cannot or choose not to adopt digital methods will not become isolated through technology

- we have issued colleagues working in Local Delivery with laptops and mobile phones that enable them to deliver an accessible and person-centred service to applicants across Scotland. These devices support our colleagues in the field to work flexibly, travelling to and operating from locations across their local area, giving applicants a choice in how they access our Local Delivery service by offering support in remote locations, prisons and home visits.

The second theme that is relevant to us is a commitment to provide our services in a responsible way and we pledge to:

- make every penny count

- gain people's trust by being open and honest

- meet our legal obligations and protect our people and information

- reduce the effect our work has on the environment.

Making every penny count

Our Charter states that 'the Scottish social security system is to be efficient and deliver value for money'. All Social Security Scotland digital and technology contracts will be awarded on the basis of value for money. We will work with suppliers to discuss how they meet our expectations, ethical supply chains and sustainable development.

Value for money is defined in the Scottish Government's Procurement Policy Manual as 'the optimum combination of whole life cost and quality to meet the customer's requirement'. We will make sure that we work with potential suppliers as early as possible in the procurement process by displaying prior information notices, requests for information and details of our forward procurement plan on Public Contracts Scotland to increase competition and achieve value for money and the best possible contract outcomes.

Whole-life costing will take account of all aspects of cost over the life of the contract and may include capital, maintenance, management and operating costs, and the cost of disposing of any goods or services at the end of the contract.

Our Social Security Scotland procurement strategy sets out how we intend to make sure that the goods and services we buy provide value for money and help to deliver Scotland's National Outcomes.

We will make sure that we achieve value for money by working with our procurement colleagues to develop reliable procurement strategies and manage contracts effectively.

We will consult with them early in the process to make sure our business cases explore all options and demonstrate the risks, benefits and value for money of contracts.

The first annual procurement report will be published in 2022 and will set out how Social Security Scotland are delivering value for money through our procurement activity, and will include details of the money we have spent through collaborative frameworks and the savings we have made.

The technology required to build and sustain the payment of benefits is on a scale that has not been attempted previously in Scotland. Learning from other major information and communications technology (ICT) initiatives in recent times, our focus is on reuse, before buy, before build as we consider this the most cost effective approach and lower risk to technology implementation.

This means reusing existing services as much as possible before buying new ones. This provides value for money by simplifying the information and communications technology landscape, reduces data duplication and adopts common business processes.

Solutions are provided and/or we consume services that are reusable across the technology estate wherever possible.

We exploit metrics to lower costs; for example, the resource consumption of application and technology services, processes and components is measured to enable appropriate monitoring, cost effectiveness and informed decision making.

All of our expenditure in technology is underpinned with appropriate investment cases proportionate to the spend value and any commercial commitment.

Gaining people's trust by being open and honest

We will be open and transparent, and treat all suppliers equally and without discrimination.

Secure by Design is at the heart of all of the digital and technology solutions that we have introduced and are maintaining. By embedding security and cyber protection into the fabric of our architecture and design, we are seeking to gain the confidence of clients and their trust in Social Security Scotland to deliver the devolved benefits with payments made on time, every time.

Meeting our legal obligations and protecting our people and information

As a public body, there are responsibilities and legal duties that we must meet. We meet all relevant legal obligations and will continue to do so.

Security will continue to be embedded into our design process from the outset, and is encapsulated within business requirements, business logic, application, data and technology design materials. In line with UK General Data Protection Regulation (UK GDPR) legislation we follow a 'privacy by design' approach to ensure that we hold information safely, and to ensure that the people who work in Social Security Scotland and the people who use it are safe and protected.

Reducing the effect our work has on the environment

Protecting the environment is at the heart of our sustainable public procurement that aims to make the best use of public money, helping the Scottish Government achieve its overarching purpose and strategic objectives.

The Scottish Government is also a signatory to the United Nations Sustainable Development Goals, an international action plan to tackle poverty and inequality and promote sustainable development across the globe. These goals align with the Scottish Government's National Outcomes.

We have numerous procurement national frameworks for buying web-based and proprietary devices, desktop client services (desktops, workstations, monitors and accessories etc). Each of these frameworks has been developed to provide public sector bodies with access to best-in-class technology that meets or exceeds the latest energy management and environmental standards at significant savings compared to market prices.

A component of these frameworks is often a commitment from the supplier to commit to a number of Fair Work initiatives and delivery of a range of community benefits.

Key drivers

Through our continuous working with colleagues in Social Security Scotland and the Scottish Government policy and programme areas, we have maintained an awareness and adaptive approach to changing the technology that we have introduced to suit the varying needs of our clients at the forefront of our planning and design.

We live in an evolving digital world and we have, and will continue to ensure, that the Digital First Standard is at the forefront of our strategic thinking and solution designs. The early engagement with the Scottish Government Digital Directorate that helped shape the initial user research and usability approaches has continued and will continue through the life of the programme and throughout the duration of this strategy.

We are meeting our aspiration to create an integrated benefits solution where information is captured once and processed many times.

Solution pillars

Our solutions are built around the principles of tackling poverty and inequality through treating our clients with dignity, fairness and respect.

As we focus on the safe and secure transition of benefits to Scotland, we are ensuring that Secure by Design is integrated into the fabric of our architecture from the outset with the Digital First standard alignment clearly in our sights at all times.

Underpinning all of the above are a combination of people, processes and systems which to date has supported the programme and now supports operations.

Dignity, fairness & respect

Tackling poverty & inequality

Safe & secure transition

Secure by Design

Digital First

People

Process

Systems

Digital principles

We are pursuing alignment with the Digital First Standard in all the technology solutions we adopt or introduce.

Through engagement with the Scottish Government Digital Directorate, we are ensuring our approach of 'Digital as Appropriate' is underpinned by a focus on user needs and services that are both accessible and usable.

As the programme to deliver the transition of the benefits progresses, skilled user research resources have been embedded into the teams that are focused on service design and service delivery.

Our solutions are fully tested with people who will use our services. We seek regular feedback on their suitability and fitness for purpose. Our technology will change over time and it is important that we continue to engage with the people who use our services on this journey so that we do not lose sight of their needs or the impact of technology evolution.

Now that we are operational, we are sensitive to potential legislative changes that will require technology to adapt whilst still needing to be user focused and responsive to the varying needs of applicants.

We have adopted a Cloud First approach and have designed our data hosting requirements in line with our risk appetite. Some of the data has required careful consideration in terms of hosting arrangements and in these circumstances, we have implemented enhanced security and control measures in conjunction with our delivery partners.

With a focus on reuse where appropriate, we have and will continue to consume existing services or digital assets and we have shared our own components with other parts of the public sector where there has been interest and alignment. Our focus is on components, services, and contracts that are available in both Scotland and the wider UK landscape.

Our approach to data driven services is in line with those set out in the Digital First standard and we have used this evidence to evaluate the performance and effectiveness of the solutions we deploy, seeking to continuously improve the end product for the applicant within the realms of affordability and sustainability.

The teams within the remit of the Chief Digital Office have a combination of skills and experience to support the ongoing operational lifecycle of technology in what is a multi-vendor environment. They have and will continue to draw on experience and expertise from the wider digital profession in Scotland and share their own knowledge with others.

All of our expenditure in technology is underpinned with appropriate investment cases proportionate to the spend value and any commercial commitment.

Secure by Design

Our solutions adopt a Secure by Design ethos. One of our architecture principles states, "Security will continue to be embedded into our design process from the outset, and is encapsulated within business requirements, business logic, application, data and technology design materials. We will hold information safely, and we will ensure that the people who work in Social Security Scotland and the people who use it are safe."

The design phase of software development or customisation provides the foundation for secure software, minimising the security risks within systems. Our emphasis on building security into our solution addresses the tendency for security to be an afterthought in the development of solutions.

Our approach to developing the social security solution is to ensure that the technology components, software and infrastructure that make up the solution are as free of vulnerabilities and resilient to attack as possible and we have and will continue to employ a number of measures to achieve that aim, such as:

- embedding baseline security standards in the process of architecting, designing and delivering our solutions
- protecting our solutions by implementing role-based access controls
- implementing secure software development processes
- ensuring continuous testing
- aligning with both government and industry best practice
- conducting regular threat analysis and information risk assessment, following the Information Risk Assessment Methodology 2 ("IRAM2")
- deploying static and dynamic source code scanning tools
- utilising penetration testing and vulnerability assessment skills.

The understanding, use and refinement of such techniques and how they are employed in a system's production significantly decreases our chances of exposure.

Throughout their entire lifecycle, our solutions are subject to security assessment at every stage. Security is built into the fabric of the social security systems in Scotland, from design and development, through testing and continuous improvement, and from live operation through to eventual decommissioning – security is a key factor at every stage.

As an Executive Agency of the Scottish Government, Social Security Scotland aligns to UK Government national security policy in the form of the UK Security Policy Framework. We will continue to work in partnership with the UK National Cyber Security Centre, the national technical authority for cyber security, to ensure that our risk managed approach to solution development aligns with current thinking and the modern approach to the government security policy and practice.

In addition to our government policy, we have and will continue to adopt a combination of standards from National Institute of Standards (NIST) and the Centre for Internet Security and International Organisation for Standardisation (ISO) to ensure that our solutions use the best and most appropriate parts of common, recognised standards.

Key tenets

Our approach to developing social security technology services for the people of Scotland is founded upon a set of key tenets. These are the fundamental values to which we subscribe and which guide our design approach and decision-making.

User centric:
We are focussing on user needs, whether that is an applicant, client, a colleague or a colleague in an organisation that we are partnering with.

Commodity first:
Increasing elements of IT are commoditised. The use of commodity technology takes advantage of established solutions to common problems, enabling value to be delivered early and freeing up resources to be focused on value-add activities.

Cloud First:
We have adopted a cloud first approach and design our data hosting requirements in line with our risk appetite. Almost all client-facing and supporting services have been deployed in the cloud either as managed services or under our own public cloud tenancies.

Loosely coupled:
We will continue to design and implement a loosely coupled and component-based architecture, underpinned by a separately managed enterprise integration capability. This allows us to respond quickly to changes in technologies and organisational needs over time.

Open standards:
We ensure that wherever possible, solution options based on the use of interoperable open standards are considered in order to promote openness and portability and to reduce vendor lock-in. Increased portability will be promoted through ongoing containerisation of our services. This provides us with greater choice around tools, people and processes, and helps to reduce risk and increase innovation.

Automated:
Manual processes and interventions add time, cost and risk. We have embraced automation to allow for repeatable builds of software-defined environments from templates, automation scripts, frequent release cycles and support for continuous delivery.

Self-healing: We will continue to design and configure solutions to automatically detect and recover from failure with minimal manual intervention. Errors will be handled in a controlled way allowing systems to continue to operate normally (graceful degradation). We continue to implement best practice 'design for availability' patterns by ensuring the consistent capture of non-functional requirements as early as possible in the design phase.

Auto-scaling: We are making use of auto-scaling to enable our solutions to flex capacity up to meet demand spikes and back down when not needed. Cloud hosting of our infrastructure supports us in this and by regular monitoring of resource usage metrics, we ensure we only pay for what we use.

Resilient: We will continue to design and implement solutions that do not have single points of failure and with clearly defined failover paths and processes in place.

Real-time: Wherever possible, we will continue to deploy solutions that handle requests in real time, reducing the need for batch-based processes.

API first: We are using an Application Programming Interface (API) approach for the reuse of other government systems such as those in the Department of Work and Pensions to further endorse our loosely coupled architecture. We are exposing our services and data using standard APIs to allow wider government to develop new services on top of ours, compliant with the UK General Data Protection Regulation (GDPR), and fully observing both our 'Secure by Design' ethos and 'Privacy by Design' approach.

User services: We are providing online services to applicants and clients as part of a wider, user-focused service offering. As we continue to encourage this channel shift, we will be mindful of applicants who cannot or do not always wish to use digital channels.

The key tenets give rise to a set of technology architecture principles, against which solution designs are measured. These are set out in the next section.

Architectural principles

The Digital and Technology Strategy is underpinned by a set of technology architecture principles, that provide more detailed guidance as we continue to progress through the design and delivery of devolved benefits to the people of Scotland.

Long-term focus: Technology solutions are based on strategic intent not on short term aims, although solutions evolve from initial Minimum Viable Product (MVP) iterations to full strategic implementation.

Technology: Technical diversity is managed by cross-divisional governance arrangements comprising an Architecture Review Board and a central Design Authority in order to control complexity and cost.

Commodity first solutions: Where business requirements allow, commodity solutions will continue to be our preferred option, including reuse where possible.

Simple solutions: Technical solutions are as simple as possible. Where technical complexity exists, it is self-contained and hidden whenever possible and economically viable.

Flexible by design: Solutions are loosely coupled and component based by design in order to provide flexibility, scalability and future adoption of emerging technologies.

Exploit metrics: The resource consumption of application and technology services, processes and components are measured to enable appropriate monitoring, cost effectiveness and informed decision-making.

Reusable services: Solutions are provided and/or consume services that are reusable across the technology estate wherever possible.

Automated processes: Processes are automated end-to-end including integrations with delivery partners and externally provided services wherever possible and cost-effective.

User centric:

Each service is built with a focus on the needs of the users consuming that service. This covers applicants, clients, colleagues and partnering third parties such as other government departments.

Data relevance:

Data is business relevant and managed in accordance with current legislation. We only ever store and process the minimum data required.

Data vocabulary:

Data definitions and vocabularies are consistent throughout our workplace.

Master data:

All data has a master copy providing a 'single source of truth'.

Secure by design:

Security and privacy will continue to be embedded into our design process from the outset, and is encapsulated within business requirements, business logic, application, data and technology design materials. We hold information safely, and we ensure that our colleagues and the people who use it are safe.

Non-functional requirements:

on-functional requirements are treated with the same level of importance as functional requirements.

Continuous deployment:

Infrastructure and applications are designed to support continuous and automated deployment.

Architecture approach

Logical view

We have delivered and continue to deliver people-focused IT solutions. Our approach to design and development is to understand the client's full journey from application where innovation is key to providing a consistent quality service via telephony, video, web chat, mail and online.

High importance is placed on our employees' experience to assist with applicant requests. Our focus is to efficiently and securely enable access for our employees to key information and the processes required to fulfil the needs of our applicants and clients.

Our IT solutions work securely in partnership with a variety of third parties to take the burden away from the applicant to obtain information by retrieval via real-time integrations when the applicant is engaged, or

notifications over time. We assess, using integration, related benefits with our partners that may be applicable to the applicant's circumstances.

Our approach to IT solutions delivery is to use a decoupled architecture. This has the implication that a change to a component will localise the impact, making it easier to test and deploy to production.

Our strategy is to utilise technologies that underpin flexibility such as containerisation, for ease of deployment, security and testing and 'infrastructure as code', to make the process of deployment and testing scripted, repeatable and automatable when promoting solutions in our environments. Low-code solutions are preferred where possible and where off-the-shelf solutions are not available in the marketplace, producing quality solutions delivered quickly.

A logical view of our architecture landscape is shown in the following diagram.
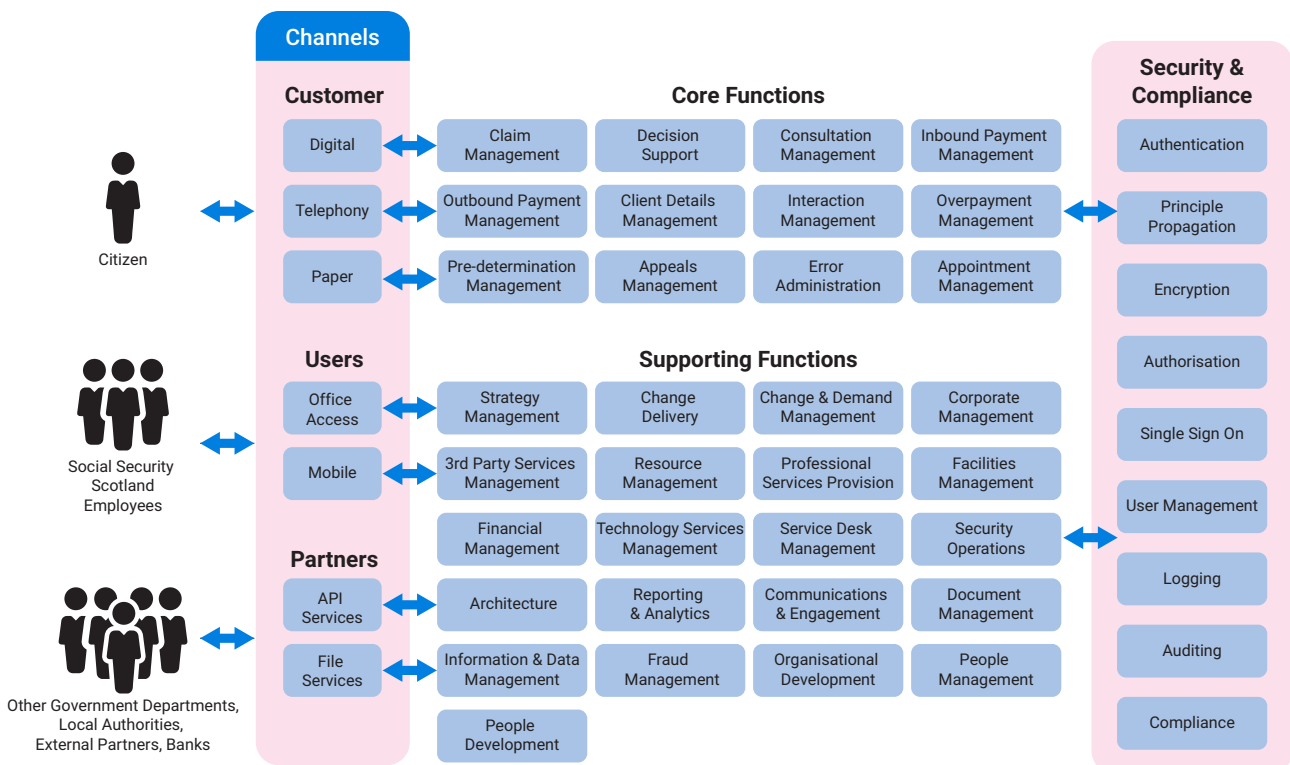
Integration

Our integration strategy is key for enabling applicants, clients, employees and third parties to interact in a secure and consistent manner. The foundation of the strategy is to ensure the accuracy and quality of the data we persist and exchange. To facilitate this aim, we employ data quality and consistency checks using master data management processes and techniques. This ensures that data shared internally and with third parties is validated and trusted.

Integration occurs via a number of channels and formats such as file transfer and messaging. Our integration architecture sits in the middle of the source and recipient, acting as a mediator assisting with the exchange of messages and transformation of the content should it be required to comply with varying messaging standards and implementations. Each interaction is secured, logged and audited. Where many sub-systems are involved, the messaging flow is controlled via our messaging infrastructure. By controlling the flow, resiliency, logging and error handling is centralised.

The messaging architecture interacts with multiple types of platforms and hosting models including Software as a Service, Platform as a Service, Infrastructure as a Service and On Premise. There are also various integration architectures supported including publish/subscribe, enabling multiple consumers to subscribe to a single publisher, event-based processing to react to and publish events, and real-time streaming for updating our analytics infrastructure for real-time reporting.

The diagram below provides a logical overview of our integration architecture.
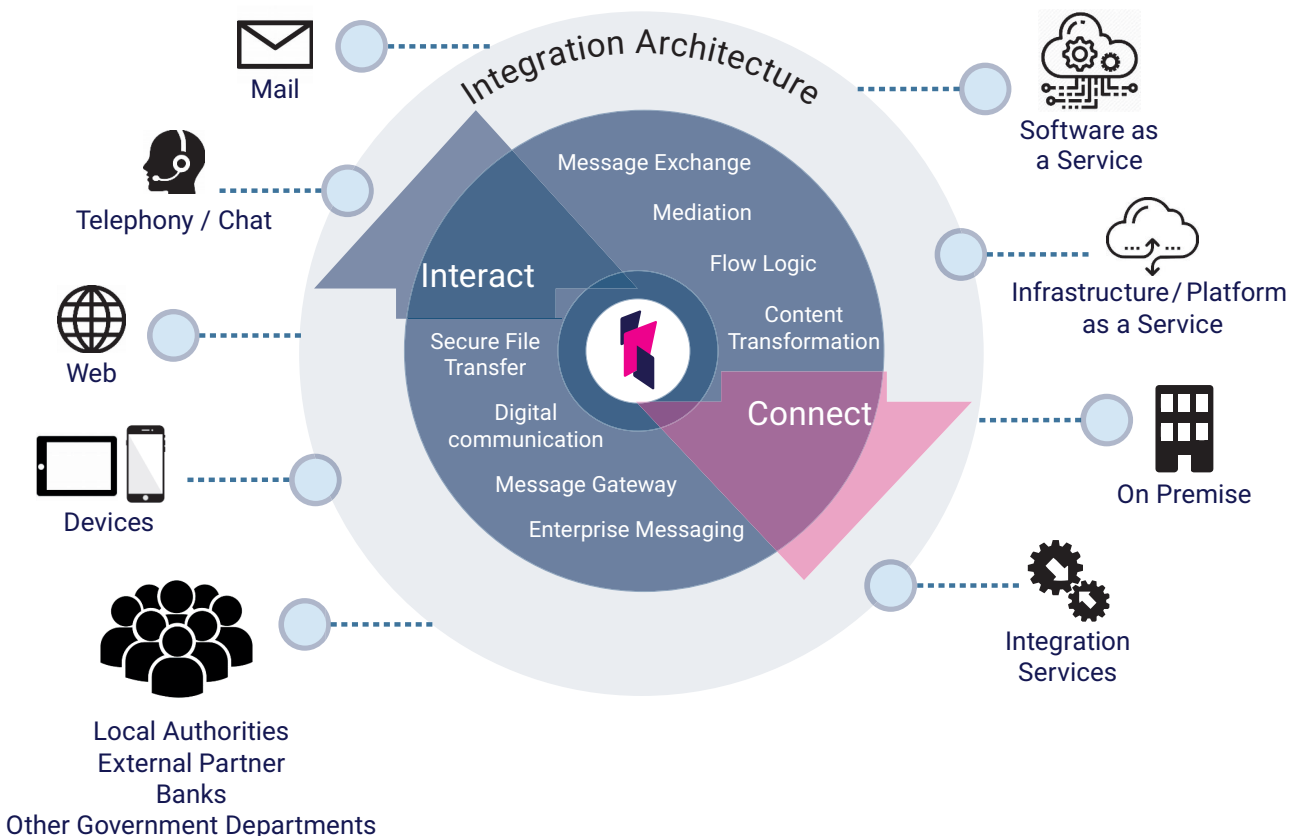
Architecture roadmap

The devolution of benefits has created a delivery organisation to a target Scottish Government Social Security benefits delivery model. The programme of work has reached a major milestone in the delivery of core technology platforms with the successful implementation of the Child Disability Payment benefit. We will use this foundation through continued development and configuration of these core platforms to further exploit the technical capabilities for the benefit of the people of Scotland.

Infrastructure

As we continue to support the delivery of the programme and the operational status of Social Security Scotland, we continue to make use of existing infrastructure and services that already exist in both Scotland and the wider UK public sector.

Desktop services:

We currently make use of SCOTS Connect desktop services, which provides accredited connectivity through a range of components including secure managed devices and mobile connectivity. We currently consume this as a shared services customer through the Scottish Government Digital Directorate but we are planning to work on our own network design that can support a range of devices and technologies to meet our long-term business needs.

SWAN:

The Scottish Wide Area Network (SWAN) is available across the country and offers us the ability to build resilient connectivity between Social Security Scotland locations in Dundee and Glasgow as well as a secure communication reach into other delivery partners including Local Authorities and NHS Scotland via existing infrastructure.

Field devices: Colleagues working in local delivery are issued with field devices that enable them to deliver an accessible and person-centred service to applicants by providing a local presence across Scotland. These devices support our colleagues in the field to work flexibly, travelling to and operating from locations across their local area, giving applicants a choice in how they access our local delivery service by offering support in outreach locations, prisons and home visits.

Application hosting: We have adopted a Cloud First approach and design our data hosting requirements in line with our risk appetite. All client-facing and most supporting services have been deployed in the cloud either as managed services or under our own public cloud tenancies. We will continue to follow our Cloud First approach as new services are introduced, and to provide scalability, resilience and recoverability as the usage of our services grows.

Disaster recovery: Each business application is hosted in the cloud in a highly available manner, deployed over multiple cloud data centres and fully load balanced. Auto-scaling is used to ensure the application is rebuilt on failure and as part of dynamic scaling. Application data is backed up in case the service needs to be restored fully. Disaster Recovery plans are in place, and 'playbook' level Disaster Recovery procedures and Major Incident Response Plans will continue to be developed, using the recoverability features which cloud-based hosting provides.

Work continues with Business Resilience colleagues to align Disaster Recovery plans and processes with broader, ongoing Business Continuity planning activity.

Service management

We will continue to develop and mature our technology service management processes and standards as the programme delivery continues to deploy new live services, and as ownership and maintenance of those services transition to Social Security Scotland.

Our aim is to formalise and standardise our service management processes through targeted adoption and rollout of the Information Technology Infrastructure Library (ITIL) v4 framework. In doing so we aim to put in place industry-standard processes for:

- technology service design, for example:
  - service level management
  - inventory catalogue management
  - non-functional design such as service availability, accessibility and recoverability.

- technology service operations, for example:
  - problem and incident management
  - support desk
  - system and database administration.

- technology service transition, for example:
  - release and deployment management
  - change and configuration management
  - knowledge management.

We will continue to collaborate closely with existing supplier and vendor management, and commercial colleagues to ensure that third-party provided technology services are safe, dependable and provide value for money.

Work is already under way to underpin a number of these processes and standards. For example, a "library" of non-functional requirements and guidance for their elicitation for business analysts, architects and other colleagues responsible for service design has been developed, with further iterations for its expansion planned.

Portfolio and delivery management

Portfolio management

As we have grown and the volume of design and delivery work has increased, it has become important to develop and mature the processes by which we manage and forecast our workload and the workforce it requires.

We have implemented foundation capacity and demand management pipeline processes that will ultimately integrate with wider change management frameworks being implemented across Social Security Scotland, whilst continuing to integrate with the portfolio management functions already in place for delivery of the programme. This will ensure that we are able to balance the ongoing demands of the Social Security Directorate Programme with the increase in Social Security Scotland initiated change as the growth of the latter continues.

Additionally, with the transfer of the Chief Digital Office into Social Security Scotland in April 2021, we will continue to collaborate on and align existing processes in both organisations covering risk and issue management, and quality assurance.

Technology delivery management

We have worked to ensure that all technology services and platforms have designated ownership throughout the delivery lifecycle in the form of a named Technical Platform Owner. This approach will continue as new technology is identified to provide the capabilities required across the organisation and by our applicants and clients.

Technical Platform Owners are responsible for the management of the technical delivery stream for their designated platform, which includes co-ordination of delivery resources and their assigned deliverables, implementation and release management and continuous improvement and change beyond initial implementation. The role will continue to evolve as the organisation grows and we commission our own technology deliveries.

Technical Platform Owners will be required to collaborate with Product and Service Owners within both Social Security Scotland and the Social Security Directorate Programme in order to ensure continuity of those deliveries and to safeguard the interdependencies between them.

Technical Platform Owners will also play a key role in developing and executing Chief Digital Office's IT service management processes and standards, and will be included in the adoption and rollout of the Information Technology Infrastructure Library (ITIL) v4 service management framework. They will be provided with learning and development opportunities to support them as they do so.

Innovative

As the strategy has progressed and we have started to deliver the benefits, we have worked closely with key colleagues and representatives from the Experience Panels to explore where we can introduce innovation into both our solutions and our operations.

We recognise that for some, a digital only approach for engagement may not be possible or acceptable. We will continue to evaluate what we can do through multi-channel options to improve the experience for applicants and clients, our delivery partners, and colleagues across the organisation.

With a significant number of mobile colleagues, we have been working closely with key stakeholders to consider the right equipment, connectivity and working methods to implement within the scope of 'safe and secure'.

As part of business continuity planning, we have considered and continue to consider the most resilient options and measures that can be invoked rapidly in the event of a serious incident or business impact to one of the organisation's key locations.

Strategic development

End user computing and network services for Social Security Scotland

We, Social Security Scotland, are experiencing rapid growth as we continue the delivery of the benefits and the supporting services we require. We will be one of the largest Executive Agencies of the Scottish Government. By June 2022, our new social security agency will directly employ more than 3,500 people around Scotland.

The growth of our workforce will see an increasing need for colleagues to work in different locations, and with diverse sets of needs for the technology they are using. We will be working in the office, from our homes and increasingly within local communities in order to support the people of Scotland. Accordingly, we increasingly need devices, software and network services that can be accessed easily, securely and reliably from wherever we need to

work and whatever our role entails.

Within the next two to three years, we will develop our own corporate network infrastructure and associated supporting services tailored to the unique delivery roles and responsibilities which already exist within the organisation. This will be done with our colleagues at its heart, taking into account what they need to provide as good a client experience as possible.

Client interaction management

We will collaborate closely with colleagues in the Social Security Directorate to develop and implement strategic client interaction capabilities. We will take an evidence-based approach to this by working to understand how our clients (and the general public) feel about their experience of interacting with Social Security Scotland, and how that can be improved.

We will explore clients' interactions with us in a number of different settings and contexts, including use of both digital and analogue channels, and in settings where clients are interacting directly with our colleagues, or where they are acting in a self-service capacity.

It therefore includes analysis and improvement of our employees' interaction experience too, and how that relates to clients' own experiences of engaging with Social Security Scotland and our services. Clients' and employees' interaction experiences across the full client journey with Social Security Scotland will be considered.

The Chief Digital Office's role in the strategic review of Client Interaction Management capabilities will be to determine where technology can be adapted or renewed to support improved client experience and where new technology may be required. This may include underlying supporting services which the client cannot "see" and does not need to care about, but which if working well would contribute to a good client and employee experience.

Payments

In line with our focus on reuse, before buy, before build, we have been making payments to clients using the Department of Work and Pensions Central Payments System (CPS) since 2018. This option was selected after a comprehensive options appraisal for the medium-term strategic solution whilst a strategic payment solution for Scotland is sought.

In parallel to this, our colleagues in the Scottish Government are leading on a cross-government payments programme. It is investigating the way in which the Scottish Government and the wider public sector makes/takes payments and is designing a payments platform to meet these needs. We are working with colleagues to support the development of this solution.

Data sharing

A fundamental building block in the delivery of social security benefits to the people of Scotland in keeping with the values of dignity, fairness and respect is the safe and timely sharing of social security related information with other government and public sector organisations. The intent is to relieve the burden of proof for our clients as much as possible and to ensure that access to related benefits and services provided by other government departments is facilitated as smoothly as possible.

We also aim to provide analytical information to other partners within the Scottish and UK Governments where appropriate and in the public interest to provide the insights required to support future policy development.

We recognise the diversity of technology requirements for data sharing across the landscape of third parties, which includes: (N.B. this list is not exhaustive)

- 32 Local Authorities
- 14 Regional Health Boards
- General Practitioners
- Other government departments (DWP, HMRC, DVLA, ONS, NRS)
- Supporting third-sector and private sector organisations.

Our strategy for managing the inbound and outbound data sharing required with such a large number of organisations will be to implement a data services layer that will:

- offer a range of third-party adapters and data sharing solution design patterns to satisfy diverse requirements across the third-party landscape

- centre on a core data access layer leveraging granular service application programming interfaces to surface data to and from our master data repositories.

The required solution and data architecture will evolve as it is iterated across the major benefit delivery milestones. As with all data-driven services, protection of the data shared by and with Social Security Scotland will be key and will be handled in line with our Secure by Design ethos and Privacy by Design approach.

Fraud, Debt and Error

Fraud, Debt and Error services are in place to support the organisational objective of "Running our service in a responsible way".

To support these services, we are committed to continually developing systems and processes that enable prevention and management of error, overpayments and fraud.

We will continue to strive to achieve the balance of usability and accessibility for users, whilst adhering to audit and control responsibilities set out by Scottish Government.

Continuous improvement

Managing technical debt

As we continue to develop and implement services at pace there will be, on occasion, a need for compromises to be made to ensure that the new benefits are available to the people of Scotland as soon as possible.

Such compromises are recorded as items of "technical debt", and will be formally prioritised and managed using a fully audited technical debt management framework.

"Technical debt" is a natural consequence of delivering large, complex programmes of work at pace and is present in most large-scale technology delivery organisations where there is a need to avoid 'gold-plating' in favour of focusing instead on delivering value to clients.

We will treat known technical debt as a backlog of continuous improvements where the costs of improving our services can be justified by the value that doing so would bring to our clients and our operational staff.

Integration delivery

Integration is key to enabling our various in-house and third-party components to interact with each other. Within this context, a centralised integration delivery team is in place to support our continuous improvement strategy. The team enables collaboration between internal and external stakeholders having the centralised knowledge to support and optimise our approach and decisions.

The team's expertise in integration reduces time to market and optimises resource for integration activities. With this approach, point to point messaging is avoided. Instead, reusable integration is deployed saving both time and effort when onboarding or modifying interactions.

The team is involved in continuous improvement activity, streamlining architectural messaging patterns for integration, getting the best possible solution for our clients' digital journey. This agile approach meets the demands of changing end-user needs effectively and efficiently.

People and skills

Our Digital and Technology Strategy relies heavily on internal skills and capability. The team is currently split between Dundee and Glasgow, providing innovative digital services across Scotland to over 1.8 million people.

To date, we have required and will continue to require, specialist resources that are not readily available in the organisation, and where external skills are in short supply across the UK, for example digital, technical and architecture skills.

We have been working with colleagues in human resources and from the wider digital profession to explore a number of ways to address the digital skills recruitment challenge while we relentlessly try to build our internal capability and reduce our dependency (and the associated costs) of contingent workers.

As the strategy has progressed, we have made use of all available recruitment channels and opportunities to bring in the correct expertise and skills to help us on the journey. This has involved a combination of permanent, fixed term, and interim resources but always with public value in the forefront of our minds.

As part of the Chief Digital Office's broader engagement to explore greater recruitment options, we have also been working with leading technical skills training organisations such as CodeClan, QA Skills Academy and CAPSLOCK, to identify candidates to fulfil some of our

vacancies and build our capabilities from the ground up. Everyone in our team is encouraged to grow and develop. To help them to reach their potential we provide them with extensive training, career development opportunities and support. This enables them to be successful day to day, supports their career progression and builds in succession planning.

We look after our team, too. The work we do is incredibility important, but that does not mean our jobs should take over our lives.

We are a Carer Positive and a Disability Confident employer. We offer flexible working to help our teams balance their work and home life. Each one of us is empowered to live up to the Social Security Scotland values of dignity, fairness, and respect. We have created a workplace that tries to meet everyone's needs, provides support and helps everyone feel that they belong and can be themselves.

As we continue to recruit staff in line with the programme schedule, we are mindful of the talent pool from which we are drawing and have tried to minimise the impact on other public sector organisations who lose staff that are attracted to our opportunities.

Beyond the life of the programme, we are mindful of the legacy of people that will be required in a different operating model to that of the programme.

We are creating an environment where the scale and pace of technology delivery will appeal to many professionals from within and outside the public sector. An environment that encourages innovative and enthusiastic professionals, where an individual can spend part of their career in the most challenging and exciting area of government transformation for many years. Where they can make a difference and where they are valued. We want people to feel proud of being part of Social Security in Scotland and focused on providing an outstanding service to clients.

Volume recruitment

We are working with human resources and recruitment colleagues to support the development of automated business processes that will facilitate the significant recruitment of additional operational staff into Social Security Scotland into 2022 and beyond.

Suppliers

Establishing a new public service and setting up a social security system for Scotland not only gives us an opportunity to provide an important service to the people who will receive our benefits, it also gives us an opportunity to increase our economic impact.

Our approach to procurement (the process of buying goods, services and works) is one way that we can make sure we can have a positive effect on the economy.

The Social Security Scotland Corporate Procurement Strategy sets out our approach to procurement activity and how we will meet our obligations as a public body.

The suppliers from whom we buy goods, services and works are critical in helping us to meet the objectives of our digital and technology strategy. We have an ongoing need and space for multiple suppliers of all sizes and capabilities to engage with us.

Expert training, support and information is available to help potential suppliers bid for our contracts, including:

● Supplier Development Programme

● Supplier Journey.

You can also contact our Procurement Team within Social Security Scotland.

The Scottish Government Single Point of Enquiry provides an independent and impartial service where suppliers to the public sector in Scotland can obtain advice or highlight any concerns about the application of the procurement rules or the management of a specific tender exercise.

Governance

The Chief Digital Office governance process is managed by a high-level programme board that is chaired by the Chief Digital Officer, who is also Senior Responsible Officer (SRO) for the purposes of the board and the work programme.

The ambition of the Chief Digital Office Programme Board is a decision-making forum that allows business leads to access planned work status, associated risks and dependencies and add structure to the Chief Digital Office team working practices.

The Chief Digital Office Programme board also provides a forum for presentation of new ideas to Chief Digital Office senior managers.

The Programme Board utilises various tools for the decision-making process including in the milestone plan, milestone plan change requests (MCR's), the Chief Digital Office change request log, the Chief Digital Office risk register and the Chief Digital Office actions and decisions log.
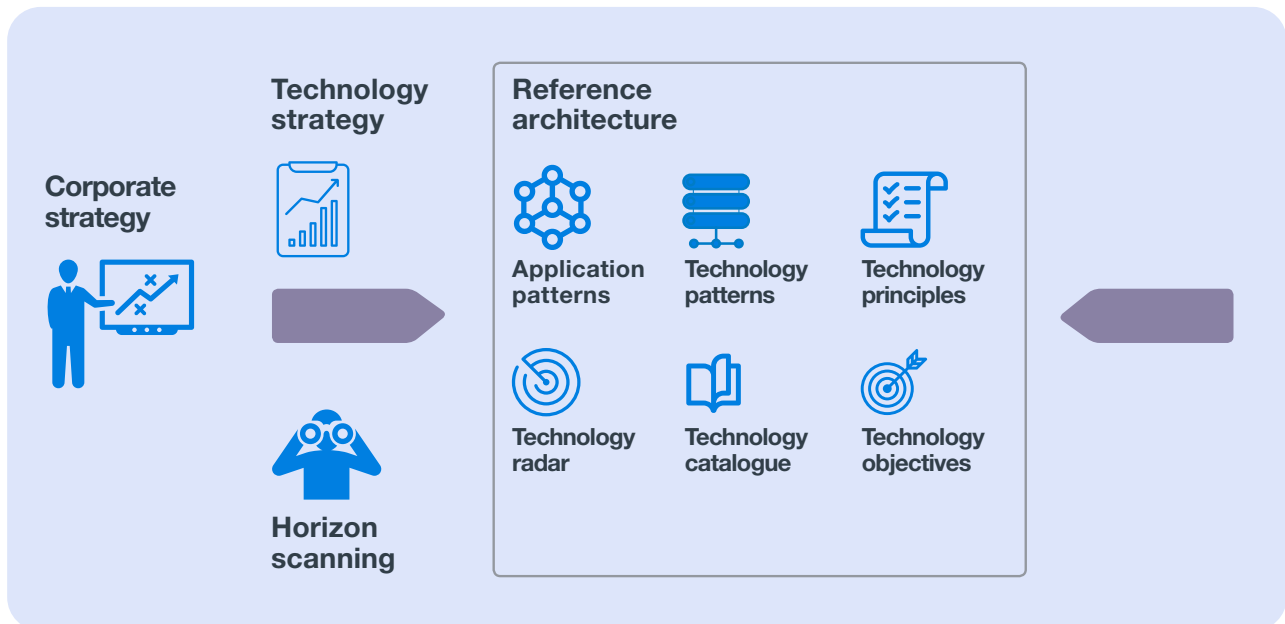
Technical diversity is managed by cross-divisional governance arrangements comprising an Architecture Review Board and a central Design Authority in order to control complexity and cost.

Since the transfer of the Chief Digital Office into the Social Security Scotland Executive Agency the Architecture Review Board now forms part of an Agency-wide governance framework. Change management and business planning processes are also now embedded within the overarching governance of Social Security Scotland.

Working within an Agency-wide governance framework has also provided the opportunity to form new cross-divisional governance arrangements, including a new Information Governance group which will oversee adherence to data standards and the process of handling ad hoc data sharing requests received from other Government partners.

Reference architecture

We will communicate and share our reference architecture across the organisation.

Technology strategy

Reference architecture

Corporate strategy

Application patterns

Technology patterns

Technology principles

Technology radar

Technology catalogue

Technology objectives

Horizon scanning

- Reference architecture contains the building blocks for solutions, providing consistency and forming the basis for sound governance.

- Reference architecture is continually refined and maintained through the Technology Strategy and Business Strategy, horizon scanning and feedback from solution operations, ensuring it remains relevant, pragmatic and deliverable, and supports the needs of the organisation.

- When we deploy our new services, we always lay the foundation for our transformation and new technology. Changes to the technology estate are limited to legislative delivery (based on timescales), changes required for transformation or essential upgrades such as security compliance.

Summary

Key drivers: We have focused our immediate efforts, planning, and delivery in support of the safe and secure transfer of the devolved benefits through the programme.

Safe and secure is at the heart of everything we architect, design, and implement, either ourselves or with our delivery partners.

User focus, usability, and accessibility will drive the solutions that we introduce or implement.

We have pursued alignment with the Digital First Standard throughout the duration of this strategy and its successor.

Reuse, before buy, before build, is our primary approach to the introduction of technology and solutions.

Our systems: A number of key tenets underpin how the Social Security Scotland systems and solutions have been created and implemented.

Our target architecture is designed for the reuse of services and maximum use of commodity technology. It consists of components that can be updated or replaced over time. Our Cloud First approach for systems that underpin the benefit operations support high availability, scalability and a cost-effective operating model, which is driven on the actual processing and storage usage.

Our people: We are creating a professional digital environment that enables people to make a difference and feel valued. Recognising the skills challenge, we have invested in upskilling our staff to deliver the changes, whilst recruiting people with a focus on technical skills. All key solutions and components have been introduced and managed predominantly by our own staff.

Our process: We have adopted the most appropriate process for delivering and supporting our solutions. Our reference architecture has and will continue to guide and inform new solutions and the enhancement of existing services. The Business and Technical Design Authority governance processes will facilitate decision-making and encourage innovation, whilst maintaining oversight and adherence to the core business and legislative driver

Social Security Scotland
Tèarainteachd Shòisealta Alba

Dignity, fairness, respect.