Digital Strategy 2023

April 2023

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Foreword from the Chief Constable

Policing has a duty to respond to the needs of communities and individuals wherever people live their lives and harm arises.

Historically, that meant patrolling public spaces before policing rightly began addressing significant harm occurring in the home and private settings.

The continued rise in cyber-enabled crime illustrates that prevention, education and enforcement are also required in the online realm. At the same time, Police Scotland must ourselves be resilient to digitally-enabled threats.

We no longer keep the people and communities of Scotland safe only through patrolling public spaces.

Along with our Policing in a Digital World programme, this Digital Strategy outlines the technology and capabilities needed to ensure Police Scotland can safeguard people from the threats of today and those of tomorrow.

As we move from doing digital to being digital, we are building new ways for our fellow citizens to contact their police service and to share information so we provide the help they need and deserve.

Police Scotland is playing an important contributory role in modernising criminal justice to benefit the public we serve, through the establishment of a single national crime system, the greater use of video interviews, digital evidence sharing and virtual courts.

We know technology such as mobile working can improve officer and staff safety, wellbeing and service and this strategy sets out our commitment to make Body Worn Video widely available across the service.

Policing in Scotland has a positive duty to make use of new capabilities where they can help keep people safe and hold offenders to account, and we outline the emerging technologies which full implementation of this strategy would deliver.

This is an ambitious strategy and our ability to achieve all the improvements and benefits outlined and the pace of change will depend on appropriate revenue and capital funding.

When policing considers new technologies we consult and engage so we can address any concerns. We will ensure its use is transparent, ethical and aligned with our values of fairness, integrity, respect and commitment to upholding human rights.

Sir Iain Livingstone QPM

Chief Constable

Message from the Chief Digital and Information Officer

Police Scotland's ambition is to move from Doing Digital to Being Digital.

'Being Digital' seeks to embed digital at the centre of the organisation and the way it operates - To enable effective and efficient ways of working through innovative capabilities that support our people and partners in delivery of critical services to the public.

The Digital Strategy has been designed with a focus on outcomes and addresses the challenges Police Scotland faces with the social and economic trends driving this change set to continue, for example:

- **The nature of crime is changing with increasing levels of cyber-crime and criminal sophistication making it the new frontline of policing**. Across Scotland and the rest of the UK, Cyber is the fastest growing crime type. It gives rise to new and evolving crime whilst also enabling traditional crimes such as fraud to be committed in a different and more challenging way in both the physical and virtual space. i.e., fraud can be committed more rapidly and more frequently across a far larger proportion of our communities than ever before. The exponential rise in demand for our services, combined with the prolific and borderless nature of cybercrime, requires a different approach

- **Demand for preventative and early intervention services is increasing**. People are living longer, and as the average age of the population rises, so too does the level of vulnerability within the population. Levels of inequality also continue to grow with the most deprived areas of Scotland disproportionately affected by crime therefore more preventative approaches are required to reduce the potential for harm

- **People's expectations of how they interact with public services has changed**. The Public Contact and Engagement Strategy 2020 highlighted the expectation of more joined up services and a choice of engagement channels which are accessible, inclusive, and personalised. Society is changing too. Communities are becoming increasingly diverse in their makeup, range of languages and cultural norms.

There is a requirement for policing to adapt and find new ways to engage with people and offer a range of ways to interact and deliver services

- **Equipping officers & staff with the appropriate tools**. Our people need and rightly expect to have access to mainstream technology to enable them to discharge their roles in a safe, effective & efficient way

- **Challenging financial position**. We face many external factors affecting the scale and nature of demand for our services, and coupled with the inflationary pressures we are experiencing within a constrained financial environment, we consider 'do nothing' as no longer an option in terms of technology investment

Police Scotland's purpose is to improve the safety and wellbeing of people, places and communities in Scotland.

The drivers for change are clear.

Police Scotland must keep up with the criminal organisations who do not have the same financial constraints or capability gaps.

We need to support our people as they seek to mitigate risk, deliver critical services and enable new ways of working alongside partners.
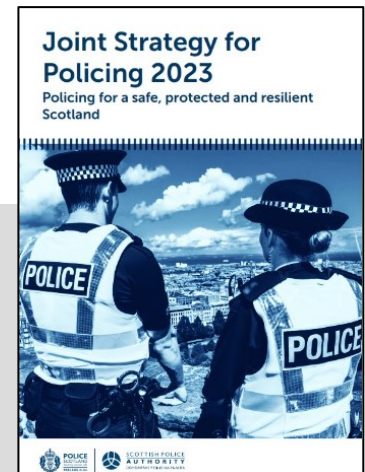
Andrew Hendry

Chief Digital and Information Officer

Joint Strategy for Policing 2023
Strategic Direction

Joint Strategy for Policing (2023)

The Joint Strategy for Policing 'Policing for a safe, protected and resilient Scotland' sets the strategic direction for policing in Scotland in accordance with the Police and Fire Reform (Scotland) Act 2012.

The refreshed Digital Strategy aligns to and enables delivery of the agreed strategic outcomes and objectives for policing, setting a clear vision and way forward for the digital development of the service.

Our Vision

Policing for a safe, protected and resilient Scotland

Our Purpose

The purpose of policing is to improve the safety and wellbeing of people, places and communities in Scotland

Aligning the Digital, Data & Technology Strategy to Policing Outcomes

The Digital Strategy has been identified as a key enabler of Joint Strategy for Policing 2023 and its success will be measured by the way in which Policing Outcomes are achieved through the use of technology and data.

Our Policing Outcomes

Threats to public safety and wellbeing are resolved by a proactive and responsive police service

The public, communities and partners are engaged, involved and have confidence in policing

Police Scotland is sustainable, adaptable and prepared for future challenges

The needs of local communities are addressed through effective service delivery

Our people are supported through a positive working environment, enabling them to serve the public

Our Digital Strategy & Objective – 5-year horizon

The Joint Strategy for Policing identifies 11 enabling strategies, of which the Digital Strategy is one and as such has been aligned to the priorities set out in the Joint Strategy for Policing.

This Digital Strategy builds upon and supersedes the 2018 Digital, Data and ICT (DDICT) Strategy. It will deliver the technology elements that are referenced in the enabler strategies and ensures the technology components are appropriately aligned.

The Digital Strategy consolidates individual project and programme strategies and technology approaches, ensuring alignment of data and digital components, bringing an architectural and technical cohesion to delivery.

Key Facts & Figures
About Police Scotland

Serves a population of 5.4 million people	16,614 Officers 5,881 Staff	Annual Budget of £1,178.8 million

We operate in a highly dynamic, challenging environment that requires a multi-faceted approach to digital service provision, delivering targeted, agile capabilities in response to everyday demand, but also building solutions that address longer term strategic goals.

Cybercrime reports rise from 7,240 to **14,130** between 2019/20 and 2020/21

90-95% of frauds have an online aspect

1,262% increase in Cyber Dependant crime including cryptocurrency investigations

17% increase of fraud was recorded in the last 12 months, with a 68% increase over the last 5 years

511% increase of Online Child Sexual Abuse and Exploitation (OCSAE) referrals from 2015-2021

650% increase of referrals regarding child sexual abuse imagery over a 9-year period

The number of people aged 65 and over is projected to grow by **30%** by 2045

Inflation up to **10%** in 2022/23, increasing the cost of technology solutions and components

9 out of 10 adults use the internet and 97% at home

85% of public said that Body Worn Video would increase their trust in Police Scotland

82% of our people are confident Body Worn Video would increase officer safety

1. Recorded Crime in Scotland, 2020-2021 - gov.scot (www.gov.scot); 2. How we are performing - Police Scotland; 3. 1. Recorded Crime in Scotland, 2020-2021 - gov.scot (www.gov.scot); 8 Apr 2021,p61; 4 - 6. Police Scotland - Extract from PDWP Programme Board Update 9/1/23; 7. Projected Population of Scotland (Interim) 2020-based, Report (nrscotland.gov.uk); 8. Office for Budget Responsibility (OBR) forecasts that RPI inflation for 2023 will be 10.7%; 9. Internet access – households and individuals, Great Britain - Office for National Statistics (ons.gov.uk); 10-11. Police Scotland's Use of Body Worn Video: Public Consultation - Police Scotland - Citizen Space

Police Scotland's Digital Story
Building On The Strong Foundations

We have achieved a great deal since 2018, but there is still much to do

Police Scotland's 2018 Digital, Data, and ICT (DDICT) Strategy set out an ambitious programme of work to fully refresh its technology and to invest in the capability of the service to support the changing needs of policing.

Since that time significant strides forward have been made to build a 'fit for the future' technology platform. Police Scotland has:

- **Invested in replacing aging, legacy infrastructure** resulting in a significant reduction in the level of technical debt and associated risk

- Progressed with consolidating core operational systems by creating national applications to support standardised ways of working; for example, national crime and case management. This has consolidated many of the datasets held by the organisation making **day to day work simpler and information more accessible to officers** when they need it in the field. This foundation needs to be built upon and sustained over the longer term

- Commenced introduction of a **new digital contact platform that will protect and strengthen critical 999 and non-emergency 101 services** for the future. This has built a foundation on which we will be able to develop further ways for the public to engage, making it easy, convenient, and safe to contact the police

- **Enabled a shift to remote working** with most officers and police staff now equipped with mobile devices and laptops (over 15,000 devices deployed)

- Laid the building blocks for **unlocking the power of the data** held to improve the safety and wellbeing of people, places, and communities in Scotland. We appointed our first Chief Data Officer, and we have started to introduce data focussed technology and tools. Our Data Drives Digital programme is in-flight and will improve workforce efficiency and operational effectiveness, use analytics and better quality data from a wider range of sources to improve decision making

- Introduced a **single national network** to underpin enabling technologies which made it possible to deliver a rapid and comprehensive technology response to the COVID-19 coronavirus pandemic. This played an important role in enabling continued provision of all essential policing services. **Desktop video conferencing and collaboration tools** were rolled out as part of our crisis response and the programme then rolled out nationally, reducing travel and increasing productive hours

- Protected its network and associated data assets through **investment in cyber security and resilience,** defending Police Scotland from digitally enabled threats and contributing to Scotland's drive to be a cyber resilient country

- Collaborated with the Scottish Policing Authority, Crown Office and Procurator Fiscal Service, Scottish Courts and Tribunal Service and other criminal justice partners to introduce remote ways of working. We have worked together to introduce **remote court hearings** and sentencing for criminal cases in the High Court, enabled via video link to accused persons remanded in custody

Police Scotland's Digital Story
Building On The Strong Foundations

- Commenced delivery of the new Digital Evidence Sharing Capability (DESC), which contributes to modernisation of the criminal justice system. DESC will change how digital evidence is collected, viewed and shared across the justice system and could allow cases to be resolved faster and improve the experiences of victims and witnesses. This is a cross-cutting initiative which will allow users such as police officers, prosecutors, court staff and defence agents to digitally access evidence in an efficient and user-friendly way

- Equipped armed police officers across Scotland with **body worn video cameras** to better protect the public and police officers, and provide best evidence at court

Delivery of these achievements is remarkable in the context of the unprecedented levels of social and economic disruption which occurred because of the COVID-19 coronavirus pandemic, spanning much of the time covered by the DDICT Strategy, absorbing leadership focus, technical capacity and creating practical challenges to workforce and supply chains.

DDICT Strategy 2018*

*Note: Please click on DDICT Strategy 2018 to access link

During this period Police Scotland also supported events which put the country on the world stage, which placed pressure on the availability and resilience of its digital capability. Police Scotland successfully supported the hosting of four matches in the Euro 2020 football tournament, provided policing and enhanced security during COP26 held in Glasgow in October 2021, and performed a key role in Operation Unicorn helping to ensure significant events relating to the death of Her Majesty Queen Elizabeth II could be held safely, securely and with dignity. Whilst these are specific examples, they demonstrate some of the successful planning, operational delivery and policing of high-profile international events enabled by the investments made to date in Digital and Data technology.

Achievements since 2018 provide an excellent platform on which to build future capabilities, but there is a need to optimise existing investments, take advantage of new technologies and consider the changing nature of crime as we look to develop these capabilities. Police Scotland's ambition is to move from Doing Digital to Being Digital, along with the intended prioritisation of delivery activity across the horizons of 'Now' (1-2 years), 'Next' (3-5 years) and 'Beyond'. Being Digital is not intended to be an ambition for the technologist in Police Scotland, instead it is about embedding digital at the centre of the organisation, enabling significant operational efficiency against a backdrop of fiscal pressure, improving public service, and enabling more effective and quicker investigation of crime. Moreover, this is consistent with the "National Policing Digital Strategy, 2020 – 2030", which makes it clear that Being Digital is an operational imperative for all forces.

Our Digital Ambition
## Doing Digital to Being Digital

Our Digital Strategy aims to support Police Scotland to adapt to changes in an increasingly digitally-enabled world, by providing our officers and staff with the digital technology that will help them build better partnerships with the public and partners, investigate the evolving nature of crime, and bring more offenders to justice.

In essence, the next phase of our Digital Strategy is about making a shift from 'Doing Digital' to 'Being Digital'. This means that we will progress from a position in which we have modernised and provided officers and staff with technology and tools, to one in which we adopt and exploit digital, data and technology as part of everything we do. This means embedding innovative thinking, and incorporating digital and data assets, in the way we deliver policing services in future.

This shift requires us to 'bridge' the position we are in today to where we desire to be in the future. We will achieve this 'bridge' in a practical way, ensuring that everything we

do in 'Being Digital' is built around *Strategic Themes* which align to *Policing Outcomes*. We will also adopt revised *Design Principles* which will enable us to deliver to a high quality, and to deliver 'fit for the future' solutions. We will also implement policies and working practices which support this, and we call these *Strategic Enablers*.

Finally, we will adopt a practical *Delivery Model*, which means that we will plan and schedule work in a way that delivers to our highest priorities first, seeks to optimise benefits, and is achievable within timescales and budget.
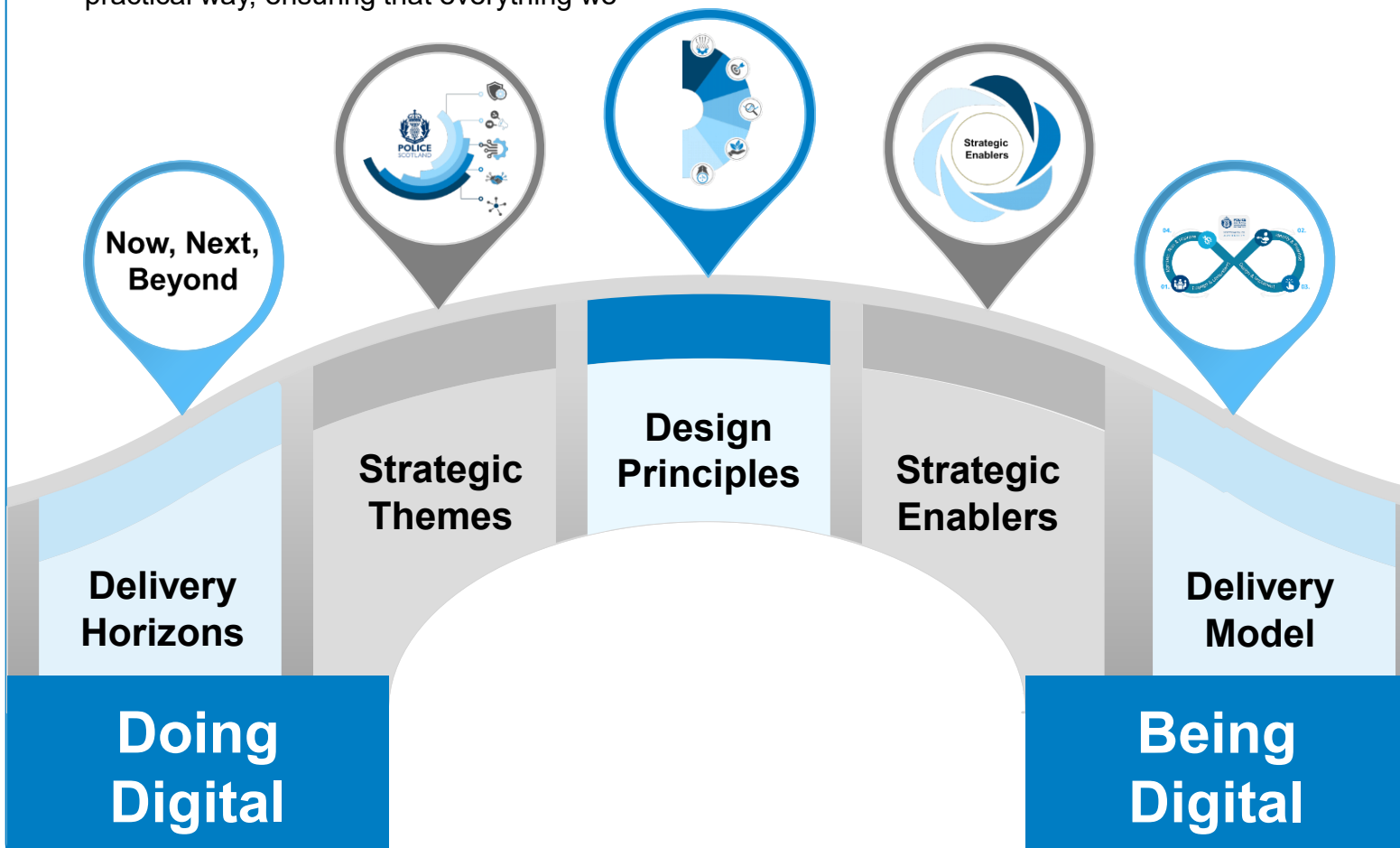
Delivery Horizons

Police Scotland has developed a 5-year plan across the horizons of **'Now' (1-2 years), 'Next' (3-5 years) and 'Beyond' (5+ years)** to achieve the outcomes set out in the Joint Strategy for Policing.

Successful delivery will depend on appropriate funding levels.

The delivery of the plan supports efficiency gains, puts in place new technology capabilities and provides a 'fit for the future' Digital Division able to deliver solutions and services to meet evolving needs.

Now
1-2 years

Continuing to invest in the projects we have started will enable us to complete the standardisation of frontline systems and data that our officers rely upon to work effectively. We will be able to manage and use data efficiently, and we will help our staff to work in ways that are more effective for the roles they perform.

An efficient and effective police service with digital tools that allow us to work effectively and flexibly, generate insight and focus on the higher level and value adding activities

Next
3-5 years

Our next stage of investment will extend our ability to be accessible to the public and to collaborate with our partners. We will provide channels for the public to contact us in ways that suit them and will keep them informed of how we are dealing with their needs. In addition, we will establish the means to share data, securely and responsibly, so that we are better able to service communities and individuals.

Improved Public Experience supported by partnership working, allowing the public to interact in a streamlined and digital way, whilst we are able to provide improved service through collaboration with partners

Beyond
5+ years

Looking to the longer term, we will seek to sustain and evolve the essential digital, data and technology capabilities we have delivered, but also to innovate and adopt emerging technologies where they have relevance to policing.

This will mean that we will be proactive in exploring technologies and the use of data to counter crime and support Policing Services. It will also mean that we will provide Digital Services differently, adopting an approach in which co-development of solutions with officers and staff becomes common place and we will, by default, 'Become Digital'.

Operating as an agile organisation, at the heart of an eco-system formed with our partners, using insight and intelligence to provide effective policing services, adapting as we need to changes in our environment

Strategic Themes

We have defined five *Strategic Themes* that will enable us to achieve our Policing Outcomes. Individually, these themes form the basis for delivering better systems, data and technology that align to *Policing Outcomes* and, collectively, they form the basis for achieving persistent and sustainable improvements that will transform the way we deliver services.

Tackle crime through our cyber and intelligence led policing capability

Modernise and improve access to our services

Enhance our colleague's experience by providing the right digital tools

Enable partnership working and secure digital collaboration

Utilise digital technologies and data to improve the Criminal Justice System
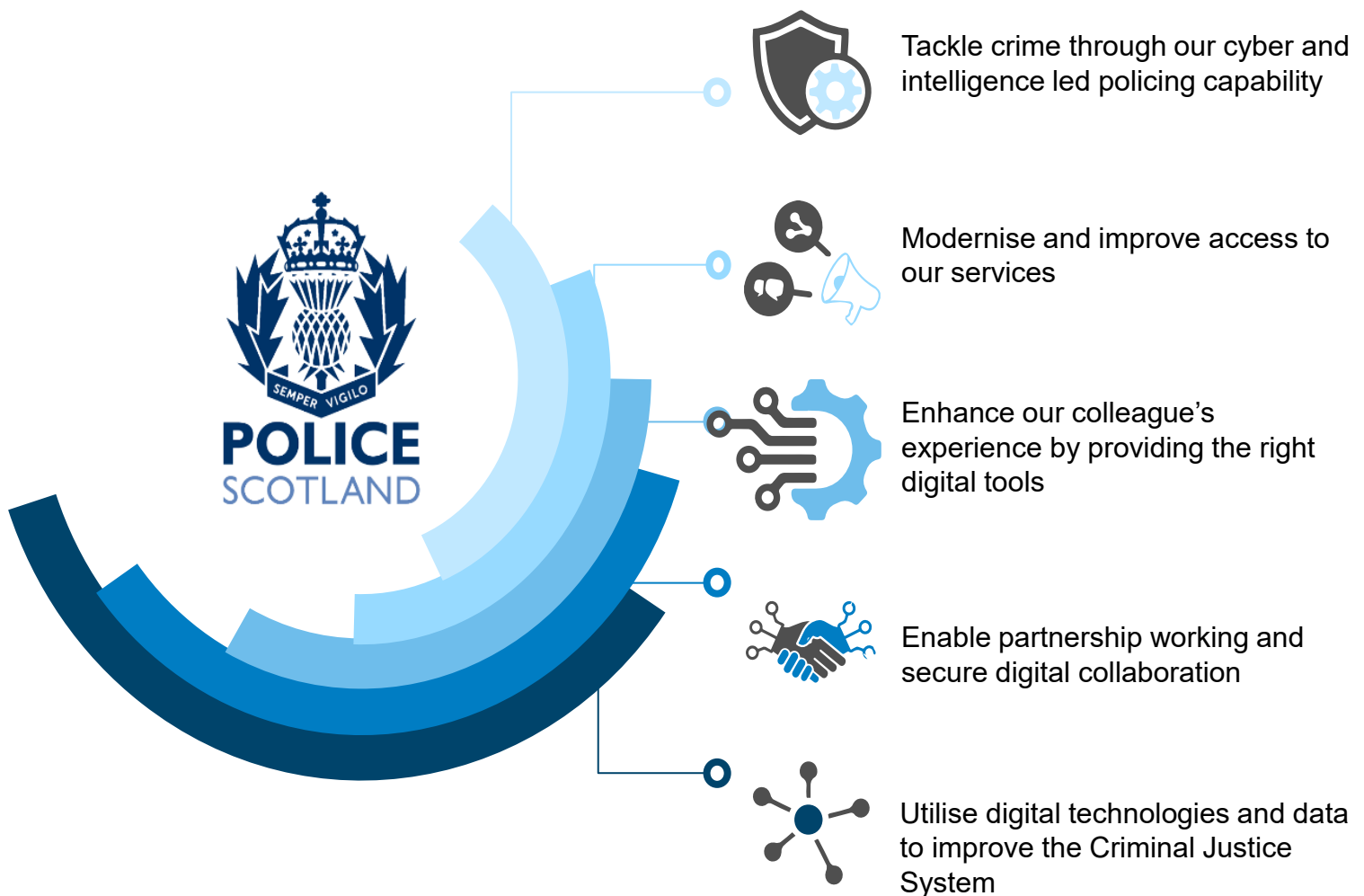
Each of these Strategic Themes is described in more detail on the following pages.

Tackle Crime Through our Cyber and Intelligence Led Policing Capability

We will contribute to crime reduction in a way that 'uses today's knowledge' to 'shape tomorrow's policing'.

We will do this by **embedding intelligence-led policing** at the heart of our operations and **building our cyber capability to make Scotland a challenging place for cyber criminals to operate.**

In conjunction with the Cyber Strategy, the Digital Strategy will deliver the technology elements and ensure the technology components are appropriately aligned.

Our vision is to build new capacity to analyse, understand and derive insight from data held by ourselves and our partners in criminal justice, health and social care, and the community to better focus our prevention activities to manage threat, risk, and harm in the public, private and virtual space.

Priorities

By leveraging technological advances in data collection and analytics we will be able to identify trends and repeat offender activity in order to:

- Intervene early to deter criminality such as domestic incidents and organised crime, and create the ability to provide officers with relevant information.

- Identify early opportunities to engage relevant partners when dealing with calls relating to vulnerable people and those at risk of harm.

We will use similar analytics to complement and further enhance our preventative activities with a multi-agency approach which focuses on the early identification of individuals who may be recruited into criminal activity.

We will also deploy this capability and partnership working to draw on our enhanced intelligence picture to specifically identify potential perpetrators of cyber-crime and develop world-class policing in a digital world capability.

Recognising that across Scotland and the rest of the UK, Cyber is the fastest growing crime type, we must support our police service in being adaptive and responsive, staying ahead of the changing technological threat.

We will increase our visibility in the physical and virtual world and work with our partners to make Scotland a challenging place for cyber criminals to operate.

Key Programmes & Projects

- Intelligence Policing Programme
- Policing in a Digital World
- Single Search
- Data Science Capability
- Force-wide Analytics

Modernise and Improve Access to our Services

We will give the public more choice in how they engage with us, using channels, media or devices most relevant to them, embracing the diversity in all its forms in our flourishing communities.

Our aim is to make it possible for people to interact using the channels that best suit their needs whether this is by telephone, live chat, text or through our digital platform, receiving a high-quality service regardless of the route chosen.
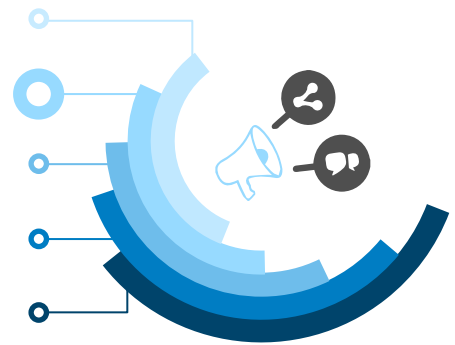
Priorities

We will improve our digital presence to make it easy for people to find the information they need and to complete contact with us online, where relevant conducting real-time interactions with us. This will include improving the ability of individuals to report low level crimes such as minor offences, enhancing the self-service functionality to make it rapid, user friendly, and with support available if needed.

New channels will be developed as an operational or public driver is identified building on the flexible platform that is being introduced. They will initially be used for sharing of information with the public and, over time, we will seek to extend their capacity for public access to services.

By being more visible in the digital world we want policing to be able to get closer to communities and provide the opportunity for more informal engagement and information sharing.

We will also play a role in contributing to the authentication and identity management solutions which aim to improve people's access to public services by providing them with a safe, consistent and easy way to prove who they are or that they are eligible for a public service. This means we will comply with cross-government standards in the way that people authenticate their identity to access our services e.g., a license renewal.

Our public contact and engagement strategy outlines this in more detail.

Key Programmes & Projects

- Next Generation Command and Control
- Digital Evidence Sharing Capability (DESC)
- Website Upgrade to Public Facing Portal + Authentication and Identity Management

Enhance our Colleague's Experience by Providing the Right Digital Tools
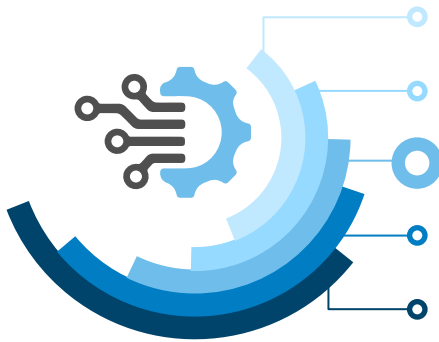
We will retain and attract people by investing in digital technology which enhances frontline policing capability and improves employee experience.

We will **put operational information at the fingertips of our officers and staff, minimising administrative duties and equipping them with the appropriate tools** to do their job.

Priorities

We will continue to grow the integration and digital enablement of our corporate functions to further support our people. For example, optimising capability with enterprise resource planning (ERP) by introducing increased automation to the application, notification and/or approval processes around activities such as booking leave, reporting sickness and managing professional development.

Our people will be provided with integrated policing systems where they can enter, re-use and search data from either a mobile or desktop device. Our people will be able to enter case information once and rely on systems to automatically populate and/or update all relevant applications with that information.

Using Streamlined processes will improve efficiencies and reduce administrative load for our staff and officers. The automation of systems and search functions will also reduce the risk of error or omission due to mis-keying of the data.

Whilst undertaking frontline duties, we will make it easier for our people to bring in support from other sector professionals to help prevent the escalation of a situation and facilitate better outcomes for those involved. For example, enabling an officer to seek the advice or attendance of a professional from a partner organisation, or to notify organisations better able to support individuals.

More of our digital capability will be deployed across both mobile and desktop devices so that people are supported to choose where they can work most effectively and efficiently, whether that be from their home, car, their office, or in the community. This is crucial for us to build our reputation as a modern employer, attracting and retaining a diversity of talent and in our ability to achieve Net Zero by removing unnecessary travel.

Key Programmes & Projects

- Enabling Policing for the Future (EPF)
- Mobile Device Management
- Process Automation - Centre of Excellence
- Office365
- Fleet EV Digital Infrastructure

Enable Partnership Working and Secure Digital Collaboration

We will proactively contribute to the digital and technological agenda for both UK and Scottish Government strategic priorities.

We will strengthen effective Digital Partnerships across criminal justice, local authorities, academia, NHS, and other emergency services and participate in the build of resilient critical national technology infrastructure.
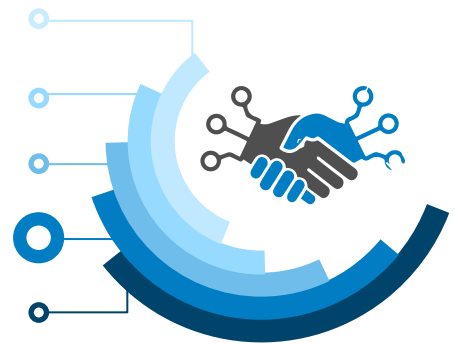
Where possible we will collaborate with partners to achieve shared objectives, maximising return on investment and developing shared architectural standards that will enable a joint transition from *Doing Digital to Being Digital*.

Priorities

The strategic priorities include, but not limited to:

- Scotland's Digital Future Scottish Government National Outcomes/ Strategic Priorities
- HMICS Recommendations
- National Police Chiefs' Council (NPCC) Contact and Digital Strategies
- SPA Forensic Services Strategy
- Justice Strategy

SPA Forensics

The Digital Strategy supports SPA Forensic Services and is cognisant of the operational demands and strategic objectives, which has led to the co-development of the future vision and priorities. When defining the 'Now' planning horizon agreed priorities were placed upon the need for systems that are flexible and fully integrated, enabling links with networked equipment that aligns to the Forensic Services Strategy.

In defining the Now horizon, a key consideration has been the need to establish flexible, integrated technology environments that encompass all aspects of the Forensics Service Strategy, from crime scene to court hearings including Crown Office and Procurator Fiscal Services.

Key Programmes & Projects

- Authentication + Authorisation - National Identity and access management
- Modernising Remote Secure Access
- Forensic Services - Deployment of Scene Examination
- National Law Enforcement Data Service (NLEDS)

Utilise Digital Technologies and Data to Improve the Criminal Justice System

> **We will contribute to the creation of an integrated digital process for the provision of criminal justice services across Scotland.**
>
> **Ultimately enabling a 'whole system' approach across the sector.**

We will create a service which is connected and designed around people and outcomes rather than just organisational needs. From the moment that a case is opened we will create a seamless experience for all those who are connected to the case from victims, to witnesses, the accused, and criminal justice stakeholders.

Priorities

Our focus will start on joining up the experience across activities that fall within Police Scotland's control. In parallel we continue to work with our partners in the criminal justice eco-system to make progress with integrating processes and digital evidence sharing across the full range of pathways that a case can take to reach its end point.

This joined up working should also expedite the progress of cases through the criminal justice system and enhance the ability of Police Scotland and our partners to forecast demand.

We will focus change on points in service delivery where we consider technology to have the greatest potential to improve the experience of those involved in receiving and/or providing that service:

- the taking of statements and ongoing contact management
- court appearances
- evidence management

We will dramatically extend the use of digital evidence in policing, with it becoming common place for digital forensics to be gathered from a full range of sources and devices.

We will also make Body Worn Video widely available to inform our investigations and to act as a deterrent against violence, protecting our officers from verbal abuse and physical harm.

Increased use of digital evidence, for example video imagery of the perpetration of crime, is expected to enable our people to build even stronger cases against criminals, and for those cases to be progressed at pace. As evidenced by other UK Forces, we will target an increase in guilty pleas, reducing time spent in trial and increasing conviction rates.

Key Programmes and Projects

- Digital Evidence Sharing Capability
- Body-Worn Video National
- Officer Remote Evidence Giving Suites
- Virtual Courts (Custodies)

Key Considerations in Delivery
Technology Design Principles

Effective delivery of this strategy will be underpinned by practical principles which will inform our approach to designing and implementing products, services and solutions.

Police Scotland's technology principles are:

Enterprise by Design

We seek to simplify and standardise our approach to enterprise architecture, and will adopt industry standards to enable secure, integrated and resilient solutions leveraging cloud services where appropriate

People, Service & Values Focused

We will be people and service focused, with our values and accessibility at the heart of the design and delivery of ethical digital solutions, building on the trust and confidence of the public and our communities

Data-Driven

We ensure that data is correct, consistent, connected and available to officers and staff when they need it, to inform better policing outcomes

Sustainability

We aim to deliver sustainable solutions, products and services which consider their environmental impact and prioritise our investment based on a balance of value, cost, quality and risk

Future Ready

We will be innovative and harness technology to remain adaptable and prepared for future challenges, making it quicker and easier for people to engage with us

How We Will Achieve Our Ambition

Our ambition of making the shift from *Doing Digital to Being Digital* will require a fundamental shift in the way we view and use technology and by engaging, involving and supporting the public and communities. We will deliver services more effectively and with greater impact.

Investment and Prioritisation; combining technology and policing roadmaps to ensure focus on organisation wide objectives and proactively seeking opportunities to improve the financial landscape

Data; recognising data as an asset, acquiring, processing, and analysing to gain actionable insights for policing and our partners, driving the right behaviour to ensure quality, accuracy, completeness, and compliance

Data Ethics; continuing engagement and consultation on the potential introduction of data-centric digital solutions to enable safe, reliable, and ethical use of information and intelligence

Strategic Enablers

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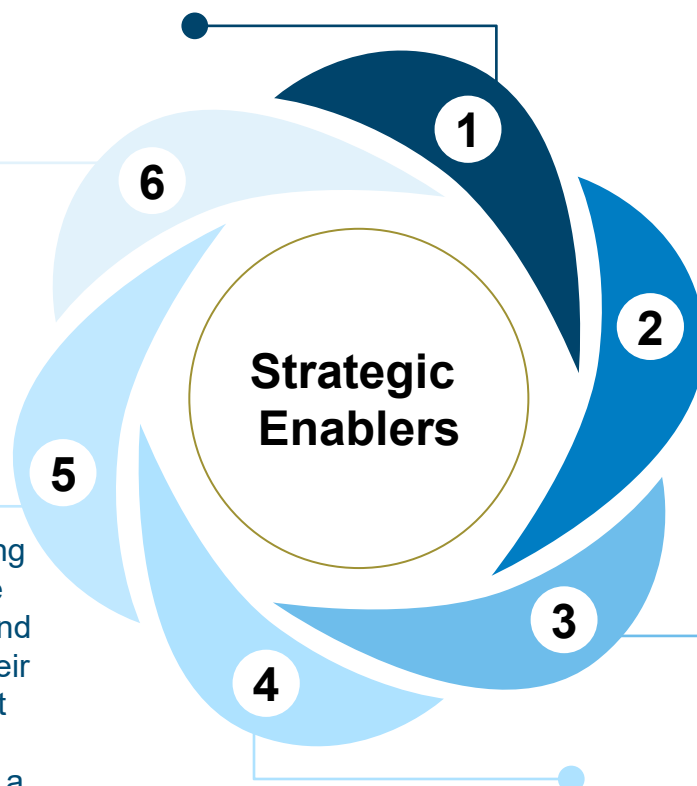
Sustainability; aiming to deliver sustainable solutions, products and services, consider their environmental impact and prioritise our investment based on a balance of value, cost, quality, and risk

People; recognising that people are at the heart of any change process, primarily public consultation and a rights-based approach. In addition to support, develop, and train the existing and future talent to exploit our technology capabilities

Cyber Resilience; identifying and eliminating vulnerabilities, proactively protecting our technology landscape by preparing for and responding effectively to any security incident

Data is at the Heart of Policing

Data and information have always been at the heart of policing and the Digital Strategy. It informs the decisions we make and actions we subsequently take and is applied in contexts ranging from policy through to risk assessments as our officers attend incidents. It has relevance in operational contexts, but also when we are taking steps to identify causes and sources of crime and preventing harm.

In an age dominated by an ever-increasing volume and complexity of data, it is essential that Police Scotland enhances the capabilities, tools and techniques available to exploit the value that data provides.

Whilst the value of data is widely accepted, the challenges of managing, using, and exploiting data become greater each day. Data sources are more expansive, more complex to manage, and require advanced skills and technology to address. Moreover, we have seen a 'tilt' in the profile of crime with an increase in cybercrime, further driving the need to be expert in the use of data.

Working with partner organisations is a priority that we are committed to pursuing, and, again, data will be the critical assets that enable us to do this better in future.

We have made progress in responding to this challenge but must recognise that scale, complexity, and diversity of sources will rise. Much of what we do (when handling data) requires common skills and techniques – therefore we will benefit from developing our 'data' skills so that they may be applied at the points where demand dictates.

Exponential growth of data, by 10 times in the 10 years up to 2025

The common 'data skills' are as summarised
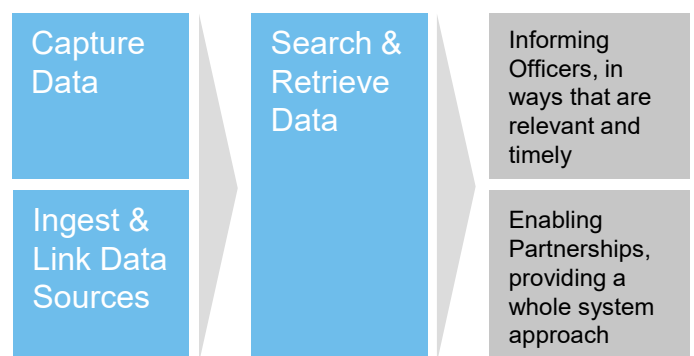
Capture Data: Officers and staff identify and enter data into systems every day, and it takes time to do it. However, it is an important activity directly impacting all types of incident and cannot be shortcut.

We will deliver the capability for Officers and Staff to **streamline the entry of data**, enhancing validation (improving quality) and using automation to **eliminate the need for re-keying**, ensuring data is automatically transferred to all systems that utilise it.

Ingest & Link Data Sources: Many of our Officers, such as those in SCD, are critically dependent upon assembling, linking, and analysing large volumes of data from multiple sources (including sources external to Police Scotland). This is an essential task needed to support investigations.

Data is at the Heart of Policing

We will deliver the capability to enable improvements in data handling so that data can be **assembled from multiple sources**, matched, linked, and aggregated in an efficient and timely manner.

Search & Retrieve Data: Searching and retrieving data quickly is possibly the most important capability required. It is used in investigations, live risk assessments, protecting the public from harm, crime prevention, and for compliance purposes.

We will deliver the capability for Officers and Staff to **access data when and where they need it**, building upon the foundations of our Data Drives Digital initiative. Common search facilities will be made available to local policing, investigators, staff coordinating responses to incidents, and to analysts supporting policing operations.

Insight Delivery & Alerting: The capabilities described earlier may be described as basic and essential, and they will need to be sustained and enhanced over time. However, whilst the needs may be necessary, collectively they provide opportunities for Police Scotland to benefit from additional high value capabilities. It becomes possible to use changes in data to trigger alerts which may be relevant to investigation, operations, and any other activity which relies upon accurate and current information. Real-time decision making becomes a possibility, enabling more flexible and responsive deployment of Officers and resources.

We will enhance the capability that will be delivered within Data Drives Digital initiative to provide the facility to deliver context sensitive alerts to Officers and Staff, again using proven and established tools and technologies to do this.

Data and information will continue to be essential assets to Police Scotland and there is a risk that, without appropriate advancement of our skills and investment in tools and technology, we will be challenged to simply use data as we do today.

Tools, techniques and skills which will assist our Officers and Staff are established and we have proved the value of these in pilot projects that we have delivered within Police Scotland. Importantly, aside from demonstrating that the technology works for us, we have concluded that we have common requirements for using data across Police Scotland.

We have therefore incorporated data, the tools and technologies that enable it to be used and exploited, and the skills required as resources that should exist in common in all aspects of our future operation.

Delivery Model
Digital Division Operating Model

The **Digital Division Target Operating Model** has been designed to enable the delivery of the **Digital Strategy** and to achieve the following ambition for the Organisation:

> Digital Division's ambition is to be the *trusted advisor & supplier* of digital services to policing in Scotland.
>
> We are an integral part of front-line policing, enabling operational improvement and creating high quality experiences for officers, staff and the public.

To deliver the Strategic ambition, and overcome many of the challenges it faces today, we need to reorientate our funding, decision making, and performance to the products that policing in Scotland values. This "product-centric" approach has become increasingly common across the UK public sector over the past 10 years. It is also aligned to wider changes in the digital and technology industry (e.g., software as a service, platforms as a service, infrastructure as a service).

Outlined below is an illustration of how we aim to deliver continuous value, through adoption of a product-centric operating model as our long-term ambition:

Deliver Value at Pace and Scale

Continuous improvement of digital products through regular, incremental releases

04. Maintain, Run & Improve

Managing and prioritising the pipeline of demand, ensuring it is resourced efficiently and effectively

02. Identify & Prioritise

Proactively **engaging with the business** to understand the needs of our customers

01. Engage & Understand

Design & Implement

Designing and developing **products** that meet user needs and **platforms** that are flexible, reusable and safe

03.

Learn, Improve and Innovate

New & Enhanced Capabilities

In designing the new operating model, we are focusing on **developing new and enhancing existing capabilities for Digital Division:**

- Applied Innovation
- Product Teams
- Data Science
- Demand & Capacity Management
- Market Engagement & Vendor Management
- Integrated Digital and Data Services

Digital Strategy Roadmap
Now, Next and Beyond

Key

New

Existing

In order to achieve the long-term strategic plan and deliver against the Strategic Themes, the following capabilities are included in our Digital Strategy:

	Now		Next		Beyond
2023	2024	2025	2026	2027	2028

National Technology Refresh

Body Worn Video (BWV) National

Cyber Security

Core Operation Systems (COS) | **Core Policing Systems Development**

Digital Evidence Sharing

Master Data Management | **Data & Advanced Analytics**

Corporate Services & Capabilities Transformation

Force Wide Analytics | **Integrated (Single) Data Search**

Forensic Services Transformation

Modernised Public Contact and Engagement

New Legislative Compliance

Specialist Crime & Intelligence Capabilities

Specialist Technical Infrastructure

UK National Policing Capabilities

All projects and programmes to support these capabilities will continue to be subject to established governance and approval of their own detailed Initial and Full Business Cases via Portfolio Management Group, Change Board and SPA.

Technology Landscape

Current Technology

API
API

Drones

Advanced Analytics

Wireless Sensor Network

Officer Mobility

Video Conferencing

Robotic Process Automation

Enterprise Search

Workflow

DNA, Fingerprints

Wearables

Technology Being Delivered by the Strategy

Artificial Intelligence and Machine Learning

Continuous Integration & Development

Data-centric Security

Real-time Biometrics Analytics

Digital Communication

Platform-as-a-Service

Augmented Reality

Software Containerisation & Deployment

Crime Scene Video

Application Security Testing Suite

Low-Code Application Platforms

Next Generation Connectivity

Multi-Cloud

Digital Identity and Access Management

Natural Language Technologies

Digital Capabilities
Enabled by Delivery of the Digital Strategy

Next Gen Command and Control Solution

New National Intelligence Solution

National Body Worn Video

National Crime (COS)

Vehicle Mobility

ESMCP – Next Generation Radio Comms

Transactional Website

Single Search and Text Analytics

National Case (COS)

Digital ICCS

Estates Modernisation

Digital Forensics

Unified Communications

New Digital Contact Channels

Digital Evidence Sharing Capability

EV Booking and Analytics

Core Infrastructure

Cyber Security

Data Driven Services

Improved Corporate Solutions

Governance
Structure and Reporting

A Digital Board has been established, Chaired by the Chief Digital and Information Officer (CDIO), to provide a formal governance structure for oversight of the Digital Strategy and associated Technology Roadmap. The Digital Board will comprise of representation from Policing Portfolios, Corporate Services, Change and Digital Division.

The Digital Board will report into existing governance structures including Portfolio Management Group (PMG), Change Board and SPA. The Corporate Management Board will maintain an oversight of the Digital Board. Maintain an overview of delivery of the Digital Strategy, Technology Roadmap, Funding and Prioritisation. Delivery of Projects and Programmes will continue via individual Project and Programme Boards but matters which impact the overall delivery of the Digital Strategy will be referred to the Digital Board.
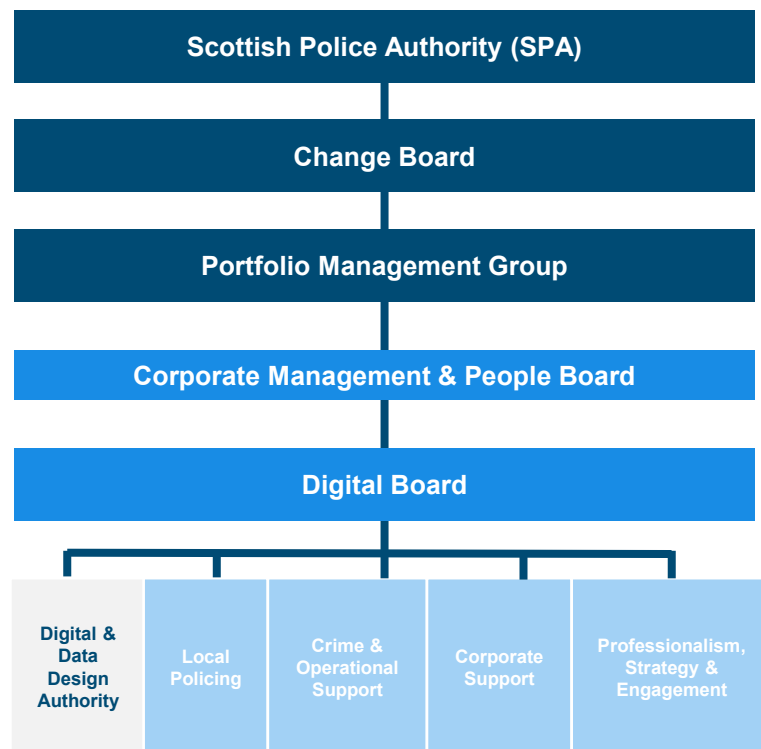
In addition to the Digital Board, a Digital and Data Design Authority consists of technical experts accustomed to the complex technology landscape within Police Scotland who govern decisions relating to services, solutions and products.

As we progress the implementation of the Digital Strategy we will make decisions about the timing and sequencing of new capabilities being introduced.
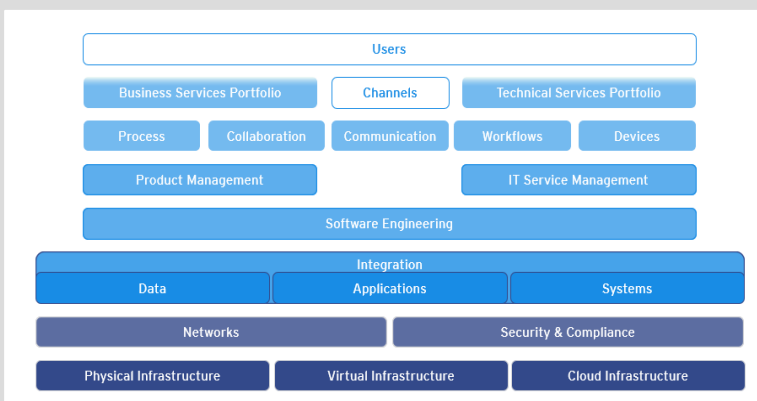
The Digital and Data Design Authority will be responsible for the enterprise architecture including approval and maintenance of the reference architecture.

This forum will enable us remain focused on the end state, so that we do not miss opportunities to better service Police Scotland through the use of technology.

The overarching authority in delivering the Digital Strategy is governed according to the following structure:

Scottish Police Authority (SPA)
Change Board
Portfolio Management Group
Corporate Management & People Board
Digital Board

Digital & Data Design Authority	Local Policing	Crime & Operational Support	Corporate Support	Professionalism, Strategy & Engagement

Reference Architecture

Users				
Business Services Portfolio	Channels	Technical Services Portfolio		
Process	Collaboration	Communication	Workflows	Devices
Product Management		IT Service Management		
Software Engineering				
Integration				
Data		Applications		Systems
Networks		Security & Compliance		
Physical Infrastructure	Virtual Infrastructure	Cloud Infrastructure		

Detailed Reference Architecture and definitions are available in the Appendix

A key component of our new Digital Strategy is a revised reference architecture. It sets out, in business and technology terms, the landscape of solutions that we will deliver and operate.

The refreshed reference architecture model supports our ambition to drive standards, architecture, reusable design and enables agility, flexibility and ultimately best value to the organisation.

Performance Framework

The arrangements for managing the implementation of the Digital Strategy are as follows:

- All new projects and programmes will continue to be subject to established governance and approval of their own detailed Initial and Full Business Cases via Portfolio Management Group, Change Board and SPA

- A **Digital Board** has been established, Chaired by the Chief Digital and Information Officer (CDIO), to provide a formal governance structure for oversight of the Digital Strategy and associated Technology Roadmap. The Digital Board will comprise representation from Policing Portfolios, Corporate Services, Change and Digital Division

- The Digital Board will maintain an **overview of delivery of the Digital Strategy, Technology Roadmap, Funding and Prioritisation**. Delivery of Projects and Programmes will continue via individual Project and Programme Boards but matters which impact the overall delivery of the Digital Strategy will be referred to the Digital Board

- The Digital Board will manage a Risk Register associated with the execution of the Digital Strategy

- The Digital Board will report into existing governance structures including Portfolio Management Group (PMG), Change Board and SPA

- The Digital Board will produce bi-annual reviews of progress made in relation to the Digital Strategy and Technology Roadmap. These reports will be submitted for approval via PS and SPA formal governance

- The Digital Board will meet monthly

- All projects and programmes contained within the Digital Strategy will continue to be subject to Police Scotland and SPA Scrutiny via existing arrangements, including but not limited to formal Business Case approval, PMG and Change Board Updates, Project and Programme Change Control, PMO Scrutiny, Internal Audit Review and Scottish Government Technical Assurance Framework (TAF) Reviews

- The Digital Strategy and Technology Roadmap products will be reviewed on an annual basis and will most likely be subject to formal revision between years 4 and 5

Investment

Capital funding

The capital budget is used to invest in routine replacement of assets and in capital change projects. Capital funding includes Scottish Government capital grant and reform funding, and receipts from the sale of assets.

Financial planning

Developing sound plans to improve and change Scottish policing is critical to the successful achievement of this strategy. These must be underpinned by robust decision making regarding finance and investment. Police Scotland will continue to build its capability in these areas to enable proper scrutiny and accountability by the Authority.

In line with Green Book guidance, Police Scotland has developed a Strategic Outline Business Case to support this strategy, which includes a Financial Case providing an assessment on the affordability of the preferred option and the expected total programme's investments impact on the Balance Sheet and P&L over the next 5 years.

Prioritisation

The robust governance structure ensures alignment to the Joint Strategy for Policing and organisation wide benefits framework which are recognised by the SPA Corporate Governance Framework.

The Digital Board will maintain an overview of delivery of the Digital Strategy, Technology Roadmap, Funding and Prioritisation. Delivery of Projects and Programmes will continue via individual Project and Programme Boards but matters which impact the overall delivery of the Digital Strategy will be referred to the Digital Board.

Digital Sustainability

The Digital Strategy identifies sustainability as both an enabler and a technology design principle.

As outlined in our Environmental Strategy, we rely on technology to support our work to keep people safe, respond to crime, communicate effectively with each other and work effectively with our partners. By using up to date technology and software we can ensure we are operating effectively and in an environmentally conscious manner.

We need to continue to deliver green solutions (e.g., Circular Economy, Energy Efficiency, Waste Management, etc.), allowing us to build sustainability into our strategies and plans. Consequently, we will have a framework of decision making that will always consider sustainable practices, including our procurement practices.

The Digital Strategy aims to deliver sustainable solutions that rely on:

- Technology that supports the work of our people

- Products that help to keep communities safe

- Services that enhance the way Police Scotland respond to crime

- Communication that allows officers and staff to connect and exchange information effectively across our organisation and with our partners

- Up to date technology and software to ensure our organisation is operating effectively and in an environmentally conscious manner

Digital Sustainability
(continued)

The advantages of the Digital Strategy are diverse and focus not only on economic gain but aim to improve our peoples' work experience and their wellbeing. This Strategy also promotes sustainable behaviours and allows for broader cooperation with other key partners, consequently encouraging and inspiring other public bodies to evaluate and examine their approach, and ultimately to undertake appropriate measures that are in line with Governmental Net Zero efforts.

There are number of actions that will help to accelerate digital progression whilst simultaneously tackling the environmental impact of this transition. Consequently, we will:

- Support our Estates function in their structural transformation towards energy efficiency and more sustainable working space

- Propose solutions that are in conjunction with the objectives proposed in other strategies

- Consider how modern technology could support energy efficiency

- Support our Estates function by implementing new technological solutions to monitor utilities.
- Follow WEEE Regulations and implement circular economy principles
- Support our Fleet function in the use of EV and the newly installed EV infrastructure
- Explore how new technologies could improve our peoples' wellbeing
- Consider the impacts of climate change and implement measures in line with our core design principles - to deliver sustainable solutions, products and services which consider their environmental impact and prioritise our investment based on a balance of value, cost, quality and risk

In a circular economy, resources are kept in use for as long as possible, the maximum value is extracted from them whilst in use and then products and materials are recovered and regenerated at the end of each product's viable life cycle. One simple way to express the concept of a circular economy is that it is designed to reduce the demand for raw materials in products; to encourage reuse, repair and manufacture by designing and selling products and materials to last as long as possible; and to recycle waste and energy to maximise the value of any waste that is generated. e.g. WEEE Regulations or Plastic bottles return scheme

Ethical Use of Data-Driven Technology

Policing is undergoing a major shift driven by the need to ensure public confidence while deploying emerging digital technologies

The majority of the Digital Strategy investment in technology is in the 'Now' and the 'Next' primarily due to alignment with policing priorities. Investment in maturing, emerging and future technologies have been explored and see Police Scotland as a pragmatic adopter, in comparison to other UK Forces.

Horizon scanning and development of specific services, solutions and products may see some of these technologies deployed in the 'Now' and the 'Next'.

The development of the new Target Operating Model looks at expanding and formalising capabilities within Digital Division focusing on Digital and Data Innovation.

The Digital and Data Innovation capability will facilitate and support the exploration and development of technology-enabled innovations that will support operational policing to deliver better outcomes for those that they serve.

Ethical Use of Data-Driven Technology

Police Scotland aims to become "an organisation driven by effective and efficient use of data, in an ethical way."

To achieve this, Police Scotland has developed a Data Ethics Governance Framework in order to identify and address the ethical considerations posed by the use of data and data-driven technology.

The Data Ethics Framework was developed in collaboration with the Centre for Data Ethics and Innovation (CDEI) and through engagement across the police service and externally, with academics, civil society and Scottish Government.

Consent and legitimacy in the eyes of the public is at the core of policing in the UK. Practically applying these principles should ensure that Police Scotland take a trustworthy approach to the use of data-driven technology as the service looks to innovate.

Underpinning this trustworthy approach must be a commitment to asking the right questions and developing robust, evidence-based and acceptable responses to them, which are open to internal and external scrutiny and challenge.

All new projects will go through a Data Ethics Assessment as part of the business case development approach. The Data Ethics Governance Process is outline below:

Data Ethics Assessment
- Project completes Data Ethics Assessment at Planning Stage

Data Ethics Triage
- Data Ethics Triage determines whether additional internal & external scrutiny is required

Internal Scrutiny
- For **high risk projects only**
- Use Data Ethics toolkit to identify & mitigate risks

Independent Scrutiny
- For **high risk projects only**
- Use Data Ethics toolkit to identify & mitigate risks

Ongoing Review
- Post deployment monitoring