Digital Scotland

Scottish Digital Government
Best Practices

Scotland's Public Service Reform Strategy: Delivering for Scotland

On June 18, 2025, the Scottish Government unveiled its Public Service Reform Strategy, a comprehensive plan to modernize public services, aiming to address demographic, economic, and technological challenges while improving outcomes for Scotland's communities.

Launched by Public Finance Minister Ivan McKee, the strategy builds on the 2011 Christie Commission's principles—prevention, integration, empowerment, and efficiency—and outlines over 100 actions to ensure services are sustainable, inclusive, and person-centered by 2030s.

It emphasizes collaboration with local councils, public bodies, trade unions, and communities, with a target to save £2.5 billion over five years by reducing corporate spending and optimizing frontline delivery.

Vision and Outcomes

The strategy envisions public services that enhance Scotland's National Performance Framework, focusing on fairness, opportunity, and economic growth. It aims to deliver measurable improvements in health, education, and community well-being, tackling inequalities and fostering resilience amid rising demand and UK Government funding constraints.

Scotland's Public Service Reform Strategy: Delivering for Scotland

Key outcomes include better health through integrated care, improved educational attainment, and stronger local economies, with a commitment to align services with Scotland's net-zero ambitions.

The Case for Reform

Scotland faces increased service demand due to an aging population, workforce shortages, and economic pressures from UK fiscal policies. The strategy highlights the need for bold reform to maintain high-quality services, drawing lessons from past successes like the Scottish Child Payment and the unified Police Service, which saved over £200 million. It stresses prevention to reduce long-term costs and integration to streamline service delivery across sectors.

Approach

The reform approach rests on four pillars:

- **People:** Services will be co-designed with communities, empowering citizens and staff through enhanced participation and workforce development.
- **Prevention:** Investments in early intervention, such as £1 billion annually in early childcare, aim to reduce future demand and inequalities.
- **Integration:** Interoperable digital systems will improve coordination between health, education, and social care, with pilots like Whole Family Support expanding.
- **Efficiency:** Automation, estate rationalization, and a new Digital Strategy will optimize resources, targeting £1.5 billion in savings by reducing back-office costs.

The strategy outlines sector-specific plans, including the NHS Operational Improvement Plan to address health service pressures and the Tackling Child Poverty Plan, aiming to reduce child poverty to 10% by 2030.

A Public Service Reform Board, comprising public, private, and third-sector leaders, will monitor progress, ensuring transparency and accountability. Digital innovations, such as AI-driven precision medicine and accessible NHS appointment systems, are central, alongside leadership development to foster cultural change.

Conclusion

Scotland's Public Service Reform Strategy is a bold blueprint to transform public services, prioritizing prevention, collaboration, and efficiency. By leveraging digital tools, empowering communities, and aligning with national outcomes, it seeks to deliver sustainable, equitable services despite economic challenges. With rigorous oversight and stakeholder engagement, the strategy aims to build a resilient Scotland, ready for the 21st century's demands.

Digital Highlands: The Scottish Government's Cloud Revolution

As they defined in 2019 the Scottish Government set out to develop a centre of excellence for Cloud adoption in the Scottish public sector.

This has since developed into a mature Cloud First policy and the Scottish Cloud Platform.

Exemplar Case Study

Cloud adoption pioneers in the Scottish public sector include the Agricultural Economy Directorate. In this podcast the host is joined by Neill Smith, Head of Infrastructure, and they delve into the intricate journey of the Scottish Government's transition towards a more digital and cloud-centric approach.

This episode offers a unique perspective on how a significant arm of the government, responsible for disbursing around $1 billion in subsidies to farmers, is navigating the complex landscape of modern technology.

Neill shares his insights on the challenges and opportunities presented by cloud migration, emphasizing the importance of understanding and adapting to the specific needs of each workload. He sheds light on the common misconceptions about cloud-first strategies and the importance of a nuanced approach in public sector digital transformation.

They also explore the broader implications of this shift, including the rising expectations of citizens for digital services, the challenges of cloud skills shortages, and the importance of diversity in tech to foster innovative solutions. Neill's perspective on the role of culture and people in driving technological change is particularly thought-provoking.

Digital Highlands: The Scottish Government's Cloud Revolution

Furthermore, we discuss the Scottish Government's commitment to sustainability and how technology is being leveraged to promote greener farming practices. Neill highlights the use of cutting-edge technologies like AI and satellite imagery in agriculture, showcasing how these innovations can lead to more efficient and environmentally friendly practices.

As they delve into the future of application delivery and the vision for a more digital government, this episode is a must-listen for anyone interested in how technology is reshaping the public sector. Neill Smith's expertise and experience offer invaluable insights into the journey of modernizing government services and the strategic deployment of cloud services.

Digital Glasgow - Exemplar Blueprint for Growing a Local Digital Economy

Glasgow offers an exemplar of how regional digital strategies form the component parts of an overall Digital Nation program.

In their online report Scotland's largest city has published its first digital plan since 2018, with a focus on enabling citizens to get the most out of tech, rather than on major reform schemes.

The six-year strategy is aimed at triggering organisational change to balance the benefits of digital with people's digital rights. The council says that, unlike its previous strategy, "it is not a technology strategy, and cannot be delivered by technology alone".

Localizing a Digital Nation Action Plan

This approach is important because while Central Government can define the high level policy programs, for example an ambition for the UK to lead in AI, the practical 'rubber meets the road' execution occurs at a very local level, and to this end local government also needs policy blueprints to work from.

Glasgow offers such a blueprint, with their strategy articulating three core missions of:

Digital Glasgow - Exemplar Blueprint for Growing a Local Digital Economy

- A Fair and Empowered Digital Society, to be achieved through goals including **i)** Improve Digital Inclusion and Equality, **ii)** Build Confidence and Trust in Digital Services and **iii)** Increase Involvement and Participation.
- An Inclusive Digital Economy, where citizens are equipped with digital skills through working with education partners, and with goals to: **i)** Improve the Availability, Capacity, and Quality of Digital Connectivity, **ii)** Develop the pipeline of digital skills, providing opportunities for all and **iii)** Improve opportunities for Glasgow's tech ecosystem.
- Deliver Sustainable and Innovative Digital Public Services, the principle use of IT by the council to deliver online services, with goals to **i)** Improve the efficiency, resilience, and agility of our operations, **ii)** Improve the Customer Experience of our Services, and **iii)** Redesign services to improve outcomes for our citizens and communities.

There is then an accompanying Action Plan for each mission, and case study examples of projects to deliver on these goals, such as a Glasgow Code Learning and economic industry innovation programs, such as a Telecomms Unit.

The essential dynamic that this program demonstrates is that the council's Digital Government strategy builds on a foundation of it's own IT systems being used to deliver the core online services, but expands well beyond this to address the whole scope of the local digital economy, from skills for local residents through efforts to grow it's technology sector.

Digital Glasgow - Exemplar Blueprint for Growing a Local Digital Economy

Glasgow City councillor Paul Leinster said: "The new Digital Glasgow Strategy recognises the increased role that digital technology and services will play in the future, and sets out the key actions to deliver the key priorities of the strategy. These priorities include not only the delivery of innovative digital public services that bring an improved experience for all those who receive them; but also make our digital economy more inclusive, to increase opportunities and develop skills; and to encourage and enable greater digital inclusion, participation and confidence."

Scottish Schools Pioneering the Eduverse - The Educational Metaverse

A keystone foundation for a Digital Nation is harnessing the latest technologies to deliver world class Education for schools and workplaces.

For example digital guru Bernard Marr explores How The 'Metaverse' Will Transform Education, where he describes how this powerful innovation is poised to create more engaging experiences for students of all ages.

The Metaverse is a 3D virtual world where you can meet, play, work and interact with others via digital avatars. Pioneering Scottish schools are harnessing this technology to transform how they deliver 21st century Education

Scottish EdTech Pioneers

This includes ESMS, where Mr Simon Luxford-Moore, Head of eLearning, has a deep passion for teaching and importantly, for modernizing it to deliver the best learning experience for students. He was understandably recognised as one of the TES Edtech 50 leaders in 2020.

Scottish Schools Pioneering the Eduverse - The Educational Metaverse

Mr Luxford-Moore explained how this adds a new category of learning modes. There is visual, auditory and kinaesthetic, and Simon defines 'Experiential' as a fourth, with quite profound implications and benefits for teaching.

He is passionate about inclusive learning, where if you design teaching to accommodate a neuro-diverse audience the minority of whom may have the most difficulties, from physical to mental challenges, it will be all encompassing, beneficial to all the students. VR offers a mode of engagement that addresses these challenges and removes barriers to learning in a way that traditional media cannot.

An example of an experiential lesson was a virtual tour of the Mecca pilgrimage, where students participated via VR in the Hajj, something that no non-Muslim can do. This is an excellent and simple example of fostering cultural and religious appreciation and understanding. The students also learned about rainforests through a VR tour and as one young pupil described it enables an experience "beyond the rectangle of a picture".

Harnessing the Creator Economy

Simon reviewed a number of potential VR solutions for the school, settling on ClassVR because of one critical feature – the ability to create and upload one's own content. Others could only make use of content pre-built by the supplier.

Scottish Schools Pioneering the Eduverse - The Educational Metaverse

This is the key to unlock Scotland's digital education future. Using advanced tools like Blender ClassVR can create sophisticated virtual tour content for schools, and being UK-based have been very responsive to Mr Luxford-Moore's requirements, such as creating a castle siege scenario, even endorsing the flags with the school logo, but critically he can also create his own using simple 360 camera devices and enhancing it with tools like ThingLink.

For example he used this approach to create a virtual tour of New Lanark, closed to the public due to the pandemic, and has even shared tours of their own school, a historic Victorian building. They also act as a hub centre, where other schools who don't have the technology can visit and make use of it.

The two biggest trends of the technology industry for the 21st century are 'the Metaverse' and the 'Creator Economy', an evolution of the Internet to a wholly immersive virtual world combined with the tools that enable everyone to create the experiences within it.

Scotland's ambition to be a world-leading digital nation lies in harnessing these trends to transform our Education system, where schoolchildren are empowered to create learning content shared with other students, using the tools and technologies central to the future of the 21st century.

Critically it breaks down the barriers between public and private schools, creating a single playing field where investments and learning by one school is contributed to a shared pool from which all can benefit.

Forfar Academy

Another keynote exemplar is Forfar Academy, utilizing the technologies to involve students in building skills that will have huge value in the most modern of workplaces.

Therefore there are multiple benefits to this approach. It's not only pioneering a state of the art learning approach for students, but it's achieving what the Scottish Government's overall goal is for their digital strategy: To put Scotland at the very forefront of technology in global terms.

As they highlight in their tweets below Forfar are leveraging the technology to expose students to knowledge about technology in new ways and crucially, engaging them into scenarios that have massive commercialization potential, such as building virtual tourism experiences or applying the technology in a business setting like a factory production facility.

This will equip them with skills and knowledge of immense value to Scottish businesses.

Featured Vendors

ClassVR

Highlighting the potential to create Metaverse environment's for a variety of niche and vertical industry requirements, Avanti's World from Avantis Education boasts the first for Education.

Styled and structured as a theme park Avanti's World is split into lands, with various zones and learning scenes for students to explore independently. Every learning scene provides a fully immersive experience where students can discover, investigate and research as if they were there in person. From the moon, to inside a plant cell, Avanti's World lets you explore the impossible, all from the safety of a ClassVR headset or web browser.

Edverse

Another example of a vendor pioneering this space is Edverse. Their platform is the largest and most immersive virtual education platform, designed as the first step toward building the "Eduverse". It is a decentralized, collaborative, and interoperable platform that offers numerous opportunities for HRs, professors, teachers, and learners.

Metaverse classrooms can be used in its various variants as future ready 3D classrooms, online conference rooms, a metaverse space to host all kinds of online competitions, host alumni meetups, conduct joint classes with partner institutions and come loaded with some amazing tech tools to power an amazing experience.

The Digital Front Door - Revolutionizing Access to Health and Social Care Services in Scotland

Scotland's National Health Service (NHS) is advancing an ambitious initiative to implement a Digital Front Door (DFD) platform, a key component of its Digital Health and Care Strategy, designed to revolutionize access to health and social care services.

Unlike England's NHS App, which is tailored to its specific healthcare infrastructure, Scotland's DFD is a custom-built solution that integrates both health and social care services into a single, user-friendly digital interface.

This platform aims to empower citizens to take control of their care, streamline administrative processes, and enhance service efficiency. The initial launch is scheduled for December 2025 in Lanarkshire, with a progressive national rollout planned throughout 2026, marking a significant step toward a digital-first healthcare system.

Unified Service Access

The DFD will serve as a comprehensive access point, available through a website and mobile app, enabling users to manage their health and care needs seamlessly. Patients will be able to access and update personal health records, including hospital appointments, test results, and screening invitations, while receiving digital notifications, such as appointment reminders, to reduce reliance on costly traditional methods like postal services. For instance, NHS Tayside alone spent £7.64 million on postage between 2019 and 2022.

The Digital Front Door - Revolutionizing Access to Health and Social Care Services in Scotland

The platform will also facilitate direct interactions, such as booking appointments, ordering prescriptions, and accessing virtual consultations. By leveraging Scotland's Community Health Index (CHI), the DFD will ensure seamless data integration across health and social care services, supporting innovative programs like digital dermatology, mental health referrals (which reached 74,000 in 2023–24), and long-term condition management. Additionally, the platform will extend to social care, potentially enabling referrals for community care assessments or automating benefits processes.

Development of the DFD, which began in 2022, is led by NHS Education for Scotland (NES), with a £27.8 million contract awarded to BJSS in May 2025 to support delivery. The project involves close collaboration with health boards, local authorities, and stakeholders like COSLA to ensure alignment with Scotland's unique care landscape.

The platform is being co-designed with input from citizens, including those with lived experience, and organizations such as Disability Equality Scotland and Age Scotland. An Equality Impact Assessment (EQIA) is guiding efforts to address digital access barriers, particularly for rural and marginalized communities, ensuring inclusivity. The project's budget reflects significant investment, with £0.75 million allocated in 2021/22, £2 million in 2022/23, £1.5 million in 2023/24, and £12 million for the 2025/26 initial launch, underscoring its priority within Scotland's healthcare agenda.

Public Service Reform

The DFD aligns with broader strategic goals outlined in Scotland's NHS Operational Improvement Plan and Public Service Reform Strategy, which aim to reduce waiting times, shift care to community settings, and achieve £2.5 billion in savings by 2030. It complements initiatives like the Accelerated National Innovation Adoption (ANIA) pathway, which fast-tracks technologies such as digital dermatology, and the Hospital at Home program, set to expand to 2,000 beds by 2026.

However, the project has faced criticism, particularly from the Scottish Conservatives, who argue that the DFD lags behind England's NHS App, launched in 2019, and highlight cost escalations from an initial £12 million estimate. Concerns also arise about the complexity of integrating social care data, which some fear could delay progress, though officials emphasize its necessity for a holistic approach. To address digital inclusion, the government is committed to providing non-digital alternatives and supporting digital literacy initiatives.

Looking ahead, the DFD holds transformative potential, with aspirations to integrate with wider public services, such as prison systems or benefits administration, and to leverage emerging technologies like AI and robotics for prevention and efficiency. By prioritizing co-design, interoperability, and inclusivity, Scotland's DFD aims to deliver a modern, accessible platform that meets the needs of its diverse population, reduces pressure on the NHS, and sets a foundation for a resilient, digital-first health and social care system.

In this presentation Police Scotland share their five year Digital Strategy.

This brings together Police Scotland's ambition and demand of Digital, Technology and Data nationally, and showcases the successful delivery to date since the last strategy was published in 2018.

This demonstrates the ethically focused approach and sets out the capabilities required by a 21st Century National Police Service as well as the powering of transformation activity which enables improvement in service delivery.

In essence this is made up of two main focus areas: Digital Transformation, how the organization is increasingly becoming more digital in the same way all enterprises are, and Cyber Policing, a digital capability unique to policing.

Digital Transformation

Police Scotland describe their transformation journey as moving 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."

This is being implemented across a number of main work streams:

Cyber Policing - Digital Strategy for Police Scotland

- **Legacy applications –** Police Scotland invested in replacing aging, legacy infrastructure resulting in a significant reduction in the level of technical debt and associated risk, consolidating core operational systems by creating national applications to support standardised ways of working, such as national crime and case management.
- **Digital Contact Centre –** They introduced 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 which will enable them to develop further ways for the public to engage, making it easy, convenient, and safe to contact the police.

- **Virtual Workplace –** Enabled a shift to remote working with most officers and police staff now equipped with mobile devices and laptops (over 15,000 devices deployed). Desktop video conferencing and collaboration tools were rolled out nationally, reducing travel and increasing productive hours.
- **Networking –** 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.
- **Cyber Security –** 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.

Cyber Policing - Digital Strategy for Police Scotland

The last point highlights that Police Scotland deal with dual aspects of cyber security, both in general terms of protecting their own IT assets in the same way every enterprise does, as well as adopting and pioneering practices that are unique to policing, given their role of identifying, intercepting and prosecuting cyber crime.

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.

The exponential rise in demand for Cyber Policing services, combined with the prolific and borderless nature of cybercrime, requires a different approach, which includes:

- **Cybercrime Investigations and Digital Forensics –** As they describe here Police Scotland's Cybercrime Investigations and Digital Forensics departments have national coverage and provides expertise and specialist support to Local Policing and other departments. This includes technical assistance in the examination and analysis of digital devices.
- **Digital Courts –** They collaborated with the Scottish Courts and other criminal justice partners to introduce remote court hearings and sentencing for criminal cases in the High Court, enabled via video link to accused persons remanded in custody, and commenced delivery of the new Digital Evidence Sharing Capability (DESC), which contributes to modernisation of the criminal justice system, and equipped armed police officers with body worn video cameras to better protect the public and police officers and provide best evidence at court.

Police Scotland also undertake the critical activity of informing the public, developing and sharing educational resources that better equip end users to protect themselves online, as this tweet demonstrates, providing a detailed guide for students explaining the types of scams and frauds they may encounter.

AI Innovations and Adoption Resources for the Scottish Public Sector

Scottish councils are increasingly integrating AI into their operations to enhance public services, improve efficiency, and address local challenges, aligning with Scotland's broader vision to become a leader in trustworthy, ethical, and inclusive AI.

This vision is guided by the Scottish AI Strategy, launched in March 2021 by the Scottish AI Alliance, a partnership between the Scottish Government and The Data Lab.

The strategy emphasizes transparent, ethical AI adoption to deliver better economic, social, and environmental outcomes, and councils are leveraging this framework to implement AI in practical and innovative ways, ultimately with a goal to improve lives.

AI Register

One significant initiative is the Scottish AI Register, a publicly accessible database launched to log all AI projects used or developed by public sector bodies, including councils. This register, which became mandatory for Scottish Government departments in a phased rollout, encourages councils to document their AI systems, fostering transparency and public trust.

For example, councils are using AI to improve public services, such as optimizing resource allocation and enhancing customer query responses. The register allows residents to explore these systems, understand their applications, and provide feedback, ensuring AI is developed with community input and ethical oversight.

The Scottish Government's use of the AI tool "Consult," part of the Humphrey suite, to analyze responses to a public consultation on non-surgical cosmetic procedures, marks a UK first.

This tool processed over 2,000 responses, identifying key themes with near-identical accuracy to human reviewers, saving time and reducing costs while maintaining consistency and minimizing bias. Councils are likely to adopt similar tools to streamline public engagement processes, enabling faster policy development and more efficient use of resources.

Public Sector Innovation

Beyond administrative applications, councils are exploring AI to address specific community needs. For instance, AI is being piloted to improve environmental planning, forestry, and marine management, such as using AI to monitor marine mammal behavior near acoustic deterrent devices, which could enhance conservation efforts.

In social services, councils are adopting AI to support vulnerable populations, drawing inspiration from initiatives like the Scottish Children's Reporter Administration, which has explored AI's potential to enhance decision-making in sensitive service areas while prioritizing transparency through the AI Register.

Additionally, councils benefit from the Scottish Government's CivTech program, which awarded £9 million in 2025 to 14 companies developing AI solutions for public sector challenges, such as detecting cancer risks among rescue workers. These innovations, supported by Scotland's rich ecosystem of universities and tech firms, are accessible to councils for local implementation, fostering collaboration between public bodies and private innovators.

Despite these advancements, Scottish councils face challenges in scaling AI adoption. A lack of expertise, cited as a barrier by 35% of UK organizations, and high costs, noted by 30%, are significant hurdles, particularly for smaller councils.

To address this, the Scottish AI Playbook provides councils with practical toolkits, case studies, and a six-stage AI maturity framework to guide implementation. The Playbook emphasizes ethical AI use, aligning with principles like fairness, accountability, and societal well-being, and is supported by community events and peer-driven networks.

Additionally, councils are encouraged to leverage Scotland's AI ecosystem, including partnerships with institutions like The National Robotarium, which supports the new AI Scotland transformation program announced in the 2025-26 Programme for Government. This program aims to advance AI adoption across public and private sectors, with councils as key beneficiaries.

Ethical AI Adoption

Ethical considerations and public trust are central to AI adoption in Scottish councils. The Scottish AI Strategy incorporates UNICEF's policy guidance on AI for children, ensuring systems impacting young people prioritize their rights.

Councils are also engaging residents through the Scottish Government's Consultation Hub and focus groups to gather feedback on AI initiatives, reinforcing a commitment to inclusivity. However, concerns about data privacy and the need for robust infrastructure persist, prompting councils to adopt lightweight AI models and explore unified platforms to reduce costs by up to 60%.

The Scottish AI Alliance's free online course, "Living with AI" and events like the Holyrood Connect AI & Cloud Innovation Summit further support councils by raising awareness and building digital skills among staff and residents.

Conclusion

In summary, Scottish councils are harnessing AI to transform services, from streamlining public consultations to enhancing environmental management and social care, guided by the Scottish AI Strategy's focus on ethical and inclusive innovation. While challenges like expertise gaps and costs remain, national initiatives like the AI Register, CivTech, and AI Scotland provide critical support.

By fostering collaboration, transparency, and community engagement, Scottish councils are positioning themselves to deliver smarter, fairer, and more efficient services, contributing to Scotland's ambition to lead in ethical AI adoption.

Aberdeen City Council Streamlines 'Digital Front Door' with Microsoft AI Chatbots

One of Scotland's largest local authorities is using the Microsoft Cloud to transform its social care services by designing a new ecosystem in partnership with its own social workers.

Aberdeen City Council, a local government in Scotland with 8,000 employees, faced increased demand for services like healthcare, mental health, and housing amid budget cuts and workforce shortages.

Aberdeen City Council has been working with Microsoft to drive a cutting-edge programme to upscale and redesign services for 230,000 people in the area.

Microsoft's Dynamics 365 is being used to bring adult and children's social care data and workflows together in one place, where staff will be able to record, share and analyse information with greater ease, supported by automation.

365 Copilot Productivity

As this case study describes to address administrative overload and enhance service delivery for its 230,000 residents, the Council deployed Microsoft 365 Copilot to 700 staff across various services.

Led by Andy MacDonald, Executive Director of Corporate Services, the initiative aimed to automate repetitive tasks such as producing meeting minutes, reports, policy documents, and translations, freeing staff for more resident-focused work.

As existing Microsoft 365 users, the Council leveraged technology champions to ensure smooth adoption. Copilot's integration improved productivity and job satisfaction, with user surveys showing weekly time savings and a projected 241% ROI, equating to $3 million in annual savings.

Aberdeen City Council Streamlines 'Digital Front Door' with Microsoft AI Chatbots

Notably, neurodivergent employees benefited significantly from Copilot's capabilities. The Council also piloted a telephony solution using Microsoft Dynamics 365, enabling personalized resident communication via Facebook Messenger. These efforts enhanced operational efficiency, redirected staff toward community initiatives, and improved service delivery, particularly for vulnerable residents, positioning Aberdeen as a technology trailblazer in local governance.

Revamping the digital front door to council services

Furthermore Aberdeen has pioneered the use of Azure AI to streamline the online citizen contact experience. They were the first local authority in Scotland with a virtual assistant when it launched its AB-1 chatbot with Microsoft in 2020.

It has now launched an improved version of AB-1 in Azure, which has helped it to optimise and scale the chatbot. New generative AI capabilities also mean it can understand more complex questions and respond with more detailed answers.

Enabling citizens to help themselves to round-the-clock support, AB-1 handles queries on topics such as refuse collection, school term dates and council tax. The Council also has an internal version of AB-1, answering questions about topics such as wages and annual leave for the Council's 8000 staff.

Aberdeen City Council Streamlines 'Digital Front Door' with Microsoft AI Chatbots

And while the original chatbot reduced the number of calls and emails to the Council, freeing up staff for more meaningful and in-person work, the latest version of AB-1 is producing even greater efficiencies.

> "Early testing shows AB-1 is now answering twice as many questions, and we expect volumes to increase," says Andy MacDonald, Executive Director of Corporate Services at the Council. "Customers can now get most of their answers online."

Microsoft supported Aberdeen's developers during the creation of the original AB-1. It's now helping the Council to optimise and develop the upgraded chatbot's training, using Copilot Studio. The team is also making sure that the chatbot's feedback mode is enabled, so it can keep analysing and learning from past interactions.

When AB-1 launched it featured a unique ability to take some basic questions in Doric, the regional dialect. The Council is now finalising a forthcoming edition with an enhanced understanding of Doric, which will also be able to support several other languages. These will include some of the most widely-spoken languages in the area, such as Polish, Lithuanian, Ukrainian and Russian.

ScotAccount is the Digital Identity program for the Scottish public sector.

The digital identity service is intended to simplify the process of accessing public services by allowing users to sign in to multiple services with a single account.

In this blog Laurie Brown, Digital Information Security Officer, provides strategic information security direction, assurance, and governance across a number of Scottish Government digital public services including the work to introduce ScotAccount.

ScotAccount went live in partnership with Disclosure Scotland as a pilot at the end of February 2023, where it has been integrated into Disclosure Scotland's new online service, providing users with digital access to their disclosure results.

ScotAccount is exploring compliance with the UK's digital identity and attributes trust framework, potentially paving the way for future interoperability with the GOV.UK One Login service.

Other initiatives include 'Vouchsafe', being developed to provide a social vouching element for proving an identity. This involves one person with a verified identity vouching for another to establish their digital identity, rather than relying on a document such as a passport or driving licence.

History

Previous Identity projects leading up to this include:

ScotAccount - A New Way for Users to Access Online Public Services in Scotland

- Announced on their web site and documented in their case study Yoti signed a deal with the Improvement Service to help transform local and regional services, and give Scottish residents an easier and safer way of proving their age and entitlement to access a wide range of services, rewards and discounts.
- The Digital Identity team and Digital Health and Social Care Institute completed a trial with Mydex, to test the use of a strong authentication credential (registration/login) to enable re-use across services and also establishing a citizen controlled attribute store that is also re-usable across services. The project is documented in detail in this Mydex report.
- Condatis undertook a Proof of Concept project for the Scottish Government, where service providers, such as Social Security Scotland, need to have confidence in the identity of the citizen accessing their services balanced with a seamless and productive user experience.

With the UK, Europe and the USA all pioneering the adoption of 'Citizen Wallets' as the centrepiece of their digital identity strategies, this trend will shape public sector technology more so than any other.

This is because it represents a shift from centralized data store design to a decentralized model, where individuals themselves hold and control their own personal information.

When you consider the vast estate of enterprise applications that governments operate, each one storing one particular view of citizen data, for example their Healthcare records, and how much duplication, error and cost is associated with this legacy debt, it's clear just how profoundly transformation this shift could be.

Glass

The opportunity for Scotland to be at the heart of this trend is headlined by the work of Professor Bill Buchanan at Napier University. In this Medium blog he shares his compelling vision for fully digitized public services, with the Citizen Wallet being the central design feature.

The research that underpins this vision that could foster a portfolio of high value commercializations is 'Glass', which Bill explains in this Medium blog, linking to the core research document here.
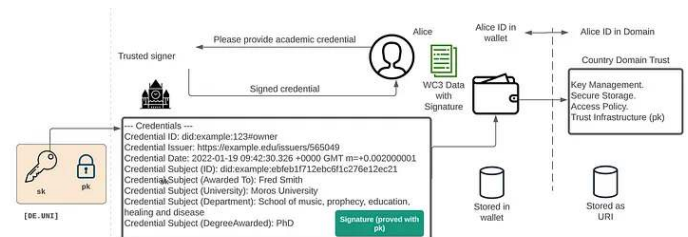
The GLASS digital wallet, part of an EU project aimed at empowering citizens with control over their digital identities through self-sovereign identity (SSI). This system uses private-public key pairs for secure, citizen-controlled transactions, moving away from traditional third-party trust providers.

The European Blockchain Services Infrastructure (EBSI), established under the European Blockchain Partnership, supports this initiative with use cases like self-sovereign identity, diplomas, document traceability, and trusted data sharing.

The GLASS wallet enables citizens to securely store and share verifiable credentials, such as academic awards, signed by trusted entities like universities and verified via a public ledger.

From An Analogue to a Digital NHS

Bill describes the imperative mirrored by the ambition the UK Government has, to achieve a transformation "from an analogue to a digital NHS".

Ultimately it's a very simple agenda. All of us have experienced a healthcare service that often features lots of paper-based bureaucracy or at best interaction with multiple 'silos' of isolated patient data applications. Governments across the world have spent $ billions trying to create a single interconnected system, but it's such a vast and complex industry it's proven unachievable.

A digital wallet approach simply avoids this complexity by leveraging a decentralized, Internet-scale approach: In short, patients themselves hold and own their own data records, in the wallet.

The EU initiative defines how Identity is beginning to overlap with the world of Blockchain and Web 3.0; Digital Wallets are a keystone feature of this new economy, featuring as the common component in other scenarios like crypto currencies, with users increasingly willing to use them for identity verification.

The key dynamic of this approach is that it's intended as a building block, for universal digital transactions and interchange. For example the Mobile Ecosystem Forum presents on how it would enable a Travel Use Case, and the Payments Association describes it as Money Without Borders.

Personal Data Stores

The digital identity wallet will be based on decentralized technology, ensuring that individuals have full control over their personal data. It will also comply with the EU's strict data protection regulations, providing users with peace of mind regarding the security and privacy of their information.

The most challenging aspect of this new approach is how it radically changes how data is stored and shared. Governments are used to the traditional, centralized application-centric approach where they host and control citizen data in a single database, and implement data regulation and sharing policies based on that core premise.
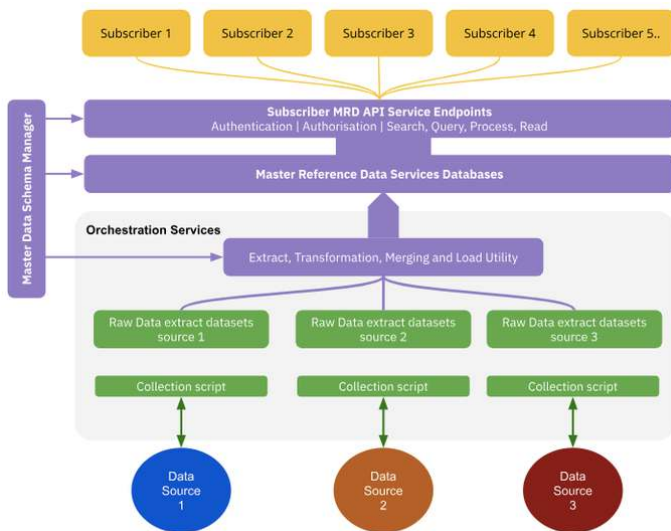
Digital wallets upend that core premise entirely. Now there is no central database, the data is distributed and controlled by the users themselves, stored in the wallet.

This concept is known as a 'Personal Data Store', and in this article experts in this field Mydex explore this new paradigm and shares best practices for how data can be managed and shared in this scenario.

They explain the model for how the goal of a Digital NHS can be achieved through this new paradigm, one that is super simple but extremely powerful: Who better to maintain, manage and control user data, than the user themselves.

As they explain in a second article in the series it also facilitates an entirely new model for data sharing between users and agencies, what they call a 'PDX' – Personal Data Exchange, a set of APIs so that service providers can connect their systems to an individual's PDS, enabling them (and the individual) to share and receive data.

For organizations who have spent decades collecting and storing citizen data in traditional enterprise applications this new model will require a profoundly different operating model, and a deeply challenging transformation to implement it. However given these decades have yet to deliver the objective of a wholly digitized healthcare and public sector, it's clear a new approach is required, and an Internet-centric decentralized architecture is the logical evolution that is capable of finally doing so.

Pioneering Blockchain Adoption in the Scottish Public Sector

Blockchain technology, often misunderstood as merely the backbone of cryptocurrencies, is emerging as a transformative force for governance, public services, and economic growth.

Scotland, with its rich history of innovation and forward-thinking policies, is positioning itself as a global leader in blockchain adoption, leveraging this technology to deliver secure, citizen-centric solutions.

From enhancing data privacy to streamlining public services, the Scottish public and private sectors can pioneer a future where blockchain drives trust and unlocks a projected £4bn economic opportunity for the nation.

A Vision Rooted in Trust

At its core, blockchain is a decentralized, tamper-proof digital ledger that ensures data integrity and transparency.

For the public sector, where trust is paramount, this technology offers unparalleled potential. Scotland's Blockchain and Digital Trust Taskforce, alongside the Scottish Centre of Excellence for Digital Trust and Distributed Ledger Technology, is spearheading efforts to integrate blockchain into public services.

These initiatives are not about chasing technological trends but about addressing real-world challenges: safeguarding sensitive citizen data, reducing bureaucratic inefficiencies, and fostering accountability in governance. By embracing blockchain, Scotland is building a foundation where citizens can trust that their data is secure, their services are efficient, and their government is transparent.

Pioneering Blockchain Adoption in the Scottish Public Sector

As Peter Ferry and Sarah Forbes describe in this article and this one Scotland is actively advancing blockchain technology as a commercial product through initiatives led by the Blockchain and Digital Trust Taskforce and the Scottish Centre of Excellence for Digital Trust and Distributed Ledger Technology.

The UK's 2023 Electronic Trade Documents Act supports blockchain by equating certain digital documents to paper ones, enabling innovations like digital product passports for end-to-end traceability. Scotland's universities and events like the Block Start conference in Glasgow foster talent and industry collaboration.

Transforming the Public Sector

Beyond procurement, blockchain is poised to transform how Scotland delivers public services. Consider healthcare, where patient records are often fragmented across systems, leading to inefficiencies and potential errors.

Blockchain can create a secure, unified platform for health data, accessible only to authorized parties, ensuring privacy while enabling seamless coordination between hospitals, clinics, and patients. This approach not only enhances care delivery but also empowers citizens by giving them control over their data—a cornerstone of Scotland's digital trust agenda.

Similarly, blockchain can streamline welfare and benefits systems. By using smart contracts—self-executing agreements coded on the blockchain—Scotland could automate processes like eligibility checks and payments, reducing administrative costs and ensuring funds reach citizens faster.

Imagine a future where every piece of equipment in a Scottish hospital is traceable to its origin, ensuring compliance with environmental and ethical standards. This is not a distant dream but a tangible reality being shaped today, supported by the UK's 2023 Electronic Trade Documents Act, which equates certain digital documents to their paper counterparts, paving the way for blockchain-enabled innovations.

Blockchain Roadmap and Industry Collaborations

The global blockchain market is projected to reach $291bn by 2030, and Scotland is well-positioned to claim a significant share of this growth.

By embedding blockchain in public sector operations, Scotland is not only enhancing efficiency but also setting a global standard for responsible adoption. The Scottish Government's commitment to ethical innovation ensures that blockchain serves people, not profits, aligning with the nation's values of fairness and inclusivity.

Scottish Enterprise has developed a roadmap to support the incubation and acceleration of new ventures in Scotland. This charts a number of distinct technology sub-trends and opportunity segments, and provides a starting point and catalyst framework to enable industry-wide collaboration. This could be extended to work with key industry driving pioneers like the British Blockchain Association, who have developed a UK blockchain roadmap.

Pioneering Blockchain Adoption in the Scottish Public Sector

Scotland has always been a land of pioneers—from the steam engine to the television—and blockchain is the next frontier. By leading with courage and clarity, Scotland's public sector can inspire the world, proving that technology, when wielded with purpose, can transform lives and build a brighter, more trusted future.