

Digital Services Strategy

2021 – 2024

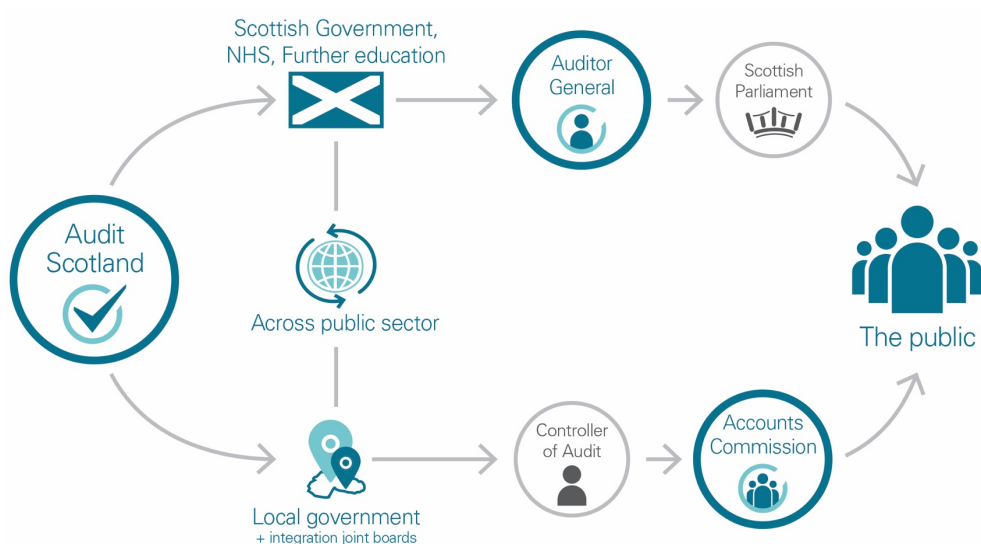


Prepared by Digital Services Management Team
Approved by Audit Scotland's Board on 24/03/2021

Who we are

The Auditor General, the Accounts Commission and Audit Scotland work together to deliver public audit in Scotland:

- The Auditor General for Scotland is an independent crown appointment, made on the recommendation of the Scottish Parliament, to audit the Scottish Government, NHS and other bodies and report to Parliament on their financial health and performance.
- The Accounts Commission is an independent public body appointed by Scottish ministers to hold local government to account. The Controller of Audit is an independent post established by statute, with powers to report directly to the Commission on the audit of local government.
- Audit Scotland is governed by a board, consisting of the Auditor General for Scotland, the chair of the Accounts Commission, a non-executive board chair, and two non-executive members appointed by the Scottish Commission for Public Audit, a commission of the Scottish Parliament.



About us

Our vision is to be a world-class audit organisation that improves the use of public money.

Through our work for the Auditor General for Scotland and the Accounts Commission, we provide independent assurance to the people of Scotland that public money is spent properly and provides value. We aim to achieve this by:

- carrying out relevant and timely audits of the way the public sector manages and spends money
- reporting our findings and conclusions in public
- identifying risks, making clear and relevant recommendations.

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Introduction

1. This Digital Services strategy aims to ensure that Audit Scotland:

- has the digital skills and technology to help drive changes in the way we work, particularly in areas such as digital audit, team-working and communications
- has the digital resources, capacity and support needed to support the growth we need to make to meet our changing and expanding responsibilities and role
- can take full advantage of the significant opportunities to shape our contribution to Scotland and for our workforce to shape their careers and working lives
- enables all colleagues to work safely, effectively and sustainably, and are able to fully participate in the organisation whatever their preferred working patterns
- provides the resources and working opportunities that continues to attract high quality candidates and retains excellent people.

2. The world in which we work has changed. The Covid-19 pandemic has significantly altered many aspects of the public sector and will have a lasting impact. It has also changed how we work and our understanding of how we operate. In that context, we need to make major changes as an organisation to what we do and how we do it in all aspects of our operations, to ensure we are able to meet our changing and growing role and to take advantage of the many opportunities to reshape our purpose, our work and our organisation.

3. This extraordinary situation is the primary driver for the 2021-24 Digital Services Strategy. The strategy aims to ensure that all our digital systems and services will support our strategic programme of changes and will enable all colleagues to deliver high quality work and have rewarding careers regardless of their physical locations or working patterns.

4. This strategy is designed to integrate with the Digital Audit Strategy and support the delivery of the Strategic Improvement Plan and the Corporate Plan's strategic objectives.

Consultation

5. As well as reacting to the changing environment we operate in, we also need to understand our colleagues' needs and the priorities for developing our systems and services. We consulted with representatives from all business functions and conducted companywide lightning surveys to better understand what our colleagues needed from a new Digital Services Strategy. The results and findings of this consultation are available in appendices 2 & 3.

6. We also reviewed technology roadmaps for what new systems and services are expected to become available in the next two years, alongside expert predictions on how work would change as a result of Covid-19.

7. We will continue to work with the Accounts Commission to develop an approach which delivers the services they need and maintains the high digital security standards required.

Strategic objectives

8. The three new strategic objectives of the 2021-24 Digital Services Strategy are detailed below.
9. They seek to ensure that all the digital systems and services we will deliver will provide an environment that is independent of location, where colleagues can work safely, securely and effectively, while supporting high quality audit work.
10. They redefine our previous digital services strategic goals of resilience and innovation into three new compact and accessible strategic objectives.
11. Each strategic objective is designed to be clear and measurable, informed by feedback from meetings with all areas of our business and the results from a series of all staff polls.
12. Each strategic objective considers the external factors and business needs that it seeks to address and sets out granular milestone objectives that will be used to measure its success.
13. Each objective is also designed to support the delivery of the Strategic Improvement Plan, the Corporate Plan and integrate with the Digital Audit Strategy.

Digital Services Strategic Objectives for the period 2021 to 2024

- **Enhance our Cyber Security** – We will continue to improve the safety of our online and remote work environments, ensuring cyber security is a priority and embedded in everything we do.
- **Provide the systems and services for a Virtual Business** – We will ensure all our digital systems and services are resilient, dynamic and independent of location by 2024.
- **Digital Transformation** – We will provide the digital tools, skills and training resources to allow colleagues to work smarter together while working remotely.

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14. The Digital Services Management Team (DSMT) will report quarterly to the Knowledge Information, Technology and Governance Group (KITGG) on progress on the milestone objectives and we will publish a progress update every six months.

Enhancing our cyber security

15. We will continue to improve the safety of our online and remote work environments, ensuring cyber security is a priority and embedded in everything we do.

16. The external factors that drive this objective are set out below:

16.1. Lockdown restrictions have limited physical businesses, they have also limited physical criminal activity resulting in greater transition to cybercrime. During 2020 the National Cyber Security Centre (NCSC) has reported a 33% increase in the number of victims of cyber-crime activity with around a quarter related to coronavirus.

16.2. The NCSC are also reporting a 300% increase in reported ransomware incidents with successful ransomware attacks against some English councils resulting in significant financial damage and preventing normal business function for many months.

16.2.1. Cyber criminals continue to use ever more sophisticated phishing techniques to access a network and then remain hidden, often for months, searching for specific sensitive or valuable data before attacking.

16.2.2. Cyber criminals are also adapting their attack methods. Rather than just preventing access by encrypting data, criminals are also stealing sensitive data and threatening to leak it publicly using Data Protection fines as a form of ransom.

16.3. Colleagues are currently working from home, with most interaction occurring virtually through video meetings, file, screen sharing and email. These changes to how business functions are being actively targeted by cyber criminals looking to exploit any vulnerability to generate income.

17. The business needs that drive this objective:

17.1. Our Lightning poll told us that 70% colleagues wanted even higher levels of cyber security.

17.2. Focus Group feedback – colleagues understand the need for Cyber Security and see the effects of weak cyber security in other business. However, they find the limitations it imposes frustrating and would like clearer guidance and safe environments to allow them to work safely and effectively.

18. Our milestone objectives to enhance our cyber security are:

18.1. Implement immutable cloud backups – We will put into effect cloud services that make one-time backups of our critical data ensuring that it can never be overwritten or encrypted, significantly mitigating the threat of a successful ransomware attack.

18.2. Deliver enhanced endpoint protection and remote management of all our devices – We will deploy software and services to all our devices to allow remote management, rapid vulnerability patching together with advanced threat monitoring and real time malware scanning.

18.3. Deploy remote management of all apps that store or manage our information – We will instigate services to control apps that store or process our information on both corporate and colleagues' personal devices allowing us to restrict or prevent activity that could result in successful cyber-attacks or result in an information or ransomware breach.

18.4. Protect our controlled and personal data wherever it resides – Together with the Corporate Governance team, we will introduce sensitivity labelling which will restrict the high-risk activity for personal and controlled information reducing the risk of a ransomware breach.

18.5. Implement a 'least permissive' model for all services, enable sandboxing and attack surface reduction by default – We will review all existing systems and services as well as ensure all new systems and services only provide the functions they need to and only after successful authentication, access the other systems that are essential to those functions.

18.6. Provide active and automated threat hunting with forensic logging together with risk-based threat monitoring and cloud behaviour analysis – We will implement automated services on both our physical network and our cloud services that look for, and alert us on any unauthorised network behaviour indicative of a ransomware intrusion. We will also instigate forensic logging to enable us to track and undo any successful malicious activity.

18.7. Partner with a Cyber Incident Response partner for escalation of critical incidents – We will engage a NCSC approved Cyber Incident response partner to provide us with on call expert skills and services to manage any active cyber-attacks as well as supply specialist technical audit and incident preparedness training.

18.8. Maintain ISO 27001 certification – We will maintain our ISO 27001 Information Security certification and require that all suppliers requiring access to Audit Scotland information, systems and/or premises are also ISO 27001 certified.

Providing the systems and services for a virtual business

19. We will ensure all our digital systems and services are resilient, dynamic and independent of location by 2024.

20. The external factors that drive this objective:

20.1. The 2020 pandemic and resulting lockdown has required colleagues are able to work safely, securely, and effectively from any location. We must continue to maintain colleague's safety and business effectiveness regardless of possible future biological, environmental or political changes.

20.2. The United Nations classify Climate Change as 'the defining issue of our time and we are at a defining moment'. Reducing the distance colleagues are required to travel to complete their work reduces our carbon emissions.

20.3. The core principle of our Time Place & Travel guidance is that 'work is something that we do rather than a place we go to' and we need to provide appropriate devices, systems and services to facilitate this.

20.4. If colleagues choose to work from different locations and at different times our systems and services need to become:

20.4.1. More resilient - no longer reliant on a single location or network for service or support.

20.4.2. More dynamic - able to scale up to deliver performance at peak times but scale down when not needed to reduce our carbon emissions and reduce cost.

20.5. With such a significant change in working locations our existing workspaces need to become more versatile adapting to the needs of new ways of working while maximising the safety of our colleagues.

21. The business needs that drive this objective are:

21.1. Our Lightning poll told us that:

- 38% of colleagues wanted MS Teams to be the default meeting type, 58% wanted Teams for meetings with remote colleagues and clients but would still engage in local face to face meetings and 4% wanted to revert to all meetings being physical face to face.
- 51% of colleagues run Teams on a laptop while 38% of colleagues use Teams on a mobile device, 9% use Citrix and 2% would like a dedicated Teams device.
- 71% of colleagues will use Teams for meetings but still use email for internal communication. 19% will use Teams as their primary method of internal communication and 10% would like to use Teams for both internal and external communication.
- 58% of colleagues have or wish to have Audit Scotland laptops to work on while 11% wish to use Chromebooks. 31% would like to use their personal devices when working from home but of that 31% of respondents 56% would want an Audit Scotland laptop to work at clients.
- 49% of colleagues were content to use a mobile phone to make and receive external telephone calls, 37% wanted to use MS Teams for telephony and 14% wanted to continue to use desk phones when in the office.
- 80% of colleagues have little or no issues with their broadband connection for work, 17% broadband connection is adequate, but they experience some problem that affects their ability to work while 4% have very poor broadband and/or must use a mobile hotspot.
- 62% of colleagues have a dedicated workspace at home, 36% have limited workspace and/or need to put devices away at the end of the workday while 2% have no permanent workspace.
- 74% of colleagues found sharing information either easy or acceptable, 26% had to continue to use email or other methods with some clients and 2% could not use our sharing tools with clients.

21.2. Focus Group feedback – Colleagues welcome the allocation of laptops, mobiles, additional screens and peripherals. A small number of colleagues are struggling with poor connectivity. There is strong appetite for more integrated cloud services but less consensus on which ones. Video conferencing is the default method of communicating within teams but communication with clients is limited by the clients own technological resources which requires us to be more adaptive. Some of our software systems are now becoming outdated and colleagues are keen to see them updated and delivered as cloud solutions. Data Analytics is becoming an increasingly important component of our audit process and will require specialist environments and skills.

22. Our milestone objectives to provide the systems and services for a Virtual Business are to:

22.1. Ensure all colleagues have access to a secure device suitable for working anywhere – We will equip all colleagues, who request them, with an Audit Scotland laptop and mobile phone.

22.2. Transition all communication and telephony to mobile services suitable for working anywhere – We will ensure all colleagues have access to multiple devices that will deliver telephony, video conferencing, email, messaging and screen sharing.

22.3. Improve the resilience and speed of our network connectivity – We will deliver faster direct connectivity from our network to our cloud services together with improving the stability and connectivity of our network. We will also upgrade our mobile hotspots transitioning to 5G as it becomes available.

22.4. Provide the services to support advanced analytics and provide cloud-based digital audit tools – We will move all data analytics and data warehouse functions to pay as you go cloud services by mid-2022.

22.5. Migrate all existing on-premise systems to cloud-based secure, resilience services – We will support:

22.5.1. the procurement and delivery of a modern, resilient cloud-based Electronic Working Papers (EWP) system by 2024.

22.5.2. the procurement and delivery of a resilient cloud-based integrated Business Management System (BMS) that will combine all Finance, Human Resources, Organisational Development and Performance Management Framework functions into one centralised system.

22.5.3. the transition and development of cloud-based solutions for corporate services systems to support our design, communication and resource management functions.

22.6. Implement a versatile work environment that supports both remote and office working – We will:

22.6.1. equip offices as work hubs with bookable desks, personal equipment, high capacity fast WiFi, print stations and rooms equipped for virtual meetings.

22.6.2. provide additional monitors, keyboards, mice and stands together with any assistive devices to facilitate home working.

Digital transformation

23. We will provide the digital tools, skills and training resources to allow colleagues to work smarter together while working remotely.

24. The external factors that drive this objective are:

24.1. Our work environment is changing with an increasing amount of auditable information being made available in a digital form. To audit digital information, colleagues need the necessary tools and skills to help them to analyse and present data from different sources to provide greater insight.

24.2. Working from any location limits access to support resources such as the Digital Service Team's Service Desk, it requires colleagues to manage local network connections and troubleshoot common problems.

24.3. As video conferencing and document sharing become the default method of auditing remotely colleagues require training resources that allow everyone to better manage this new environment.

25. The business needs that drive this objective are:

25.1. Our Lightning poll told us that:

- 71% of colleagues will use Teams for meetings but still use email for internal communication. 19% will use Teams as their primary method of internal communication and 10% would like to use Teams for both internal and external communication.
- 42% of colleagues said they did not need any additional support for working remotely, 35% wanted additional support in the form of self-learning resources and 23% required more training including direct team or 1-2-1 training with a specialist.

- 67% of colleagues considered the volume of communication from Digital Service sufficient to keep them informed. 33% thought there was too much information and either ignored it or had to set aside time to read it.
- 48% of colleagues were content with the methods Digital Services used to communicate but 52% considered there were too many methods of sharing information and wanted just one location/method to receive updates

25.2. Focus Group feedback – Our colleagues were consistent in their request for more training and self-help material, particularly in the use of MS Teams. Some groups have adapted well but others feel left behind by such a rapid change. Generally, colleagues would like a simpler more centralised communication regarding upcoming changes as well as new training material. There is a significant requirement to better support the Data Analytics Team as well as deliver integration and insight tools as part of our core services.

26. Our milestone objectives to provide the digital tools, skills and training resources to allow colleagues to work smarter together while working remotely are:

26.1. Working smarter together – We will:

26.1.1. Combine all our business functions into a new Business Management System (BMS) that joins our Performance Management Framework, HR&OD functions and Finance services into one new mobile accessible system to manage all colleague services. The Business Management System will also provide a platform for workforce management services to better measure our business efficiency and deliver improved effectiveness.

26.1.2. Integrate all our information, combining both internal, external, structured and unstructured audit information in a meaningful way. Using open data and API's across all new services including EWP and our new BMS.

26.1.3. Provide the insight to understand and use this information to improve our audit processes and improve all parts of our business through multi-layered tools that provide analytics and reporting for all levels.

26.1.4. Support the data analytics team by providing the virtual cloud environments and advanced analytics and development necessary to deliver a data analytics lab. We will also provide the networking, security and development skills necessary to build and maintain these systems.

26.1.5. Make these services available everywhere through web interfaces, so that colleagues working from a remote location can directly access advanced environments such as the data analytics lab.

26.2. Inclusivity – Working with our HR&OD colleagues we will provide extensive training resources so that all colleagues can:

26.2.1. develop a core digital competency, giving them the confidence to troubleshoot and resolve the most common remote working issues.

26.2.2. learn how to best use the new tools for virtual meetings, file sharing and remote auditing.

26.3. Clear concise communication – We will focus our communication, ensuring there is a single location where colleagues can obtain all information on updates and changes in a condensed more frequent form. We will also provide “public service announcements” on how to keep their personal devices safe.

26.4. A resilient team of digital experts in analytics, data management and development – We will increase our development team by one FTE to improve the resilience of this small but critical team and expand its expertise to strengthen our integration projects and, together

with the data analytics team, expand our analytic tools to provide more accessible audit insights.

Resourcing and delivery

27. Delivering the 2021-2024 Digital Services Strategy will necessitate the following:

27.1. Revenue – Additional spending to enhance our cyber security has already been factored into Digital Service budget but there will be unknown additional on-going costs for both the EWP and BMS services which if they exceed current on-going costs will require additional budget bids.

27.2. Capital – Short to medium term demands for additional devices and implementation of new services has already been factored into Digital Service budget for 2020-2021. Planned future budget provision for and 2021-2022 and 2022-2023 should be sufficient if the planned transition of capital to revenue is suspended. Project implementation costs for both the EWP and BMS services will require independent budget bids.

27.3. Staffing – An additional 1 FTE member of the development team, a Cloud Application Developer, to add resilience to deliver the integration and insight components of our Digital Transformation strategic objective and provide resilience in the Development Team to deliver the systems and services for a Virtual Business. The Digital Services Staffing Structure is available in appendix 1.

27.4. Provisional Digital Services Budget for 2021 to 2023 including estimated costing for additional 1 FTE member

	Budget 2020-21	Budget 2021-22	Budget 2022-23
Staff Costs	558,122	573,652	585,246
Services Costs	520,300	520,055	520,060
Total Revenue Budget	1,078,422	1,093,707	1,105,306
Capital Budget	150,000	150,000	150,000 ⁽¹⁾
Additional 1 FTE Developer ⁽²⁾	14,600	58,500	58,500

⁽¹⁾ Estimate based on previous years requirements

⁽²⁾ Estimate of total employee costs based on current market rate and employment from January 2021

28. The strategy is resourced through proactive horizon scanning, to identify when strategic programmes and projects will be implemented over the course of upcoming years. This involves careful consideration of changes in technical, licensing, security and infrastructure requirements and necessitates effective planning to maximise affordability from annual revenue and capital budgets as well as utilising the full potential of the Digital Services team.

29. As part of this planning the following year is 'road mapped' in a rolling project timeline, that allows the DSMT and Digital Project Manager to accurately plan resources, budget allocation and dependencies across current, ongoing and upcoming programmes and projects.

Digital services strategy

2021-2024

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