Edinburgh College

Edinburgh College

DIGITAL STRATEGY

2023 - 2026

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1. EXECUTIVE SUMMARY

As Scotland's Capital College, Edinburgh College's responsibility, reach and impact is significant. We deliver lifechanging education and training to people across the city, the region and beyond. We will build on the strong foundations already in place, to ensure we continue to be the right shape and right size to deliver for our people, our region and our partners.

Our Strategic Plan aims to 'enhance our technological readiness and digital capabilities, so we can optimise technology-enabled learning, teaching, support and operations across our College'.

The use of digital technologies has been, and will continue to be, a key defining feature of our College's collective performance and is critical to future proofing our curriculum, how we deliver learning, and reimagining current business processes.

What we deliver and how we deliver it, aligned to our long-term financial sustainability, will be heavily dependent on our digital capacity, in terms of our digital proposition for staff, students, and stakeholders.

This Digital Strategy aligns to The Scottish Government's digital strategy, A changing nation: how Scotland will thrive in a digital world, which sets out how digital will be at the heart of everything we do, how it will deliver economic growth, education and skills, reform our public services, and prepare our future generations for the workplace of the future.

This Digital Strategy is comprised of three strategic themes, described below:

- Digital and Data Skills for Staff and Students
- Data Driven Innovation for Transformational Services
- Providing Superb Technology and Infrastructure

The strategy also contains key actions, aligned to these three themes, which commit the College to enhancing digital skills, talent and infrastructure, and will enable us to play a critical role in driving forward change to deliver the digital aspirations of the region and the nation.

This strategy links with the College's other four strategic pillars (Commercial, Curriculum, Finance and People) and will contribute to our overarching ambition of fundamentally improving the educational, social, economic and environmental wellbeing of our students and communities, as set out in the Strategic Plan.

2. BACKGROUND AND CONTEXT

2.1. Where are we now? – National Context

The Scottish Government's Digital Strategy for Scotland sets out a strategy to transform the digital landscape in Scotland. Improving digital skills and innovation play a significant role in the strategy, and colleges are critical to this ambition.

Another important aspect of the strategy is the digital transformation of public services, and the 'Technology Standards and Assurance' for public sector organisations. The government has created several standards and assurance procedures to help public sector organisations comply with legislation and achieve best practice as they transform and develop their digital practices.

The Digital First Service Standard was created to help organisations meet the minimum standard required when transforming their citizen-facing services. The Open Data Strategy and Open Data Resource Pack support public sector organisations in making their non-personal data accessible. The Data Hosting and Data Centre Strategy sets out a vision for Scotland's public sector data hosting to be cost-effective, carbon-neutral and, where appropriate, cloud-based. Furthermore, Digital transformation highlights the need to introduce shared technology platforms to reform and improve services. All of this will result in increased sharing of data and digital identity, ultimately for easier access to public services, and the introduction of a 'Digital by Default' principle when designing public services.

Digital transformation highlights the need to introduce shared technology platforms to reform and improve services.

Whilst the initial scope considers digital identity in public services in the NHS, Social Security and Local Authorities, there is already similar work happening for data sharing between Skills Development Scotland, colleges, schools and universities, with the aim of supporting an individual's learner journey into fulfilling and sustainable positive destinations. It also shows that the skills context noted in 1.1 and the innovation context in 1.2 are inextricably linked.

The Scottish Government's National Strategy for Economic Transformation (NSET) sets out a plan to deliver a wellbeing economy for Scotland over the next decade. In a more detailed response to the NSET, the Digital Economy Skills Action Plan identifies some of the key actions required to drive digital skills and makes five calls to action. In priority actions 2 and 4, there is an emphasis on colleges developing and delivering courses that integrate experiential learning, integrate tech into their non-tech courses, and identify opportunities for digital programmes to dedicate provision for under-represented groups.

Scotland National Strategy for Economic Transformation: A Wellbeing Economy

Programmes of Action

- A fairer more equal society
- Entrepreneurial people and culture
- New market opportunities
- Productive businesses and regions
- Skilled workforce

SDS Strategic Plan 2022-27: Skills for a Changing World

- Industry Focused Skills
- Inclusive Talent Pool
- Invested Employers
- Intelligence led System
- Impactful Organisation

DESAP - Supporting the digital economy skills requirements of Scotland's employers

Areas of Opportunity

- Supporting a Vibrant Technology Economy will Contribute to Economic Growth
- Supporting Growth in Emerging Sectors will Contribute to Scotland's Prosperity
- Increasing Scotland's Digital Maturity Will Lead to Increased Productivity Growth
- Supporting a Diverse Digital Economy will Contribute to Inclusive Growth
- Cross-sector Collaboration to Address the Climate Emergency

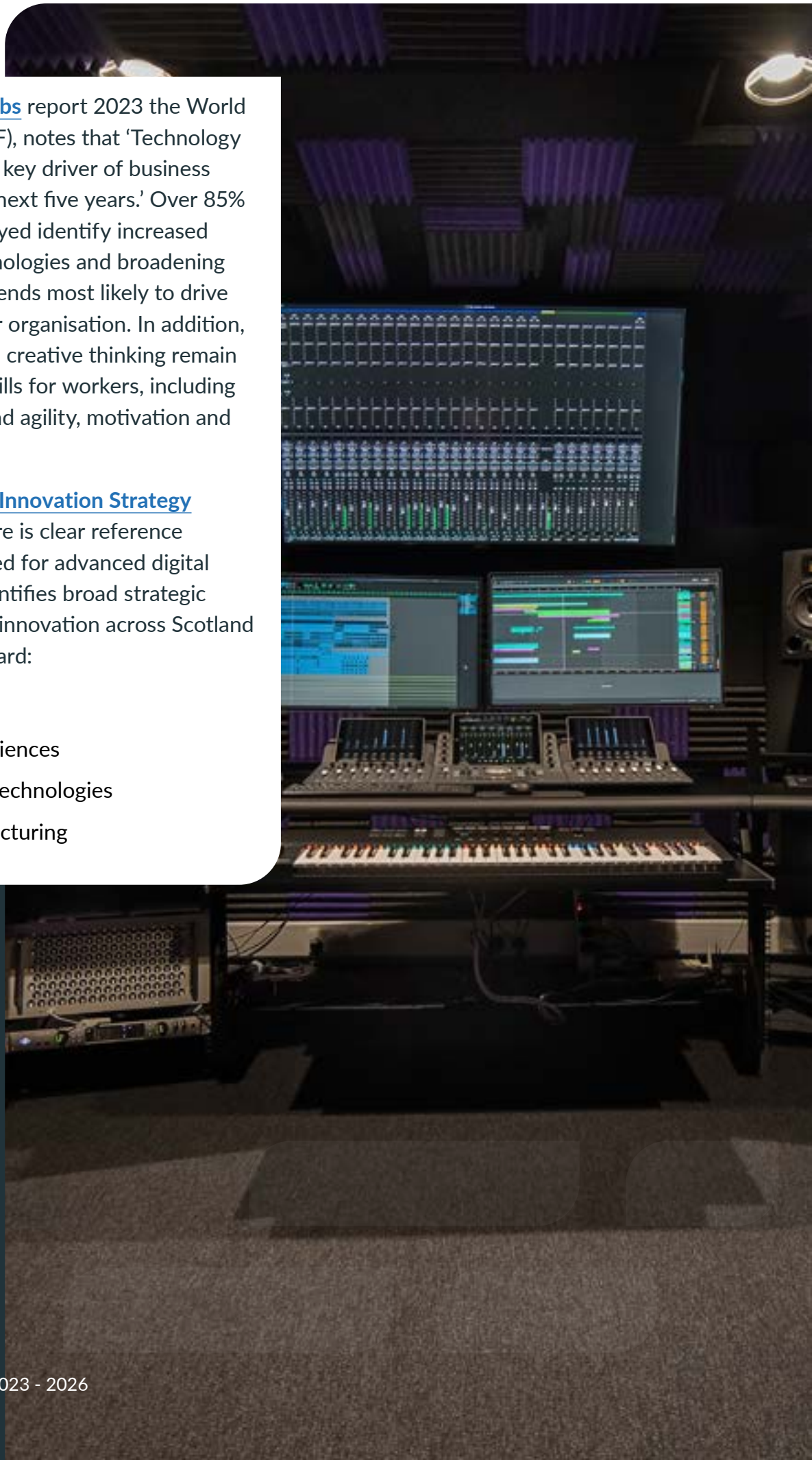
Areas for Action

- Create opportunities for all young people to develop critical digital economy skills which will support a high-growth, resilient and Inclusive Scottish economy
- Improve the evidence base of current and future digital economy skills needs to support the transition to a digital economy and increase the pace of economic growth
- Improve the digital leadership skills of small and medium sized organisation to enable more rapid scale-up and growth
- Ensure that more skills and employment opportunities contribute to a fairer, more inclusive, and diverse Digital Economy
- Rapidly increase the acquisition of critical digital economy skills through workforce development, upskilling and reskilling

In its **The Future of Jobs** report 2023 the World Economic Forum (WEF), notes that 'Technology adoption will remain a key driver of business transformation in the next five years.' Over 85% of organisations surveyed identify increased adoption of new technologies and broadening digital access as the trends most likely to drive transformation in their organisation. In addition, analytical thinking and creative thinking remain the most important skills for workers, including resilience, flexibility and agility, motivation and self-awareness.

In Scotland's National **Innovation Strategy** published in 2023 there is clear reference throughout on the need for advanced digital skills. The strategy identifies broad strategic themes around which innovation across Scotland should be driven forward:

- Energy Transition
- Health and Life Sciences
- Data and Digital Technologies
- Advanced Manufacturing



Scotland's AI strategy sets out three parallel tracks to build an AI 'powerhouse' and notes that 'because data powers AI, we recognise that our data infrastructure is crucial to Scotland's future'. The strategy also indicates that 'AI only creates value when it's based on the right high-quality data'. AI will play a large role in the development of our College, through integrated approaches in learning and teaching, and the development of machine learning to support business analytics and applications to support the learner journey. We will need to be 'trustworthy, ethical and inclusive' in the use of AI, as noted in the national AI strategy.

In 2022 ScotlandIS, which represents and supports businesses and organisations creating and delivering digital products and services, published the Scottish Technology Industry Survey.

The survey indicated that the most in demand digital skills are sales and marketing (84%), software and web development (69%), and cyber and leadership skills. It identified that 34% of the UK digital sector was located in Edinburgh and the Lothians, the most active tech sector outside of London. So, it is clear that our College has a key role to play in building the digital capacity for industry requirements.

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2.2. Where are we now? – Regional Context

The aim of the **Edinburgh and South East Scotland City Region Deal** Data-Driven Innovation (DDI) Programme is to establish the region as the Data Capital of Europe.

To achieve this, the DDI Programme enhances the data capability of the region across key industry sectors through five areas of activity:

Talent: by meeting data skills demands through a range of new undergraduate, post graduate and professional development programmes;

Research: through expanding the City Region's leading DDI research activities to meet industry and other sectors future data needs;

Adoption: by increasing the practical use and adoption of DDI by the public, private and third sectors;

Data: by providing the secure data storage, analytical capacity and data accessibility to underpin all DDI Programme activities and;

Entrepreneurship: by enabling entrepreneurs to develop new fast growth DDI-based businesses.

The DDI Programme is delivered through a network of five DDI Hubs - Bayes Centre, National Robotarium, Edinburgh Futures Institute (EFI), Usher Institute, and Easter Bush.

Meet data skills demands through a range of new undergraduate, post graduate and professional development programmes

The Edinburgh and South East Scotland City Region Deal notes that colleges have worked together to embed critical data science skills into non-traditional technology disciplines. Students in health and social care, sport, horse care, rural skills, hair and beauty, business, and construction were all given the opportunity to gain data science skills to take them into their respective industries.

The Data Education Colleges website highlights opportunities to provide continuing professional development for digital skills for all.

2.3. Where are we now? – College Context

To date, our College has reached a number of key milestones towards achieving its digital ambitions.

- **Adoption of Microsoft 365:** a system to allow more seamless remote access, for communication and cloud based storage of information for collaboration
- **Unified Communication:** migration of telephony systems to a fully integrated Microsoft Teams solution, which allows external and internal callers to reach across the College and leave messages.
- **Moodle:** A resilient Virtual Learning Environment (VLE) which is updated and adapted on a regular basis to ensure the best version, apps and functionality is provided to support all areas of Blended Learning. Updated areas will also be provided to ensure that students have access to various levels of essential and appropriate digital and related skills. There are approximately 90% of lecturing staff using Moodle to support and aid teaching and 80% of students are active on Moodle.
- **Apple Certified Training Centre:** establishing the College as a sector leader. The accreditation enables us to build on delivering high-quality training and certification to students in key Apple software applications, used by professionals in the creative industries.
- **Digital Innovation;** we have dedicated spaces across campuses to encourage creativity and innovation amongst students. The Codespace, Fujitsu and STEM Fablab areas were designed to allow research and development for students from across the curriculum to collaborate on innovation projects. The award winning Digital Health Care Hubs at Sighthill and Milton Road campuses are sector leading spaces fit for future delivery.
- **Digital focused learning spaces:** New digital training suits have been created at Granton within the new library's Digital Hub and Milton Road and Sighthill (to be in place August 2024) These dedicated spaces allow training, workshops and presentations to staff groups covering all areas of Digital technology in Learning and Teaching and Support roles
- **Digital Accessibility:** a full review of our college application system has been completed, resulting in a full redesign with accessibility embedded within the foundations. A service design approach was used to realise entrepreneurial ideas.
- **Student Digital Platforms:** these have been combined to give a strong unified college digital journey as a foundation to build upon. This has been developed using shared design components to help provide consistency and ensure higher digital participation is achieved from our applicants and students.

- **Staff Zone** is a dedicated online (Moodle) environment for College staff to provide skills, training, courses, resources, support and contextual pathways, such as the POD (Preparation for Online Delivery) Map which highlights essential procedures, skills, suggestions and practices that could be used when delivering online and suggestions for the most suitable software for content creation within subject areas and delivery formats. This will be absorbed into U-Learn in 2024.

- **Supporting our Digital Tech industries - 2i Testing collaboration:** has led to a unique pipeline of graduates entering employment directly through a series of collaboratively created computer science learning programmes.

- In-house experts in the College have been developing innovative and **bespoke digital and data solutions.** Examples include a bespoke application and enrolment system, data visualisation tools to assist business and curriculum planning as well as apps to support the student learner journey.

- **Unified and simplified eCommerce pay and enrol process:** automated systems were created to allow bursary payments, and customer course payments to flow through simple unified systems, such as those used in transport or online shopping.

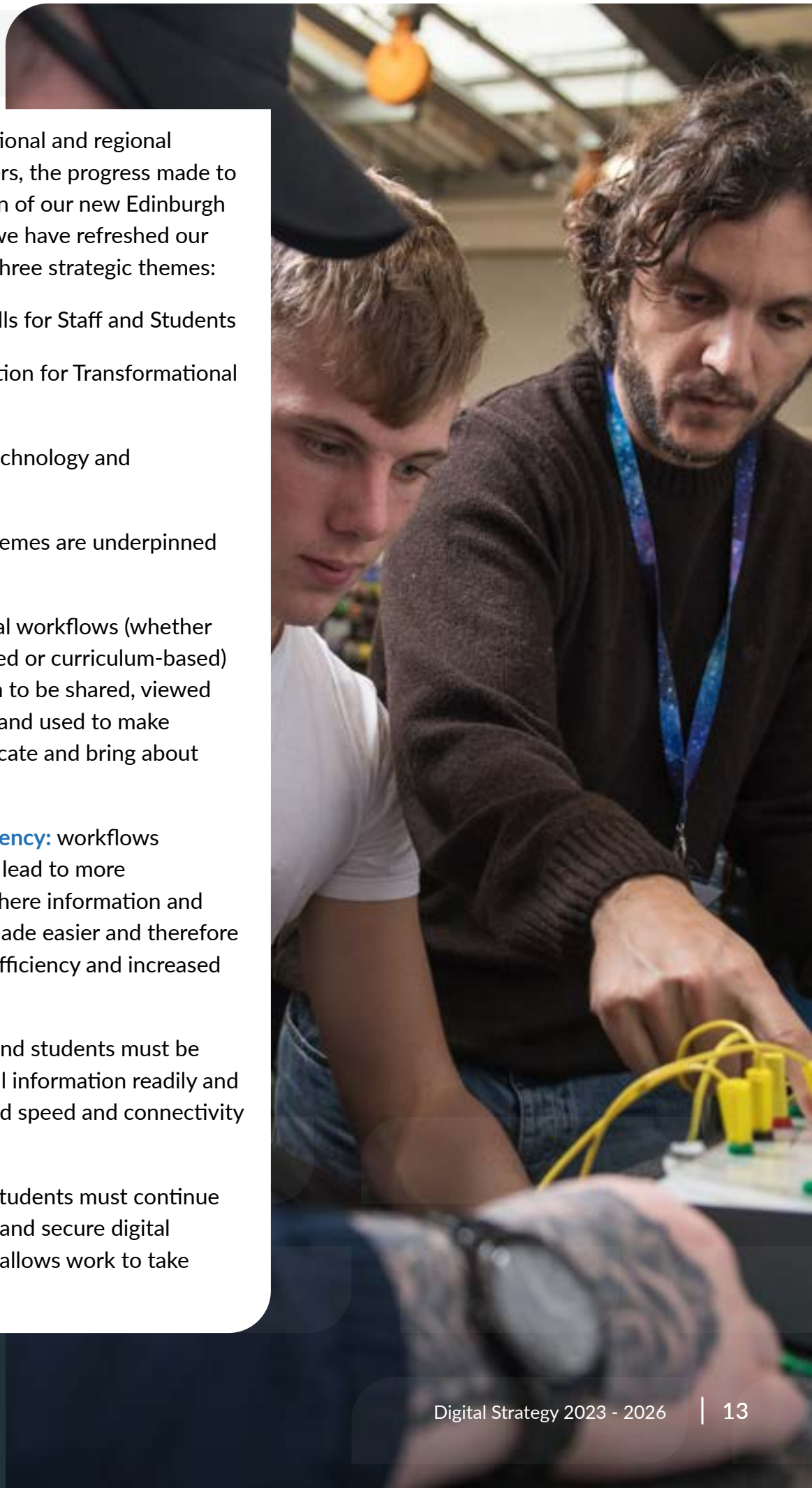
- **Digital Immersive Learning** has been integrated into learning and teaching in many areas across the College, in Construction, Engineering and Health. The award winning VR Dementia programme has led to multiple collaborations and VR projects in the sector.

In light of the above national and regional developments and drivers, the progress made to date, and the publication of our new Edinburgh College Strategic Plan, we have refreshed our digital strategy around three strategic themes:

- Digital and Data Skills for Staff and Students
- Data Driven Innovation for Transformational Services
- Providing Superb Technology and Infrastructure

These three strategic themes are underpinned by the principles of:

- **Collaboration:** digital workflows (whether College service-based or curriculum-based) to allow information to be shared, viewed in teams or groups, and used to make decisions, communicate and bring about positive outcomes.
- **Simplicity and efficiency:** workflows and operation must lead to more efficient working, where information and communication is made easier and therefore leads to increased efficiency and increased productivity.
- **Accessibility:** staff and students must be able to access digital information readily and easily, with increased speed and connectivity at the core.
- **Security:** staff and students must continue to operate in a safe and secure digital environment which allows work to take place unhindered.



There are three priorities that our College must focus on to achieve the above:

- Deliver a coordinated data skills development programme for all staff, to include data skills
- Invest in new digital applications and the VLE platform to provide resilience and enable opportunity for all
- Invest in spaces across campuses to enable digital learning to take place more flexibly than ever before

The implementation of this strategy will utilise the McKinsey 6 Building Blocks for creating a high performing digital organisation: strategy and innovation, the customer decision journey, process automation, organisation, technology, and data and analytics.

This Digital Strategy will address our current challenges:

- In terms of digital skills training for students, Microsoft 365 skills are prevalent across the College, however the use of PowerBI for data-based presentations is in relatively early stages of use.
- The 2022/23 student survey outcome for IT facilities was 91%, based on the percentage of what students would like the College to do to improve their overall experience. However, future funding pressures and current replacement cycles reaching the end of lifespan could lead to lower outcomes.
- There has been a co-ordinated approach to data skills training for staff, however there is a risk that training does not continue at the same rate of adoption over the next three years.
- Innovation in digital transformation and service improvement has been delivered in many areas, however robust planning and structures need to be in place. This will ensure that current capacity can support future expectations, and noting where outsourcing of AI-related products will need to be progressed. Where Open API platforms are used, security and trusted data sources will be essential.
- When implementing any digital transformational change processes, staffing structures, roles and responsibilities, leadership and culture will likely lead to challenges requiring clear workforce development planning. We will prioritise the needs and feedback of the end-users in all digital initiatives.
- Data security and data protection will be a constant risk to operations. Our training and security measures as detailed in our Cybersecurity Policy will require constant monitoring through our governance procedures.
- We will base investment decisions on thorough research, risk assessments, and ROI analysis.

3. AIMS AND OBJECTIVES

3.1. Where do we want to get to?

This Digital Strategy has been developed and aligned to three priority strategic themes, to advance digital skills and innovation across our College.

Specific goals and actions are described below, aligned to the three priority themes:

Priority 1

DIGITAL AND DATA SKILLS FOR STAFF AND STUDENTS

BUSINESS DEVELOPMENT OBJECTIVES

Staff digital and data upskilling

Goal: Embed data skills into contextual project-based learning for all full-time students. This will link from the City Region Deal DDI Skills programme. A bank of contextual learning and teaching materials, and open-source data, will be created which students will be able to use to support data projects. Contemporary approaches to assessments will be used, such as web logs and eportfolios.

Goal: Upskilling staff via the new College Learning Development online environment U-Learn for the effective teaching of digital and data skills, as well as providing all staff with current skills to be data workers and data professionals,. For more advanced users, staff will be trained in programming, app development, AI, Machine Learning, and the use of data visualisation for business analytics purposes. We will measure our digital capability through bespoke surveys.

Assistive Technologies

Goal: To ensure there is opportunity for all learners with support needs to access digital support tools e.g. Voice activated learning, reading and writing tools, and to support all learners with online tools to assist with advanced writing skills. Systems will ensure advanced specialist 'vendor' digital software is available in and out of College.

A superb learning and teaching technology platform

Goal: To achieve high quality staff and student usage with Moodle as the main VLE platform. This will be monitored through quality assurance rather than frequency of usage. Support the best practice of new interactive learning and teaching applications through staff conferences.

Develop VR and AR immersive technology

Goal: Increase user access, understanding, awareness and best practice in the application of VR and AR equipment and laboratories in relation to the enhancement of L&T where relevant and appropriate.

Develop an AI strategy for staff and students

Goal: Provide resources and guidance on the suitable usage of AI to link with the Digital Strategy, that is trustworthy, ethical and inclusive for all.

Priority 2

DATA DRIVEN INNOVATION (DDI) FOR TRANSFORMATIONAL SERVICES

BUSINESS DEVELOPMENT OBJECTIVES

Customer Relationship Management system (CRM)

Goal: Create a CRM which allows business development/employer engagement to be shared and performance monitored. Develop a CRM with employers, staff and students in mind.

Unified and simplified Student Central Record

Goal: To create a single digital record of student information to capture support requirements and progress. A portal will be developed to enable all staff to view student progress, creating a better unified support system. This will improve retention and attainment.

Predictive learning analytics system

Goal: To accurately predict learning outcome behaviour through a data analytics system, which will allow us to support student progress before it becomes critical. Create an online system to support students most at risk of failing, supported through interventions from pastoral support tutors and lecturers.

Simple and Accessible Business Analytics Tools

Goal: Business analytics systems and tools will be created to support critical business operations such as: course application targets, recruitment targets, enrolments, funding activity targets, withdrawals, commercial financial targets and other critical business operations. Provide simple, accessible and robust data visualisation systems to support the above using Power BI and a 'MyVision' portal.

Continuous Improvement for digital accessibility

Goal: Widen the use of continuous improvement models across digital platforms, allowing users to ensure relevant features are available within their digital journey. Developers will share digital building blocks as reusable components with web applications tools.

Human Resources and Finance system development

Goal: Build an integrated system for payroll, recruitment, and staff management. Create unified digital systems for finance, payroll and staffing, increasing automation of services and live data.

Provide excellent digital communication for students and visitors

Goal: Focus on the student and visitor and support their user experience with a superb digital service. We will use new AI opportunities so that online site visitors will engage with chatbots and apps to support engagement pre and post course application.

Priority 3

PROVIDING SUPERB TECHNOLOGY AND INFRASTRUCTURE

BUSINESS DEVELOPMENT OBJECTIVES

Speed and Connectivity

Goal: We will ensure that our campuses have fast broadband speed and connectivity to deliver the digital experience. Ensure that 10GBps Wi-Fi is available everywhere on campus with strong support for webcasting.

Goal: Provide an easy to access, visible and available service for students to connect to a robust Wi-Fi service. Ensure there are no Wi-Fi dead spots on campuses, that students know how to connect using their own devices and are encouraged to bring them into College. Support will be in place to allow various devices to connect simply and quickly and maintain power.

Internet of Things (IOT) devices

Goal: 'Intelligent' campus development with data management systems will prevail, saving power and costs. Invest in sustainable IOT developments in the next five years to ensure systems consuming energy can be efficiently controlled remotely and, ultimately, through machine learning. IOT devices such as sensors and robotics will also support student training in, for example, Health and Social Care settings.

Investment and replacement

Goal: Proliferation of more mobile devices and less desktop devices where appropriate. Desktop computers will not be replaced automatically but will be reviewed and reduced where these are not necessary. We will invest in specialist curriculum areas where advanced technology is required such as in STE(A)M curriculum areas.

Climate Change adaptation

Goal: Sustainability in the use of technology. Enable 'Smart' technology to reduce power and waste in IT equipment and create a new IT Upcycling Hub across all campuses.

Data systems development

Goals: To complete a thorough audit of existing data systems and integration platforms, mapping data flow and interdependencies.

To transition primary file storage to the cloud.

4. HOW DO WE GET THERE?

Our College currently has several areas where digital ambition is being progressed:

- The IT and Estates team monitor capital expenditure to manage the digital infrastructure. Cyber security is a key feature as highlighted in the IT Strategy. Capital Expenditure spend is reported to the Senior Management team through financial reporting. This can include examples of STEM innovation investments in technology for curriculum areas.
- The How Good is Our Learning and Teaching (HGIOLT) process will monitor the integration of digital and data learning in the curriculum.
- The Business Solutions Development (BSD) team, managed through Curriculum Planning and Performance, lead college-wide digital business solutions. Innovations are managed through the Systems Connect Group.
- Data and risk (including GDPR and Data Sharing Agreements) is managed by the Corporate Development service, reporting to the Risk Management Group.
- The goals in the scope of this Digital Strategy are managed by the Digital Strategy Board.

The Scottish Funding Council (SFC) is responsible for funding the maintenance and investment of the digital infrastructure as well as the staff who provide the development and solutions required to drive the strategy forward.

With investment, it is possible to create a regional digital hub based at our College which could save collective infrastructure costs from other colleges and universities, especially where server and local networking support can be shared. Opportunities for collaboration and shared services are already in place, with VLE hosting and data protection roles being good examples. Total cloud computing adoption, with Microsoft 365 as one example, is central to this strategy and enables much of this to become a reality.

Skills investment in staff and students is being made available through the City Region Deal with just under £1m to be received and distributed by our College available over the next three years, in line with the strategy timeline. A key aim of the City Region Deal is the Inclusive Growth dimension in colleges, with the ambition to widen the skills base and reach under-represented groups in the economy.

In house opportunities to develop new systems are within our College's current capability, however core investment in new applications may be required, specifically where more integrated and shared solutions become available for the sector.

Ensuring the number and, crucially, the appropriateness of end point devices that are available is also key. For example, the replacement strategy will carefully consider whether a PC requires to be replaced by a mobile device such as a tablet/laptop. The benefits to this will not only be realised by better usage but also saved costs.

5. HOW DO WE KNOW WE HAVE GOT THERE?

The following Key Performance Indicators (KPIs) will be used to measure the success of the strategy:

Key Performance Indicator	Baseline Percentage 2023 survey	Target for July 2026
Theme 1: Digital and Data Skills for Staff and Students	5 out of 6 Goals in progress	6 Goals completed
Theme 2: Data Driven Innovation (DDI) for Transformational Services	7 out of 8 Goals in Progress	8 Goals completed
Theme 3: Providing Superb Technology and Infrastructure	4 out of 6 Goals in progress	6 Goals completed

6. GOVERNANCE

6.1. Who is responsible?

Lead responsibility for the delivery of the strategy will sit with the Vice Principal Innovation, Planning and Performance, with support from the Executive and Senior Management teams.

IT Services, the Business Solutions Development and the Learning Technology and Resources team managers will also play a critical part in the delivery of the strategy.

Lead responsibility for oversight and scrutiny of the delivery of the strategy will sit with the Planning and Resources Committee, who will in turn report to the Edinburgh College Board of Management.

6.2. When will we review and report progress?

We will also ensure that we report on progress in delivering this strategy through the range of governance arrangements:

College Student Digital and Data Skills	Skills for students will be reported through the IRES Board as part of the City Region Deal, reporting on skills improvements and job openings, as well as the Learning, Teaching and Student Experience Committee as part of the Curriculum Strategy delivery.
College Staff Digital Skills	Staff skills improvements will be reported via the People Strategy delivery at the Planning and Resources Committee.
Digital Infrastructure and Development	Reviewed quarterly by the Digital Strategy Board, at Systems Connect, Senior Management and Executive team for sign off and approval by the Planning and Resources Committee.
Data Driven Innovation	Reviewed quarterly by the Digital Strategy Board, at Systems Connect, Senior Management and Executive team for sign off and approval by the Planning and Resources Committee as major projects

Final review of the strategy will take place in 2026.

Edinburgh College

Digital Strategy 2023 - 2026

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