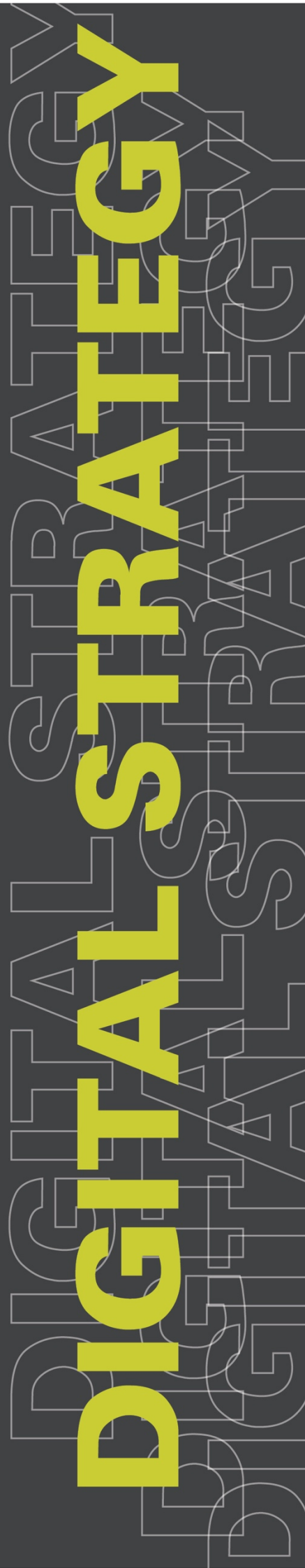# Abertay University

Abertay University Digital Strategy

2020 - 2025

DIGITAL STRATEGY

Abertay University Digital Strategy 2020-2025

Within the University's strategy, digital transformation is a consistent theme that commits us to ensuring that technology is used in innovative, intelligent and flexible ways to <u>support and enhance</u> all of our activities. At the heart of our approach is the alignment of strategy, business and technology, which includes a plan to embrace a digital culture, empowering staff and students through technology, providing a seamless user experience, which is accurate, fast, efficient, consistent, responsive, agile and accessible. This will require a significant change in both the mind-set and focus for the University and its staff.

As defined by our new 2020-25 strategic plan, the University's purpose is three fold:
1. To offer transformational opportunities to everyone who has the ability to benefit from Abertay's approach to university education.
2. To inspire and enable our students, staff and graduates to achieve their full potential and to have a positive impact on the world around us.
3. To prepare students for the world of work and a life of learning.

The aim of this strategy is to ensure that we not only remain competitive, but as stated in the University strategy, to "build a reputation for our digital approach in line with our reputation for excellence in this academic area". The purpose of this document is to provide more detail regarding the high-level requirements and ambitions that will enable innovation across all aspects of the University's business in the next strategy period 2020-2025. The commitment to this transformation will depend on changes to our ways of working and culture, as much as to enhanced IT infrastructure and support structures. The key drivers for this approach are to:
1. provide an innovative leading edge higher education experience for all our students whether studying on or off campus, from application, to graduation, through to lifelong learning
2. enable more efficient and effective working
3. remove barriers, and provide accurate and timely information, for staff and students.

It should be noted of course that the world of digital technology is changing rapidly. What can be achieved with technology at the start of the strategy period will be different to what is possible at the end of the five year period. Constant horizon scanning will be critical to ensure the aspirations of this strategy are realised and it will therefore need to be updated during the period. This will involve staff at all levels in the University keeping abreast of developments in their specialist areas to ensure that the implementation of this strategy continues to draw on current best practices and leading edge technology.

The sections below summarise our goals in different dimensions of activity across the University. The first section describes the guiding principles for the development of all new digital systems going forward, aiming to provide a holistic approach to their future design and development. The remaining sections discuss specific application areas within the University where development will be focused during the next strategy period.

1. **Guiding Principles**
   A number of underpinning principles have been identified to guide our decision making and investments in digital transformation. Note that these will be reviewed periodically to ensure relevance:

   a. **Digital Infrastructure**
      The digital infrastructure provides the foundation to build smart, efficient, innovative and intelligent systems, and underpins our ambitions for a more digitally enabled environment.

Most of our core applications have already moved, or are in the process of moving, to the cloud as it offers many advantages for both the University and suppliers, such as the ability to grow and shrink resources with need, 24/7 access from any location, a pay-as-you-go model, and the provision of a more robust business continuity plan by using the cloud as a disaster recovery site and/or recovery option. Specifically:

- We will take a digital first, cloud first approach to the purchase, design, development and use of systems and processes, ensuring these are agile and flexible.
- We will provide integrated, fit for purpose systems that are intuitive and personalised based on user needs, with an increasing use of self-service, where possible.
- We will have single sign-on where appropriate and will implement leading edge security controls, including passwordless authentication to simplify access to digital services whilst ensuring robust security.
- We will automate the workflow of relevant business processes, with the aim of improving efficiency, effectiveness and consistency.
- We will reduce the environmental impact of our business and technology through sustainable and green IT initiatives, such as a cloud first approach to systems and infrastructure, analysis of the operation of equipment and a reduction in e-waste.
- We will investigate and develop/purchase both proactive and reactive AI systems to enhance the staff and student experience and the efficiency / effectiveness of our systems.
- Paper and the use of wet signatures will be removed with end to end digital transactions.

b. Connectivity and Access

Connectivity and access is at the heart of the digital infrastructure. The focus of this section is to outline the key areas of investment required to ensure that both staff and students have fast, robust, integrated communications, both on and off campus. Specifically:

- We will provide campus wide, fit for purpose, robust and reliable Wi-Fi.
- We will provide enterprise communication services e.g. IP telephony, mobile, audio, web, video etc. which will be integrated to ensure staff and students experience seamless connections.
- We will utilise technology to support a range of flexible work and study opportunities for staff and students.
- We will support BYOD (Bring Your Own Device) for staff and students that provides equivalent access to those using on-campus devices, for general provision. Specialist provision will be included when technically possible.
- We will provide equality of access to digital resources and services for partners delivering our degrees, where possible.

c. Usability / User Experience

The perceived usability of a software application is critical to its adoption and use and is an essential consideration in the development of IT systems. We will work with both staff and students as partners to co-design services in all relevant areas, throughout the process of systems development from start to finish, whether it be for a new or an upgraded IT system. Specifically:

- We will provide highly usable, accessible, inclusive and integrated solutions that deliver a consistent user experience across all platforms.
- Our systems will be informative, searchable, accurate and up-to-date.
- We will simplify our business processes to ensure barriers are removed and they are consistently applied across the University.

- Staff and students will be empowered and supported in the agile development of digital innovations.
- All users will have access to dynamic information they have a right to view / manipulate, for example through a dashboard. This will include the provision of business intelligence, learning analytics, intelligent analysis of data, forecasting, effective use of data for annual monitoring and quality enhancement purposes, the ability for students to track their own progress etc.
- Communications to staff, past, current and future students will continue to be developed to enhance customisation and personalisation where appropriate.

d. **Training and Support**

Training and support are essential to ensure the adoption of technology. A variety of approaches will be taken which will include both classroom based and online training courses, to ensure help is available at the point it is needed. Specifically:

- We will develop digital fluency for all staff and students giving them the knowledge, skills and confidence to embrace our digital solutions. This will include support for staff to enable them to make the best use of existing systems, as well as, for academic staff, to enhance their pedagogical practice.
- We will strive for service excellence in the support, training and advice for all digital experiences. This includes a rapid response to requests from academics, for assistance when technology fails in a live class.

e. **Governance, Risk and Compliance**

In order to manage, develop and use our IT systems, how we make decisions, document our systems, manage the risk to the University and ensure compliance with regulations, is core to their success. Specifically:

- We will define a set of corporate standards around the way we apply, manage and use technology, with a focus on outcomes, embedding change and realising benefit. Digital will be at the core of everything we do - digital by default.
- We will establish security and digital governance mechanisms that align security and technology priorities and policies with the University goals in a transparent manner.
- We will ensure all systems and processes are fully risk assessed and compliant, for example with GDPR.
- We will ensure that our digital solutions are secure, balancing risk with ease of use.
- We will have a robust, inclusive process for electronic content management, ensuring records are stored securely for as long as required.
- University data should be well defined, accurate and have an identified owner. Information will be captured once, as close to the source as possible, electronically validated and shared from a single source.
- We will ensure that Digital Safety is embedded into everything we do – similar to risk and health & safety - by ensuring staff and students can apply the fundamentals of cybersecurity and data protection.

2. **Smart/Intelligent Campus**

Definitions of smart and intelligent campuses vary, but broadly speaking smart campuses use a diverse set of technologies to analyse, monitor, control and adapt a campus environment, for example heating, lighting, self-reporting of failure / problems by equipment etc. The key difference between the two concepts is that an intelligent campus brings together datasets from both the physical and digital worlds to provide a holistic analysis of the environment. This knowledge enables a better understanding of the needs of different stakeholders, enabling more effective and efficient use of a campus, providing enhanced information for users, and the ability

to adapt, to the ever-changing environment. Digital technology will be used to support all parts of the campus. However specific ambitions in this area are as follows:

- We will invest in technology to provide greater automation and granularity of control (e.g. temperature, lighting), better diagnostics (e.g. self-reporting of faults from equipment) and maintenance. This will aid efficiency and enhanced monitoring of our carbon footprint.
- Technology will be used to ensure reporting of issues by both staff and students is easy, and responded to.
- Technology will support flexible digitally relevant teaching spaces and ensure efficient use of rooms and buildings.
- Physical campus usage by staff and students will be analysed for efficiency and to ensure it is meeting the needs of staff and students.
- Data and information about the campus will be collected, intelligently analysed, and made dynamically available to staff and students as appropriate.
- All parts of the University will be cashless by the end of the period.

3. Learning Enhancement

The Learning Enhancement Strategy, covers our pedagogical ambitions in more detail and specifically includes a section on Digital Education which identifies the following actions:

- "We will embrace technologies and innovative ways of learning that are appropriate for our context, strategic aims and ambitions".
- "We will undertake a systematic benchmarking of current digital education provision and support"
- "We will enhance the digital literacy of our students and staff".
- "We will enhance technology-enabled assessment".
- "We will embed Artificial Intelligence, Machine Learning and /or Data Science across the Abertay Portfolio"

Digital technology will be a core feature of the entire educational experience for all our students, having the power to transform teaching and the learning experience'. Technology will be used to support a range of study modes, an inclusive pedagogy, and offer an innovative, flexible and personalised experience to students to help them to achieve to the best of their ability. This could include for example, the use of virtual reality visits to the campus for applicants and off campus students, augmented reality experiences, the ability for students to apply their knowledge in scenarios they might not otherwise be able to experience such as lab simulations or nurses practising how to respond to emergencies. We will make sure students are fully prepared for the world of work and understand the likely impact of digital technology in their chosen discipline, ensuring they have skills for workforce transitions and lifelong learning, including the ability to learn online.

The University will offer a portfolio of micro-credentials which will not only support the education for our students both within and outwith their degree but, where appropriate, have the ability to be offered externally to aid upskilling/reskilling of the workforce. We will also provide a mechanism for students to digitally authenticate their University award(s). This could include example degrees, digital badges and HEAR (higher education achievement record) activities, which may also contribute to a digitally authenticated CV in future.

4. Research with Impact

The Research and Knowledge Exchange strategy covers our ambitions in this area in more detail. However, digital technology already plays an important role in the management and delivery of research, and this is set to grow. Key areas / systems of development are as follows:

- Technology will support all research and knowledge exchange activities, manage workflow, bidding, finance, tracking projects, research ethics, reporting internally and to funders, supporting our publication and publishing strategy, GDPR and open data compliance.
- All research activities and staff profiles will be logged in the University research repository and portal.
- Technology will both ensure the security of our research and data, in addition to supporting the release of open data from research projects as appropriate.
- Technology will support all research students, both on campus and remote learners, ensuring documentation, data, meetings, reports, notifications and forms are centrally logged and accessible.
- We will empower our research staff by providing excellent infrastructure and applications which include technologies for collaboration and technologies which enable research that would not otherwise be possible.

5. **Technology to support the business of the University**
   We recognise that the digital strategy cuts across all areas of the University, including both academic and professional support services, and we will review our business processes to ensure they align with the ambitions and direction of travel outlined in this, and the University strategy. We recognise that this will need to address all of our core internal systems. There are a number of areas where there are opportunities outwith those identified above:
   - The University's finance systems, which will provide real-time information on income received/income spent, as appropriate for budget management and income reporting to staff.
   - Contracts will be signed and stored digitally.
   - We will continue to enhance the performance of the website, which has a primary function of recruiting students as well as informing a range of stakeholders (alumni, research collaborators and partners, Government, industry and the wider community). The connection and analysis the data sets in a responsive and agile manner between the recruitment function and the admissions function will support student recruitment conversion.
   - We will continue to build on our rich and varied social media presence across multiple platforms to enhance the University's brand and to engage with our stakeholders.
   - We will improve the staff horizontal (peer-peer) informal communications through the use of improved digital tools to support cross-team working and internal communication.
   - Technology will support a range of activities and needs for both staff and students, for example: employability, learning languages, mental health and wellbeing, reporting of incidents and accidents, health & safety, gender-based violence, student residences etc.

References
Key references which have informed this document are as follows:
1. The 2018 digital university, staying relevant in the digital age. PWC. https://www.pwc.co.uk/assets/pdf/the-2018-digital-university-staying-relevant-in-the-digital-age.pdf
2. Horizons report on emerging technologies and education. Spring 2019, JISC. http://repository.jisc.ac.uk/7284/1/horizons-report-spring-2019.pdf
3. The journey to education's digital transformation Education: a global view. Deloitte. 2015. https://www2.deloitte.com/uk/en/pages/public-sector/articles/journey-to-educations-digital-trans.html
4. Future-proofing the university, an approach to strategic collaboration. KPMG. Spring 2019. https://assets.kpmg/content/dam/kpmg/uk/pdf/2019/03/future-proofing-the-university.pdf

5. Changing the learning landscape, connect to the future. 2012-14. Leadership Foundation, NUS, HEA, JISC, ALT. https://www.lfhe.ac.uk/en/research-resources/resource-hub/cll/index.cfm?utm_source=development&utm_campaign=cll

6. Hype Cycle for Emerging Technologies. August 2019. Gartner. https://www.gartner.com/doc/reprints?id=1-1OCGHJG9&ct=190801&st=sb

7. GUIDE TO DEVELOPING ENABLING POLICIES FOR DIGITAL TEACHING AND LEARNING. T&L, National Forum for the enhancement of teaching and learning in higher education. May 2018. https://www.teachingandlearning.ie/publication/guide-to-developing-enabling-policies-for-digital-teaching-and-learning/

8. Digital experience insights survey 2019: findings from teaching staff in UK further and higher education. Mark Langer-Crame, Clare Killen, Jessica Francis, Helen Beetham, Sarah Knight and Tabetha Newman, JiSC. https://www.jisc.ac.uk/reports/digital-experience-insights-survey-2019-staff-uk

9. Digital Business Transformation and Strategy: What Do We Know So Far? Mariam H. Ismail, Mohamed Khater, Mohamed Zaki. Nov 2017. https://cambridgeservicealliance.eng.cam.ac.uk/resources/Downloads/Monthly%20Papers/2017NovPaper_Mariam.pdf

10. Digital transformation, an industry opinion. Yotta. 2019. https://weareyotta.com/wp-content/uploads/2019/05/Yotta_Digital%20Transformation%20Research%20Report%202019.pdf

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