Information & Communications Technology

IT Enabling Strategy

2016 – 2020

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Introduction

Solent University's commitment to deliver world class teaching and learning to our students will drive fundamental changes in the way that people, processes and technology interact to deliver an excellent student experience.

Information Technology (IT) is recognised across Solent as an enabler of change and a key ingredient for positive learning outcomes. IT contributes to improving and shaping much of the teaching, learning and support activity across the University. IT is intricately bound up in the University's strategy, policies, organisational structures and operational procedures and is the primary means by which we communicate, share documents and facilitate transactions with our students, partners and stakeholders. Technology is more important and visible today than it ever has been and is helping equip our students to thrive in a digitally driven job market.

Feedback tells us our users want to see IT offer a "service" – not just computer systems. Students expect the technology they use in their private lives to be an integral part of their education with an emerging expectation of 24-hour, always on, access to learning and administrative IT systems. The growth in use of distance learning, home and remote access for staff and students, including those overseas, places increasing demand for ICT to be an appropriately resourced support service with the right skills and capability.

Our University Strategy puts student satisfaction, progression, achievement and employability at the heart of what we do. Our strategy will see IT develop greater strategic significance as the University looks to further unlock the potential of technology as an aide to learning, teaching and innovative ways to improve communication, manage information, student engagement, and the efficiency of University business processes.

Our vision is to develop the ICT department as a source of innovation helping the University to exploit technology and provide robust and properly supported IT and administrative systems. Using technology as a platform for change we aim to present IT services that are easy to access, deliver flexible modes of learning and working and support the best possible outcomes for our students.

Our strategy aims to provide staff and students with an always available, highly connected and personalised digital experience whilst enabling academic and research staff to concentrate on delivery through simplified workflows and better real-time data.

To achieve our vision we will work with administrative staff, academics, students and partners to:

- Support students and staff in the effective use of technology for teaching, learning and assessment
- Facilitate institutional efficiencies and modernisation
- Develop digital skills of staff and students
- Demonstrate clear governance around the way IT works
- Exploit and deliver value from the University's investment in technology

Our strategic aims for the next 4 years are:

- Deliver robust and reliable IT services that support the academic and administrative needs of the University, its staff and students
- Use technology to differentiate the University, to transform the student and staff experience and to enable communication and engagement
- Use technology as a means for improved organisation and management of the University
- Be recognised as a customer-focused, professional, innovative provider of Information Technology Services
- Provide secure and safe IT services that allow the University to take advantage of emerging technologies

The role of the ICT Department

Over recent years the importance of IT in supporting learning, teaching and the student experience has increased dramatically. We recognise that students have to both engage in technology at some level in order to learn and be supported by it throughout their period of study and in their chosen career.

However the pace and velocity of demands placed on ICT by the University has outstripped the ability of the legacy IT infrastructure to keep pace, presenting the ICT department with a tangible dilemma. On one side is the urgent pressure to manage and maintain the existing provision. On the other is the important need to build an infrastructure agile and flexible enough to cope with the rapidly evolving technology requirements of a modern University.

Supporting users is no longer a case of providing a stable infrastructure during standard working hours. Staff and students work and learn from home, from alternative sites and on the move. Student learning systems are expected to support interactions 24/7 and, as consumers of IT, students are expecting to make more use of IT that meets their individual learning needs.

ICT aims to join all this together into a robust and agile technology infrastructure, supporting users in real time by taking advantage of selective investment while targeting a reduction in operational expenditure consumed by routine patching, desktop support, legacy applications and reactive workload. ICT will help deliver solutions that protect the integrity of our information and data whilst at the same time contributing to excellent learning, teaching and better student outcomes through enterprise IT and productivity platforms.

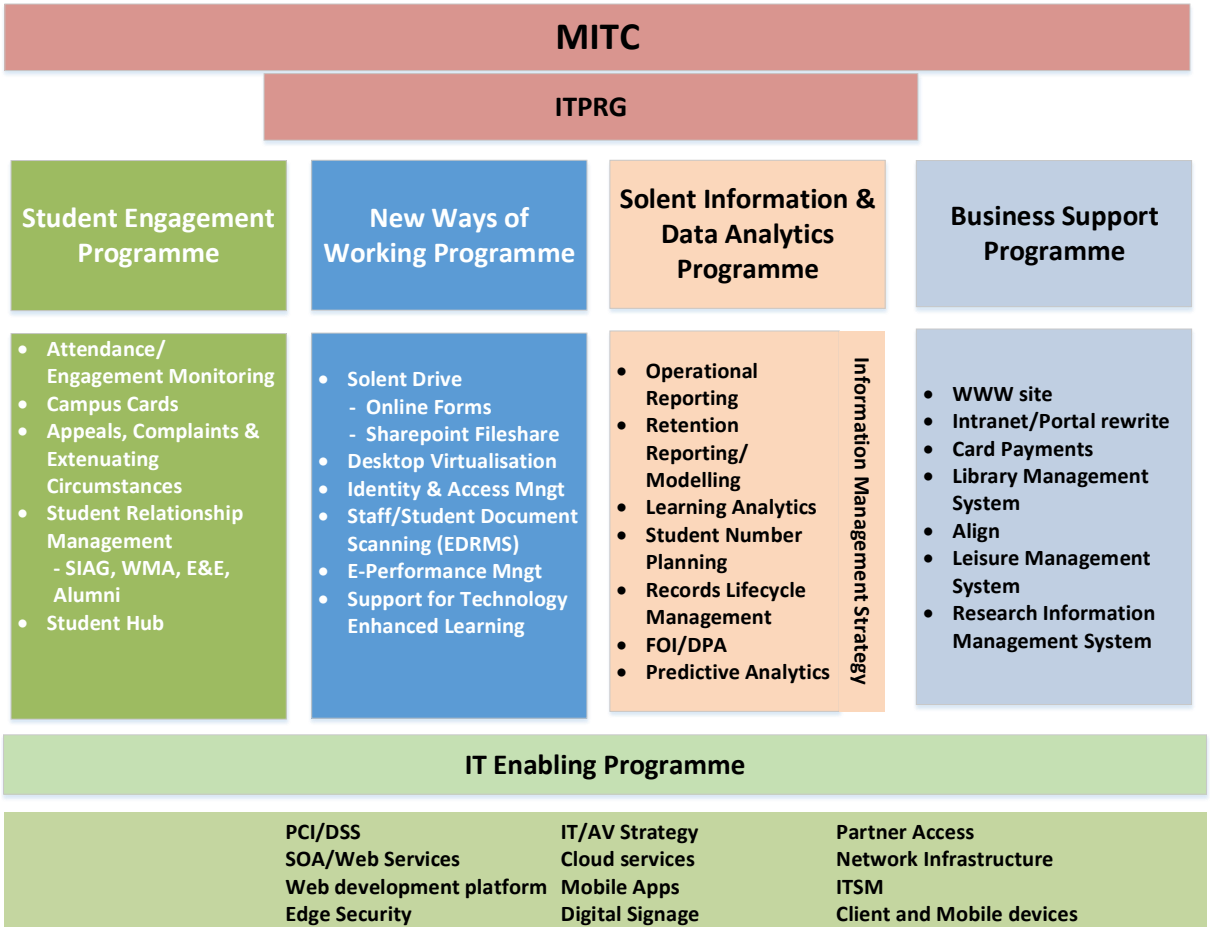
ICT contribution to Strategic Priorities

ICT has a clear and significant role in contributing to the success of the University. The following table links key University needs with the corresponding ICT contribution:

Strategic Focus	What we will do
People Experience	• Deploy technology services which supports flexible employment and learning. • Develop tools which help students learn autonomously within a safe environment • Develop systems which support effective course organisation and management and strong pastoral support • Develop the Human Resources Management System (HRMS) to support personal development and high quality recruitment
Learning and Teaching	• Promote stronger engagement using collaboration tools and technologies • Support the LTI to deliver different models of learning with modern learning facilities and better training for academic staff to exploit the tools and technologies on offer
Research & Innovation	• Provide Information and Technology that encourages and supports students to become autonomous and enquiring learners through engagement in research • Develop an IT Infrastructure that will support applied research or knowledge transfer and the safe and secure sharing of information
Student Achievement	• Introduce technologies which combine to give a single complete view of the student experience. • Strengthen academic services for students, through the use of online, digital solutions and improved business processes i.e online forms and workflow • Develop learner and predictive analytics supported by specialist staff capability to improve student progression through the student lifecycle • Increase the use of leading-edge IT/AV and communications technologies to enhance face to face, blended and online learning
Internationalisation	• Support students and staff to use technology safely as they seek information and enable them to transact beyond geographic boundaries. • Development of CRM for contact with prospective international students and alumni • Develop core Information Systems to allow international partners to transact and integrate seamlessly with the University
Recruitment	• Use the CRM programme to adapt and shape the underlying processes to improve services to prospective and current students. • Support the development of specialist facilities providing new curriculum areas • Continue the development of the SRM system for all recruitment and student support processes
Reputation	• Promote leading edge technology supporting enhanced learning embedded as part of academic life • Introduce technologies that promote collaboration, secure and simple digital engagement • Drive operational and organisational efficiency through digital investment centred around cloud, mobile and analytics

Strategy into Action

Delivering an IT capability that meets the strategic priorities for the University will involve the development of a number of key elements that will need to complement each other and work together seamlessly.



Business Intelligence and Learner Analytics

Learner analytics involves the identification of meaningful patterns within student data sets and then using the insights gained to inform learning and teaching. As our students interact with learning systems such as the LMS, VLE and AM, administrative systems such as the Portal or Managed Print, and in the future with SIAG, the individual leaves a digital footprint which can be correlated with learning outcomes. From this data we can create metrics which gauge how engaged our learners are with their studies, identify preferred personal learning styles and even predict whether students are likely to complete their studies and what grade they are likely to achieve.

Through the development of a data warehouse we are pulling together a variety of data sources into one system and matching them to provide a complete view of the student during their life with the University – from application to enrolment and enrolment to Alumni. By pulling together a range of indicators around activity, engagement, progression and demographics we expect to gain insight into when and why students engage (or not), capture sentiment and behaviour data that will help us target improvements in areas such student support, the VLE and Learning provision, or assessment.

By 2017 we will have established an analytics model for retention by focusing on monitoring student engagement and on preventing dropout among 'at risk' students, as well

as helping to improve the grades of students not at risk of dropping out. We will develop this model further using analytics to predict future outcomes for our students and use these to trigger targeted support and intervention. By combining the data we will proactively identify students who might be at risk of disengaging from our programmes and use this data to inform and develop student support and engagement practices with which we might intervene using predictive analytic outputs.

Operational reporting tools will allow us to present tactical management information to teaching staff and more widely on an aggregate level.

CRM

The key to achieving many of the current objectives lies in our technological ability to manage the point of connection between each school and service department. In many instances the connection is broken and we often operate in silos with no physical way of connecting the flow of information being generated. When there is a lack of data intelligence it becomes very difficult to develop strategies and campaigns with any degree of certainty.

The vision of Southampton Solent University is that Microsoft Dynamics CRM will underpin student recruitment, retention and support activities across the university. By 2020 our CRM programme coupled with BI technology will support a commercial approach to the management of students, by capturing and connecting data intelligence from across disparate silos and presenting this in a single relationship view that spans the entire student lifecycle. From this we can develop far better strategic plans and undertake repeatable activities that result in a higher degree of enrolment success and student retention based upon the predictability that historical information provides.

The CRM roadmap consists of different phased deliverables for a variety of business groups. Each phase will require its own separate design, configuration, testing and implementation sequence. In turn this will help us:

- Attract, support and retain a greater number and quality of student
- Incentivise and target prospective students during the enrolment process with relevant initiatives and communication
- Deploy case management to enhance and improve the student relationship management process to reduce the numbers of students dropping out before completing their degrees
- Increase and grow professional connections to develop future post-graduate employment opportunities and increase opportunities for research revenue

Seamlessly integrated information systems

Our existing application and information architecture has grown organically over a number of years, in some cases, reflecting individual course, school and service needs. This has created an environment with a large number of applications, duplication of functionality and data applications which impose multiple business processes and non-standard disparate information structures.

Many of our systems capture and record student engagement through various touchpoints which, if combined, rationalised and correlated would reveal a holistic understanding of student engagement that could help inform better users experiences and improved outcomes. By integrating applications and workflows we will provide students and academics with a simplified means of completing tasks, accessing information and transacting digitally.

We will develop an enterprise architecture that promotes reuse, consistency and interoperability. Ultimately we will deliver a simplified systems infrastructure that will:

- Reduce the ongoing cost of ownership and development by rationalising and re-using systems and applications
- Reduce duplication in systems and data to improve data quality
- Enable information sharing and delivery of business intelligence to improve workforce efficiency and enhance collaboration
- Improve student experience through personalised access to services and an integrated approach to student engagement across the University
- Increase technical flexibility which enables quicker business change

Cloud based IT Infrastructure and Services

The demand for data and access via mobile technologies combined with the need to appropriately secure and protect information assets is dramatically increasing the complexity of IT infrastructure and user experience.

As technology continues to facilitate business change, which in turn spurs demand for new technologies the adoption of cloud provides us with flexibility, cost benefits and scalability for new and emerging developments. We will continue to develop our hybrid-cloud environment as part of a business-wide strategy to migrate our current on premise data operations into hosted platforms.

Mobile Applications

As part of our mobile strategy we will explore the benefit of bringing communication and information for students in one place with a master 'App' giving students a single point of access to services, special events and communication that keeps them informed By replacing traditional means of communicating with the ability to push information to students in a timely manner we expect them to be better able to manage and organise learning.

Client Systems

We will continue to maintain and support the latest version of Windows and IOS operating systems alongside the latest developments of Microsoft Office 365 communication and collaboration tools across our desktop estate to improve organisation wide productivity and communication.

To support those staff who wish to use their own devices for work we will adopt a containerised Bring Your Own Device (BYOD) strategy by which staff can use their own Windows, Android, IOS device, by downloading supported software themselves allowing access to business data and web based content in a secure manner.

We will continue to exploit the desktop assets we have and seek to extend their life by operating them as thin clients in flexible working environments. By 2020 Desktop virtualisation technologies will be used to simplify the provisioning of the desktop and applications to staff, student and non specialist classroom devices and reduce the total cost of ownership. Application virtualisation will be used to deliver single applications quickly and seamlessly to users reducing support cost overheads, improving software asset management and common issues such as browser incompatibility.

Identity Management

Identity and access management is a significant underpinning technology that ensures all categories of user including students, staff and affiliates have an identity created and are automatically provisioned for a range of services (depending on their role) such as the Campus network, Portal, MyCourse, wireless, library, campus card and access control in a timely manner.

As the University diversifies and establishes partnerships with other colleges and employers, new user communities are emerging such as workplace mentors and practice assessors. By 2020 such affiliate users will self-register themselves and subject to an approval process, be automatically provisioned for services depending on their role without the need for ICT to manually create ad-hoc accounts on a case-by-case basis.

By 2020 we will implement an approach to identity and management which:

- Allows role based access to the network for our staff, students, affiliates and partners
- Provides managed access to appropriate information for our partners and suppliers
- Ensures that our students can transact through a variety of digital channels

A single federated identity will be used to provide a true single-sign-on experience across all services both on-premises and in the cloud.

IT Operating Model

With a relatively small team and a constrained budget it is important for IT resources to get beyond day-to-day firefighting and instead focus its efforts on supporting effective and efficient business functions. IT must be reliable and easily accessible at the point it is consumed with minimal overhead on IT support. Through an improved infrastructure and operating procedures we will target financial and operating efficiencies through:

- A replacement of our existing solution for on boarding students, staff and affiliates and provisioning their access to IT systems;
- Targeting consumer access to IT services from any device, anywhere with access to a network connection at any time;
- Positioning IT Operations as a single point of contact for all IT enquiries;
- Reducing manual intervention and the cost of desktop and device management through the procurement of a managed desktop service;
- Targeting through the development of an Electronic Document Records Management (EDRMS) solution;
- An approach to IT category spend that consolidates IT spend and develops strategic relationships with a smaller number of IT suppliers across the University.

To meet the evolving demand on technology services ICT will continue to consolidate operational IT resources against a common set of IT skills, capabilities and processes whilst introducing additional capacity in key areas of strategic opportunity such as Information Management, IT governance, business engagement and enterprise technology development.

Whilst technical skills will continue to be important, as IT Infrastructure and services continue to become more commoditised the capability will gradually shift from managing technology towards brokering services on behalf of the university. This will see a requirement to redevelop and recruit a different skillset able to commission, develop and support cloud based services based on an understanding of business need combined with negotiation, vendor management, partnership and information security skills.

Supporting Learning and Teaching Environments

We will progressively make greater use of ICT to assist the teaching and learning processes. We will support this with awareness raising, training and support services delivered by staff who are knowledgeable in technology enhanced learning and digital skills. Working with LTI colleagues we will provide secure, robust and efficient IT and audio visual solutions that support in-classroom and blended forms of teaching and learning alongside effective training and staff development activities to ensure that the technology can be used competently.

Managing Information

Historically, there has been no overwhelming requirement for an institutional approach to Information Management. This has led to:

- Vastly different approaches to information management across the University
- A proliferation of local 'line of business' and bespoke applications
- Significant amounts of information processing
- Multiple information stores with significant duplication

These factors combine to create a high cost and high risk information architecture. Information needs to be managed at every point in its lifecycle. Alongside Information Management, Information assurance will ensure that the automated flows of information are secure, appropriate, robust and efficient.

The adoption of this strategy will see ICT put in place policies and best practice to:

- Manage information at every point in its lifecycle.
- Introduce and information architecture together with standards, identification, authentication and security for information handling
- Ensure relevant behaviours of those who interact with information
- Implement risk management that keeps data and information safe and secure whilst supporting sharing, transfer, exploitation and safe destruction
- Information and data is made available to those who need it, when and where they need it
- Information is captured once and reused reducing cost and increasing sustainability