

Lancaster University

Information & Communications Technology Strategy

August 2011-July 2014

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Introduction

This institutional strategy for ICT sets a vision for the period August 2011 to July 2014. It builds on the previous ICT Plan (2007-2010) that, among other successes, led to the delivery of the new ISS Building/Datacentre, the new resilient network ring around the campus, the new resilient storage system (SAN) and the large scale move into virtualised hardware. Alongside those infrastructural advances, the delivery of new web based applications to support postgraduate recruitment, the installation of a new commercial system to support the Alumni team, and the substantial progress to establish a new commercial system to support research have all helped move the institution forward.

Having a world class ICT infrastructure supported by a highly focused set of services is essential for the delivery of the new University Strategic plan, recognising in particular the vital role that ICT plays in our drive towards internationalisation, in providing a staff and student experience that is second to none and in delivering cutting edge capabilities to support world class research. Getting our approach to ICT right will greatly enhance our ability to reach our aim of being one of the top 100 universities in the world.

Key drivers of the strategy

Our main institutional development challenges, the ongoing advances in technology and our existing capabilities and infrastructure all play a part in setting the shape of this ICT Strategy. In particular, we are affected by six key drivers:

i. Competition in the Global Environment: ICT as key asset

There has been a rapid growth in the volume and quality of alternative education providers in the global Higher Education market and we must compete favourably in this arena. We seek to sustain and extend our competitive advantage in research and in recruitment to our taught courses through our innovative use of ICT.

ii. International Partnerships: ICT as a key conduit

Our reputation as an institution with a strong global presence is reflected throughout our community of international students and staff who contribute in great measure to institutional academic success. Our overseas alumni provide a vibrant support network for Lancaster University in their home countries. The development of overseas campuses for the University, the ongoing development of international partnerships in education, and the support for our existing international community all combine to set a strong international imperative for this strategy.

iii. Expectations of our staff and students

Our IT users live in a world where 160 billion emails are sent each day, where half a billion individuals use mobile phones not only to talk to each other but browse the web, play video, tweet, Skype, and Facebook each other. Our users have highly varied insights into technology: our students include digital natives who are familiar and confident users of these technologies. However, these same technologies are undoubtedly less familiar to many of our digital immigrants. A key influence on this

strategy therefore is the level of technological expectation of our new generations of students and researchers. Key concerns are that we support and develop the understanding of digital technologies by all staff cohorts, that we deliver reliable applications, infrastructure and support for them; and that all should benefit from the enhanced content.

iv. Communicating with our students and staff

Our students value highly the face to face contact opportunities of our teaching and learning processes, but they also expect this to be supplemented by contemporary support tools. Staff likewise have an expectation that the technology will support their teaching, but not constrain or drive that activity. The single biggest internal factor that shapes this strategy is the need to leap a generation in our online processes for student work submission, assessment & feedback, and in the quality of our technology supported information, dissemination and communication.

v. Technology changes that are driving consumer behaviours

Contemporary technological advances that have most bearing on this University's ICT Strategy lie in recent developments in the Web, in ubiquitous access to social and academic services from small mobile devices, in services and applications delivered from the Cloud, and in wireless networking provision. These technology developments are important in establishing the priority objectives presented in this strategy.

vi. Security and sustainability Issues

Two constraints feature prominently in shaping this Strategy. The first is a requirement to deliver the cultural and technological changes in ICT security that allows for the integrated social, recreational, academic and business use of our ICT infrastructure. The second is a requirement to deliver services in a sustainable way that enables the University to meet its Carbon Reduction Commitment.

Primary Strategic Objectives in ICT 2011-14

We will focus on the measures that enable the University to meet its overall goals. Significant resource will continue to be invested in the underlying structure and functions to ensure that we maintain the reliability of IT core business that we have enjoyed for many years, but we will aim for a step change in the following 6 areas:

1. Transformed Institutional Web Presence

We will recast this University's presence on the Internet to more clearly reflect its achievements and capabilities in order to help achieve its global top-100 ranking. We will do this by delivering a customisable, branded portal which supports overseas recruitment, development of partnerships, and exploitation of our intellectual capital. In doing so we will establish effective website designs and functionality, underpinned by content management systems. Our web governance groups will ensure that content and format are actively managed and maintained to keep our web presence dynamic and up to date. The portal will also present a secure working environment for staff, which can be customised individually. It will support institutional users in research, learning and in transactional activities in an integrated way. It will provide a means for delivering improvements in communication

and it will be accessible for all users by design. We will put this web portal work at the forefront of our IT development priorities.

2. Supporting Learning and Delivering the Lancaster Experience

As an institution, 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 about both pedagogy and technology. Our levels of engagement with users will substantially improve; regular feedback on service levels will be gathered and published. We will deliver an ICT-enhanced learning experience at Lancaster that generates high levels of staff and student satisfaction. To help achieve this, we will implement a student portal that will help to deliver next generation learning support; we will replace our core in-house developed virtual learning environment with a leading community or commercial application. As the norm, students will submit work in digital rather than in paper formats, and receive progress updates and assessment feedback in a similar way. We will ensure in addition that the software applications are highly available and reliable and that their design reduces any barriers to their widespread adoption by lecturing staff. We will use support software to provide our students with advice and guidance on all of our assessment and progression processes and we will make better use of data driven processes to maintain and improve our high student course completion rates. Library services will be integrated with the technology-enhanced learning environment to provide students with a personalised view of academic information resources relevant to their studies. Our portals will embed access to commercially-provided e-resources and locally-created online content as well as to social software and other lifestyle applications. A version will run on a wide variety of mobile devices. Our goal is to provide access to any learning content, anywhere on any device.

3. Mobile Access to Online Services

With the arrival of the tablet device and the ubiquitous adoption of the smartphone, our challenge is to deliver content securely and conveniently to these small format mobile devices. The age of the App is here; and HTML5 will soon be adopted as a standard, opening up a new generation of interactive services. We will embrace mobile online access to services and content and will work to provide the web services that enable these Apps for the mobile user. To enhance the Lancaster Experience we will deliver relevant, high-quality and user-driven mobile applications, some of which will be 'location aware'. In parallel, we will address the networking changes needed by extending wireless connectivity across the Lancaster Campus. Use of mobile devices will be further enhanced by our provision of a new hosted web delivered email service for undergraduate students and by extending our corporate email system to support our postgraduate communities. The success of the tablet device relies on the data and application being delivered by the web browser in an environment that delivers cross-platform compatibility. We will build capability for our users to access Cloud-based services to achieve this.

4. Extending our Systems and Infrastructure to Support International Sites

Institutional development plans for the next three years potentially will deliver a number of overseas partnerships and establish a significant physical presence for the University in Asia. We will extend our technical infrastructure to provide integrated institutional ICT services at our international campus locations. We will upgrade the institutional networks, systems, their management software and our security measures to support seamless international collaboration and learning. We will review core institutional software to ensure that it will meet the demands of federated operations across international boundaries yet provide central control and reporting on all business processes. In particular, we will establish a specification for our student records application to support home and international operations and will determine in the first year of this strategy what changes to provision may be needed. To ensure consistency in planning and reporting, we will extend our Identity Management System capabilities to incorporate international partnerships and new campus locations, and will require its common adoption. We will extend our Business Continuity Plan to incorporate operations at partner and international campus locations. We will extend our coverage of core ICT services to 24/7 where these are essential to international operations.

5. Enabling World-class Research

Our recently enhanced High End Computing facilities will be exploited to keep us at the forefront of capability and achievement in those areas of research that depend on high speed, high throughput processing. On a broader scale, ICT will be used to enhance our research collaboration around the world, to provide for the needs of the Research Excellence Framework and to facilitate interaction with those in business who wish to work with us. A new university-wide research management system will provide many of the core tools for this. Effective conferencing tools will meet the need of researchers for secure institution-independent collaboration environments that encourage the development of community. We will align developments by national bodies and our internal projects to deliver services that help meet the need for improvements in research data curation. To reduce duplication of local effort, we will deliver much improved centralised large-scale data storage, data management and high performance data visualisation services for research groups. We will seek to develop expertise in research data management and to establish specialist support services for data curation and preservation. We will establish iso27000-based data security services to support researchers using sensitive and restricted data sets.

As the shift from print to a digital environment gathers pace, an increasing proportion of the information needed by our staff and students will be delivered electronically. Convenience, speed and ease of use will be priorities in the implementation of resource discovery and delivery services. A single search system to expose the richness of the Library collections, engage users, and assist them in obtaining all the Library's local and remote resources will be provided. 21st century expectations for interaction with content will be met through adoption of Web2.0 and Web3.0 technologies and techniques. Tools to support the sharing of documents and data within and across institutional boundaries, and to ensure that researchers are alerted to the many different kinds of information resources relevant to their work will be provided.

6. Managing ICT Resources to Deliver Improvements and Efficiencies

In order to ensure that we have efficient, secure and fully supportable services we will discourage the development of silos of local IT applications, support and practices, and we will consolidate, extend and improve our centralised provision and management of ICT services. An underpinning aim will be to facilitate creative work at the core of research and teaching by reducing administrative burdens for academic staff. We will develop much needed and innovative services through greater ISS/Faculty collaboration. In turn, we will reduce support for duplicated systems, processes and practices where there is no longer a clear business imperative to continue them.

We recognise that there are deficiencies in the provision of timely management information and we will deliver new web-based systems and reporting interfaces in this area. As a priority, we will work with institutional managers to create an online information set that is always accessible and current. We will provide new reporting tools and processes to enable efficient real-time information collation in the Faculties and across the university administration. We will explicitly build in user reporting requirements at the specification phase of all new projects. The outcomes of the review of the Student Records System and the specification of HR system functionality and reporting requirements will deliver significant improvements over the period of the Strategy. Data quality measures for our core applications will be published. The administrative processes relating to the capture, storage and reporting of student-related data will be reviewed.

We will reduce inefficiencies in document and information handling for users by providing enterprise content management systems supplemented by fit for purpose search and retrieval tools. Within the new portal design, we will pilot use of integrated VOIP-enabled communications and social software to help institutional administrative processes and to try to curtail the uncontrolled growth of email.

We have substantial investment in our digital technology assets that support all of our operations. In planning these new projects we will keep in focus our annual maintenance programme for this active technical infrastructure which we will replace on a target four to five year cycle

Translating Strategy into Action

i. Governance Structures

The Information Technology Policy Committee (ITPC) will oversee institutional strategy and policy for information systems. ITPC will ensure consistency between this strategy and other institutional strategies and policies that have a significant IT technology component, which will include amongst others the Web Strategy, strategies/policies related to learning, teaching and assessment, elements of the Strategy for the Library and the Telephony Strategy. We will foster greater accountability throughout the governance structure for ICT projects and services through better publicity and communication of the membership, work and roles of these governance groups.

ii. Application Provision and Procurement

To obtain value for money and to reduce the cost of running replicated services, this institution will progressively implement centrally provided ICT services and move to adopting common systems and

processes for its annual cyclical events in undergraduate and postgraduate progression. We will increase funding for services that differentiate this University and which help it meet its goals. We will continue to manage in a highly cost effective way those services that are needed but which are non-differentiating in this respect. We will phase out spend on those services that neither differentiate nor are widely needed, or which are duplicated. We will ensure that implementation of new systems will always be linked to process reviews so that inefficient ways of working do not remain entrenched. We will reduce significantly the time taken to deliver new services. In procurement decisions we will always consider the total cost of ownership of the competing solutions, whether internally or externally supplied; we will understand and publish the costs of our services.

iii. Institutional Engagement

To help ensure that the benefits of this Strategy are realised, we will deliver a large programme of awareness raising and training events supported by regular communication on key issues and developments throughout its implementation period. These developments in business practice will be supported by more formal institutional agreements on IPR issues for teaching materials and by clearer definition of access to and ownership of research datasets in the light of upcoming legislation and research funder requirements.

iv. Sustainability

This University is committed to delivering its carbon management plan. As an institution, we will consider embedded carbon measures in the evaluation of tenders, and we will rank 'low power consumption per standard measure of output' highly in tender scoring where appropriate. All computer server rooms will be efficiently cooled; all servers will normally be housed in the new central machine rooms. We will run power management tools on network connected devices to reduce power consumption during periods of non-use.

v. Key Performance Indicators

The ICT Strategy Steering Group will oversee the drafting of a high level action plan for the implementation of this Strategy and will develop a scorecard of indicators that will allow the Institution to track its implementation progress. We will publish and regularly review that high level plan which will map out the projects and work packages needed for delivery. We will publish associated metrics and indicators that will identify progress. As a matter of routine, we will also publish performance measures of centrally provided ICT services that will make visible their contribution to establishing a world top-100 university with a global presence and which is recognised for high quality teaching and research.

Steering Group
March 2011