

IT Strategy 2010-2015

Prof. John Heath, PVC Estates and Infrastructure

Dr. Sean Duffy, Director of IT Services

August 2011 – v1.15

1.0 Introduction

This document outlines the IT Strategy for the period 2010 to 2015. It seeks to define the vision and overall direction of travel for the deployment and exploitation of IT capabilities across the University. A separate document will address the 'The Broad Action Plans', detailing the timing, resourcing and specific initiatives which will advance towards this strategic vision. The Strategy was developed in close alignment with the University's new Strategic Framework, and is a key enabler for delivery of each of the five major goals of that framework.

2.0 Executive Summary

As a leading academic institution, IT is a key enabler and core facilitator to the key goals of academic research and learning and teaching. It is therefore imperative that there is a clear and progressive IT strategy which underpins the key goals of the University, with a delivery and governance which is highly integrated with the ongoing management of the institution. The IT Strategy aspires to deliver a step-change in the desire, capability and delivery of how IT contributes across the University.

Many of our peers are already well advanced across many of the themes and initiatives detailed here, in terms of technology, overall IT spend, and IT governance. The University lags, and in some areas is not yet active at all, in key commonplace technologies and service approaches. This strategy seeks to redress these issues, elevating IT leverage and exploitation to a level commensurate with the broader aspirations of the University, thereby becoming a launch pad for academic advancement. Failure to progress the key IT strategic areas may inhibit significantly delivery of the Strategic Framework, and it is therefore essential to prosecute the resulting Broad Action Plans in close conjunction with the wider University strategic programmes.

The IT Strategy has five themes, which are:

- **Advancing the University** – targeted investment in key strategic areas;
- **Effective Information Stewardship** – recognising the growing importance of capturing, storing and providing secure, effective access to a growing inventory of information;
- **University Operational Excellence** – providing common structural solutions in support of Sustainable Excellence and the various departmental service excellence initiatives;
- **IT Complexity Reduction** - reducing the burden of maintaining and evolving existing services to release resources that deliver new advances;
and
- **IT Functional Excellence** – continuing to build effective processes, approaches and structures in how IT Services delivers projects and services.

The table shows how these five themes underpin the Strategic Framework goals. In summary, each theme is a strong contributor to several of the Strategic Framework goals

The general approach for IT finances, governance and organisation is proposed to be strengthened through:

Finances:

- Driving IT complexity reduction to release resources to be available for new initiatives and innovation.
- Increasing central oversight of IT spend, including management of all major IT capital investments – with critical review of ongoing spend.
- Securing a sustainable funding basis for HPC.
- Exploring how to leverage financial strength to advance the IT Strategy.

Governance:

- Expanding BSSG (Business Systems Strategy Group) and ITIG (IT Infrastructure Group) to include service governance.
- Creating IMMSG (Information Management Steering Group) and AMG (Architecture Management Group) to address gaps in overall IT governance.
- Creating an Innovation Panel to encourage and steer risk-taking IT service innovation initiatives.

Organisation

- Periodic regrouping and reskilling its resources to deliver the IT Strategy programme.
- Supporting a review of IT services and engagement structures across Colleges and Corporate Services.
- Bringing voice and data governance together under ITIG.

Strategic Goal IT Theme	Research Power	Student Experience	Financial Strength	Engaged University	1 st Choice Destination
Advancing the University	●	●	●	●	●
Effective Information Stewardship	●	●	●	●	●
IT Complexity Reduction		●	●		●
University Operational Excellence	●	●	●	●	●
IT Functional Excellence	●	●	●	●	●

3.0 View of the future

The strategic vision can be viewed in overview using the four lenses

3.1 Research vision for IT

IT provision should enhance and facilitate the University's world-class research. This goal is described with respect to three main areas:

- **Communication** IT should facilitate communication within UoB, with other academics in the national and international context, with business and with the general public. This requires tools for collaborative working, fostering the sense of the UoB academic community through technology, and using data requests intelligently to understand the needs of students, researchers and the users of research outputs.
- **Infrastructure** Researchers should be able to exploit state-of-the-art IT infrastructure for high-performance computing and have access to in-house expertise to make projects viable. IT provision and support should ensure excellent value for money to the benefit of both grant holders and the Institution. IT infrastructure should reflect the changing ways in which researchers work, supporting virtualisation and untethered working.
- **Data** UoB needs to be proactive in the Big Data era providing the means to access and share data sets, as well as ensuring security and resilience in data storage. IT provision should provide the means to both protect and exploit the Institution's electronic assets.

3.2 Learning and Teaching vision for IT

The learning and teaching vision for IT is to develop services and systems which:

- support the University's vision for enquiry-based, research-led, teaching & learning;
- create a seamless learning environment, blending a distinctive campus-based experience with selective distance learning, placing the individual student at the heart of the learning process;
- are accessible and easy to use, and which encourage and reward staff who engage students in new ways of learning based on their wider experience of technology, including social and interactive technologies and ways of learning prior to university
- allow staff to deliver, and students to learn, anytime and anywhere
- provide timely data and information to enable staff to manage their time, ensure efficient student support, and to maximise the time available for supporting teaching and learning and undertaking research
- are fully integrated with other student services including administrative, student life, library, the Guild, and where appropriate local services and student social activities

This includes a reliable wireless enabled campus and developing high-quality learning hubs and spaces for teaching, collaborative learning, research and private study as well as appropriate hardware and software applications

3.3 Student Experience vision for IT

The University is committed to delivering a distinctive and high quality student experience. IT can support this significantly through:

- Higher quality interactions – where services are seamless, highly accessible (mobile), and deliver comprehensive solutions, including for those students who rarely visit campus;
- Personalisation of services – where students experience a suite of services tuned to and tailorable by them as individuals;
- Supporting in a seamless way the learning and teaching styles and pedagogic developments, including progressing feedback approaches;
- Facilitating more responsive, inclusive and tuned collaboration environments, supporting communities both within and outside the University;
- Fostering ongoing innovation and focused development of new services;
- Supporting students through a full relationship lifecycle, from application through undergraduate and/or postgraduate through to when they leave and become alumni, including ongoing CPD (continuous professional development).

3.4 Professional Services vision for IT

Business systems within the University are necessarily complex because they have to both underpin the core business of teaching, learning and research and also support the University's legislative and compliance agenda.

In the past, business systems were largely developed centrally in isolation from the academic community and this led to a proliferation of local applications resulting in duplication and inefficiency. More latterly it has resulted in the need for major reconfigurations to existing systems to allow greater access thereby diluting the institutional resource available for development and innovation.

The vision for the institution is therefore to move forward to a more integrated and simplified provision which promotes and facilitates collaborative working and provides data across the Institution that is fit for purpose, accessible, portable, agile, robust, accurate, timely, scalable, secure and provides comprehensive reporting solutions. This will be achieved by turning off legacy systems, investing in integrated systems and ensuring appropriate interconnection between applications through the use of middleware solutions, to be underpinned by a comprehensive University-wide training programme. Broadly the direction is to follow an approach of '**best in class overall**' rather than 'best in class for each specific requirement'.

4.0 IT Strategy Themes

The IT Strategy to deliver against these future visions is encapsulated in 5 themes:

1. **Advancing the University.** It is key to the Strategic Framework goals that energy and focus is directed towards the key areas for development and delivery. This IT theme is to deliver game-changing advances in how IT supports the three key areas of academic research, learning and teaching, and a distinctive student experience. It will do this through a market focused approach coupled with collaborative innovation for each of these three areas.
2. **Effective Information Stewardship.** It is critical that greater focus with systems and procedural support is established in capturing, storing and providing effective secure access to a wide range of assimilated information sets. This will ensure (i) legal compliance, balanced with (ii) cost effective and responsive service provision, and (iii) practical procedures and guidelines to assist academic staff and administrators manage information most effectively.
3. **University Operational Excellence.** In a number of areas, there are significant opportunities to improve how departments and functions operate across the University – often as facilitators to Sustainable Excellence improvements. This theme focuses on underlying infrastructure step change enhancements, carbon reduction initiatives, and staff skills developments which can directly contribute to such improvements.
4. **IT Complexity Reduction.** Recognising the current economic realities together with an existing IT provision capability which is already fully committed, it is necessary to adopt new approaches for IT delivery in order to release resources for the advancing IT agenda. A key driver of the current IT provision is technical complexity. Therefore delivering a step change reduction in IT complexity can facilitate a repurposing of resources to help deliver the overall IT Strategy, particularly in the areas of desktop support and application architecture.
5. **IT Functional Excellence.** As a core function for an information-driven enterprise with high aspirations, IT needs to be striving for ‘best in sector’ provision of IT services and projects. This theme continues established programmes, and expands them – particularly in the areas of IT staff skills development and networking, effective IT procurement, diverse funding sourcing, and selective introduction of internal charging.

The following tables provide details of the direction for each theme, and indicating how each correlates to the 5 strategic goals from the Strategic Framework. The themes are listed in priority order, although it is expected that dependencies and lead-times will mean that early action may be necessary across all the themes – this detailed planning will follow after approval of the strategy.

GOAL	RESPONSE	Research Power	Student Experience	Financial Strength	Engaged University	1 st Choice Destination
IT Theme 1: Advancing the University						
<ul style="list-style-type: none"> Next generation research platforms 	<ul style="list-style-type: none"> Create coherent IT environments for research, probably embracing a set of tools for collaboration, information store, IP, research processes (e.g. grants) and facilitating heterogeneous interworking Sustainable HPC provision solution 	Y		Y	Y	Y
<ul style="list-style-type: none"> Next generation learning and teaching platforms 	<ul style="list-style-type: none"> Create the long-term e-learning vision Strong engagement with Learning and Teaching strategy initiatives Close alignment with next generation resource discovery strategy (incl. library) 		Y	Y	Y	Y
<ul style="list-style-type: none"> Next generation student life platforms 	<ul style="list-style-type: none"> Create the long-term student experience vision (incl. portal) 		Y		Y	Y
<ul style="list-style-type: none"> IT Service Innovation 	<ul style="list-style-type: none"> IT Services innovation group IT Observatory – trend watch (e.g. web usage, searches etc.) 	Y	Y	Y		Y
IT Theme 2: Effective Information Stewardship						
<ul style="list-style-type: none"> Information management 	<ul style="list-style-type: none"> Approach for information management Broaden the institutional repository 	Y				Y
<ul style="list-style-type: none"> Data storage framework 	<ul style="list-style-type: none"> Multi-tier categorisation of data Data ownership and responsibilities 	Y		Y		Y
<ul style="list-style-type: none"> Information security and processes 	<ul style="list-style-type: none"> Revitalise information classification Goal: selective ISO27001 accreditation (for data/security management) 	Y				Y
<ul style="list-style-type: none"> Open access information 	<ul style="list-style-type: none"> Agreed framework for retention, and provision of public/3rd party access to information assets 	Y	Y		Y	Y

GOAL	RESPONSE	Research Power	Student Experience	Financial Strength	Engaged University	1 st Choice Destination
IT Theme 3: University Operational Excellence						
<ul style="list-style-type: none"> • Collaboration 	<ul style="list-style-type: none"> • Standard platform for staff, student and external collaboration • Multi-device support • User oriented directory service • Core solution for document management 	Y	Y		Y	Y
<ul style="list-style-type: none"> • Business process improvement and automation 	<ul style="list-style-type: none"> • Standard workflow platform • Use 'frontware' to integrate standard workflow and other core systems 	Y	Y	Y		Y
<ul style="list-style-type: none"> • Web and Intranet 	<ul style="list-style-type: none"> • Revitalise external web presence • Re-architect the intranet, revitalising the staff and student portals, embracing collaboration and workflow as core platforms 	Y	Y		Y	Y
<ul style="list-style-type: none"> • Carbon management 	<ul style="list-style-type: none"> • Multi-tier carbon assessment • Locate 'steady-state', non-research servers in carbon efficient location • Further virtualisation: Unix and desktop 			Y		
<ul style="list-style-type: none"> • Professional staff training enhancement 	<ul style="list-style-type: none"> • Structural approach to tools/culture training • Coaching 	Y	Y	Y		Y
<ul style="list-style-type: none"> • More useable and comprehensive reporting 	<ul style="list-style-type: none"> • Review reporting solutions and approach • Architectural review 			Y		
<ul style="list-style-type: none"> • Flexible access and next generation campus network 	<ul style="list-style-type: none"> • Staff able to access all their normal services remotely – staff become location independent and can do all their work anywhere (from an IT perspective) • Facilitate 'cloud' services across campus 			Y		Y

IT Theme 4: IT Complexity Reduction

<ul style="list-style-type: none"> Ability to support staff mobile devices Basic MAC support Basic Linux support 	<ul style="list-style-type: none"> 5 distinct services and SLAs: A-CORPORATE: standard PC devices (annual update): 1 desktop, 2 laptops; lockdown; software distribution B-RESEARCH: standard suppliers; no lockdown; no software distribution; lower SLA C-CLUSTER: standard device (annual): 1 desktop; lockdown; software distribution D-STUDENT: help service for own devices; mobile; docks; i-docks E-STAFF MOBILE: selective support (with security) for mobile devices 	Y	Y	Y		Y
<ul style="list-style-type: none"> Agile applications architecture 	<ul style="list-style-type: none"> Not realistic to replace all legacy systems Applications architecture control More to 'service oriented architecture' (SOA) for applications 		Y	Y		
<ul style="list-style-type: none"> Orchestrated applications strategy 	<ul style="list-style-type: none"> Tight criteria for undertaking 'bespoke' solutions 		Y	Y		Y

IT Theme 5: IT Functional Excellence

<ul style="list-style-type: none"> Hybrid infrastructure sourcing 	<ul style="list-style-type: none"> Internal / external mixed economy Shared services: regional (backup); range of HPC service platforms 	Y		Y		Y
<ul style="list-style-type: none"> IT Service advancement 	<ul style="list-style-type: none"> Completion of ITIL adoption across IT Services Service Agreements for all major systems 					Y
<ul style="list-style-type: none"> Effective IT Supplier management 	<ul style="list-style-type: none"> Skilled IT supplier managers (working with Procurement) 			Y		
<ul style="list-style-type: none"> IT funding development 	<ul style="list-style-type: none"> Exploit external funding opportunities Explore partnering opportunities within the HE sector 			Y		
<ul style="list-style-type: none"> IT staff pool development 	<ul style="list-style-type: none"> IT Careers Panel Facilitated IT community 					Y

5.0 IT Finances, Governance and Organisation

5.1 IT Finances

In considering IT Finances, there are four broad aspects to consider: (a) level of spend, (b) visibility and control of spend, (c) sources of funds, and (d) charging philosophy.

(a) Level of IT Spend

Traditionally, IT has been regarded within the University either as a 'necessary evil', or as a 'cost to be managed and contained.' This is perhaps not uncommon in commerce / industry, no different from other corporate functions. However for an enterprise with information and knowledge transfer at the core of its purpose, IT needs to be regarded as key opportunity to be leveraged to the maximum.

Certainly scale and breadth of programmes is a factor, but it is inescapable that the current IT spending levels are below what would be expected for a progressive, research intensive institution with high ambitions. Some key symptoms of this spend level are also visible:

- (i) The current IT organisation is 'full' – with very limited ability to take on major new projects. Thus it is now established practice to take on contractors for any new initiative.
- (ii) Given this reduced capacity, it has become commonplace for new needs in Colleges and Schools to be satisfied using separate, sometimes external resources. There are now quite a number of now commonplace technologies in the sector and industry which are lacking at the University.
- (iii) There is minimal proactive IT service innovation – the only innovation is reactive to supplier product upgrades.

The proposed approach is:

- Through IT complexity reduction, seek to release existing resources to be available on an ongoing basis for new initiatives and innovation.
- Establish an IT innovation regime – with a central catalyst group, collaborating across the University, and operating under the guidance of an Innovation Panel to encourage targeted risk-taking explorations into novel IT services.
- Explore how best to leverage our relative financial strength to advance the IT Strategy and its delivery.

(b) Visibility and Control of IT Spend

Looking at where spend occurs, a significant amount of IT spend is outside IT Services. For a significant number of IT suppliers, most spend levels are very modest and would not normally warrant involvement of the central purchasing team. This overall spending approach leads to several issues:

- (i) Missed buying leverage opportunities for orchestrated collective spend.
- (ii) Challenge in ensuring compliance to EU procurement threshold rules.
- (iii) Reduced likelihood that the overall IT spend profile across the University is aligned closely with strategic priorities.
- (iv) Well intentioned amateur purchasing of IT products and services, resulting in risks and constraints which may pose problems later.

An extreme approach would be to centralise all IT spend within a central group. However a more balanced approach is proposed:

- Implement an 'oversight' approach, so that all IT spend is visible, and in particular that EU procurement thresholds and possible issues are detected early and prior to making any commercial commitments.
- Bring all IT capital spending over £10k under a common umbrella – to gain leveraged purchases, and to seek stronger alignment with strategic priorities.
- Working with central purchasing, develop training, assistance and guidelines in IT purchasing, to increase the effectiveness and reduce the risks associated with dispersed IT purchasing. This also needs to embed sustainable procurement within all IT purchasing.

(c) Sources of Funds

IT is funded as a corporate overhead. Two small areas operate trading accounts (student print services and student software sales). Certain facilities, e.g. Bluebear, are regarded as being included within FEC, although there is no direct linkage between usage and funding. Furthermore, IT has traditionally not explored external funding sources, e.g. JISC, HEFCE. IT is proposed:

- Bluebear / HPC funding is reviewed – either to bring fully within FEC or to operate clearly outside FEC with separate charging.
- External funding sources to be explored and maintained in the ongoing range of funding options for initiatives and investments.

(d) Charging philosophy

Currently with some small exceptions, IT does not charge for services or projects. This has the benefit of avoiding non value-adding bureaucratic charging processes, moving money internally, but often impacting rarely the external spend. However it encourages looseness in management and has the potential for significant distortions in resourcing against strategic needs. The introduction of charging would have the benefit of establishing clear disciplines and a linkage between cost and value, but would as always encourage both loophole exploitation and leakage of IT spend to external sub-optimal providers, and would attract the administrative overhead for charging administration (and checking in Colleges and Schools).

It is proposed that:

- The principle of 'standard utility IT services' provided to all should continue to apply – encompassing PCs, email, personal storage, etc.
- A 'benefits management' approach to be developed to ensure that investment cases clearly articulate the benefits sought, and that the sponsors/customers of investments should be held accountable for the realisation and delivery of benefits on completion.
- In selective areas, charging for services to be introduced – to minimise distortions of resource usages and maximise benefits. Bluebear is a clear candidate for such charging, to ensure stronger alignment between HPC resources and research income.

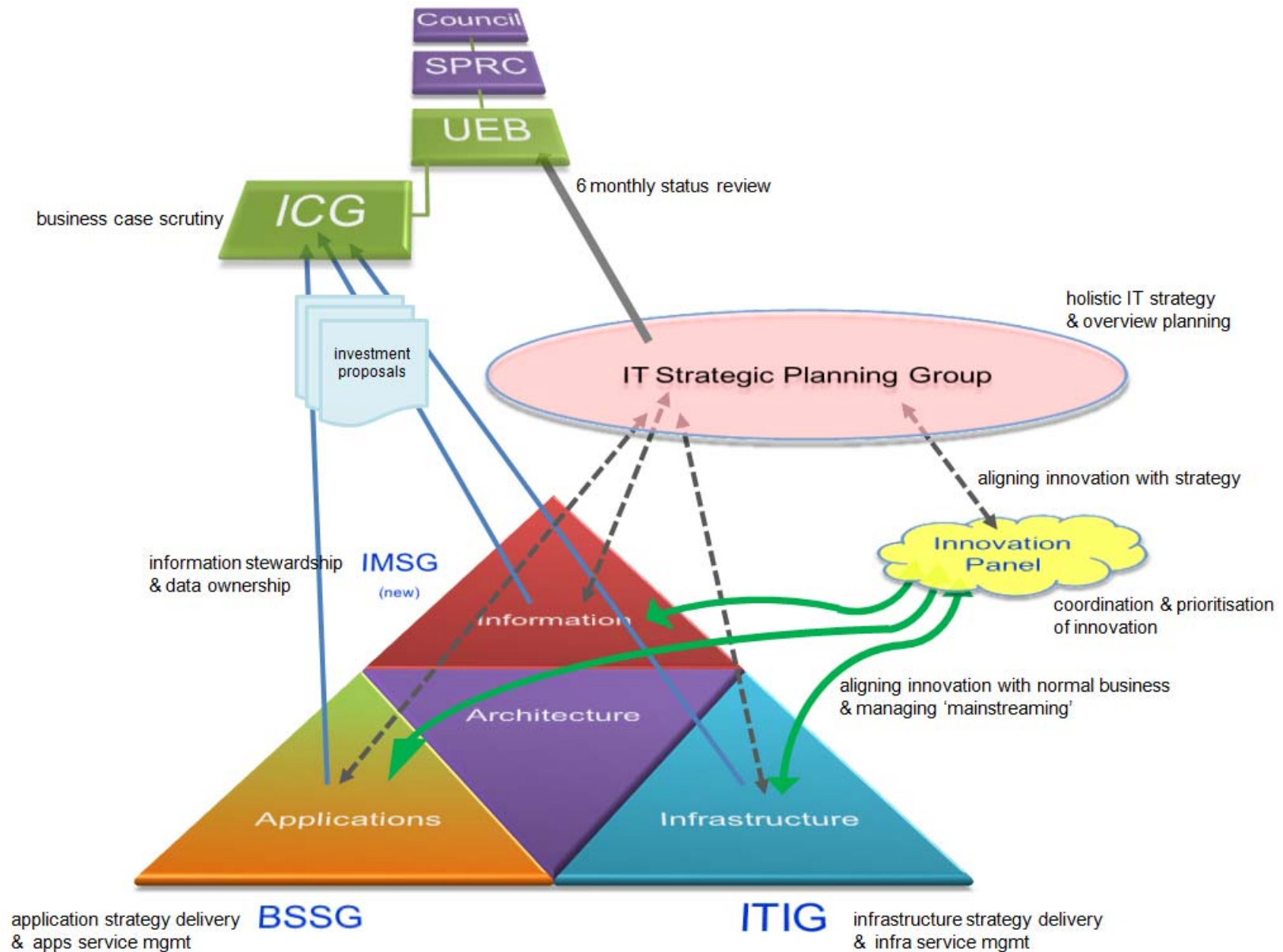
5.2 IT Governance

IT governance is judged to be reasonably effective in managing projects and initiatives. However a number of gaps need to be addressed, together with establishing an approach of maintaining strategic balance across IT. The chart overleaf outlines a new holistic and future-oriented approach to IT Governance.

Key aspects of core of this structure are as follows:

- **Information** – requires a governance approach. Proposed to create '**IMSG**' (Information Management Steering Group):
 - Steers initiatives for data architecture and design.
 - Owns the strategy for middleware and applications interfacing.
 - Focal point for data and information stewardship, supporting the University responsibilities in this area.
- **Applications** – steered by **BSSG** (Business Systems Strategy Group) and its various subgroups.
 - Owns the applications strategy, and approves/endorsees all significant application investigations and developments
 - Proposed to extend scope to include service governance for applications services.
- **Infrastructure** – steered by **ITIG** (IT Infrastructure Group) and its various subgroups.
 - Owns the infrastructure strategy, and approves/endorsees all significant infrastructure investigations and developments
 - Proposed to extend scope to include service governance for infrastructure services.
 - Should also be expanded to include voice services and investments in its scope.
- **Architecture** – requires direction and supporting processes. Proposed to create '**AMG**' (Architecture Management Group):
 - Orchestrates effective processes to ensure a coherent IT architecture
 - Sponsorship of IT Standards List, detailing: current, legacy, obsolete, and possible future standards for all major technology areas
 - Close alignment with Innovation Panel/programme
- **Innovation** – with the creation of an IT services innovation team, there needs to be accompanying governance for innovation initiatives and investments.
The **Innovation Panel** will:
 - Provide oversight and guidance of IT service innovation across the University
 - Provide an observatory function to help ensure agility is maintained in responding to new IT developments
 - Acting as a channel for discussion with BSSG, ITIG and IMSG when these innovations are ready to become main-stream.

IT Governance Framework



Following the Council effectiveness review, EISC (the Estates and Infrastructure Sub-Committee) will be ceased, refocusing its activities etc to either SPRC or the management structure (UEB, ICG etc).

For high level management, key aspects are:

- It is proposed that a new group, the **IT Strategic Planning Group**, be established, to:
 - Maintain an ongoing holistic view of IT strategy and direction, ensuring the appropriate balance between applications, infrastructure and information – aligned with the University’s strategic plan as it evolves.
 - Track progress against the IT Strategic Plan.
 - Be the overall focal point for the forward spending profile for IT - both revenue and capital.
 - Ensure appropriate alignment of IT innovation with mainstream activities
- **ICG** (Infrastructure Coordination Group) will continue to be the main management group overseeing University capital spending plans and investment proposals. For IT, it will:
 - Approve/endorse all major IT investments
 - Scrutinise business investment proposals

Where a proposed investment is in line with the agreed IT strategy and IT investment programme / profile, then following BSSG / ITIG / IMMSG approval or endorsement, it would go to ICG for business case approval (and higher, depending on the total amount sought). If however the proposal is outside the agreed strategy and/or investment programme, then the IT SPG would need to determine whether its merits warrant a change in the strategy and in particular a rebalance of the IT investment programme.

Overall, the goal of the IT governance frameworks is to ensure coherence and strategic alignment through the central governance structures (with associated policies, standards and procedures), whilst enabling and supporting innovation on a local basis within Colleges, still within an overall architectural framework.

5.3 IT Organisation

Current Structure:

<u>ACTIVITY</u>		<u>DELIVERY GROUP</u>
Central infrastructure/applications development and support		IT Services
End-user and departmental services	Arts and Law	IT Services
	Medical and Dental	IT Services (with some local provision within clinical trials, and with some resources still funded in MDS)
	Life and Environmental	IT Services
	Social Sciences	IT Services
	Engineering and Physical Sciences	IT Services
	Corporate Services	IT Services (but with some local departmental resources)
Research programmes		Typically embedded within research groups
Telecoms/voice services		HAS

Assessment:

- After a transition and settling period, the 'college IT teams' are now generally judged to be working effectively.
- Recognising the challenges of delivering the strategic IT vision, in particular to reduce complexity, periodic ongoing reconfiguration of the IT organisation will be necessary. This should include the appropriate approach for supporting the Colleges, taking account of the IT strategy and strategic framework aspirations. Staff consultation will be undertaken if required at the appropriate time.
- The convergence of voice and data services requires that the direction and strategic investments for voice need to be much more aligned with the overall IT programme. As a minimum voice should be brought into the scope for ITIG, and strategic investments assessed as part of the broader investment programme.

6.0 Measuring Delivery against the IT Strategy

We will know we are progressing each theme in the right directions if:

For: Advancing the University –

- Annual delivery plans ('roadmaps') are agreed for advancing how IT supports the key dimensions of Research and Learning & Teaching.
- The student IT experience has seen distinctive enhancements, including support for greater student mobility.
- There is a clear strategy for High Performance Computing service provision.
- An engaging process is in place to stimulate and manage IT service innovation.

For: Effective Information Stewardship -

- A Data Framework is established and operational – enabling the University to operate all its key processes effectively, and allowing users to classify, store and transfer data/objects appropriately.
- ISO 27001 certification is achieved for identified scope areas for information security processes.
- Robust and accessible hosting services are available for institutional data, particularly for research data.

For: University Operational Excellence -

- Collaboration and workflow infrastructure is operational, with standard templates for common usage needs.
- Reductions in IT-related carbon impact are being delivered, measured and are continuing.
- Where required, staff are able to do their jobs anywhere.

For: IT Complexity Reduction -

- Standard desktops are deployed, supported by software distribution services.
- Frontware infrastructure is in place and used to deliver new, more user-centric applications.
- Middleware infrastructure is in use between key core applications.
- A critical review of key applications has been completed, positioning them within a coherent long-term applications architecture.

For: IT Functional Excellence -

- Effective processes are in place to ensure IT spending oversight and transparency across the University.
- Implementation of ITIL v3 core processes is complete.

7.0 Risks

The risks associated with the IT Strategy are:

RISK	MITIGATION
Strategic vision and themes are not progressed.	Following approval of the IT Strategy, an implementation programme will be drawn up, documented as 'Broad Action Plans', and subsequently approved, with timed resourcing provision. Progress against these action plans will be reviewed on a 6 monthly basis with the IT SPG.
Forecast costs are significantly greater than expected.	Tracking of costs per initiative, with summary progress reports every 6 months, and early escalation to IT SPG of forecast significant deviations.
Resources are not deployed to support the agreed plans.	The process to agree the plans should secure agreement of provision of all the key resources. Difficulties or failure to provide those resources to be addressed through management structures, and if not resolved to be escalated to IT SPG as part of the 6 monthly review.
Unexpected events and developments cause deferral or cancellation.	Periodic review will allow due consideration and reprioritisation in response to such new factors.
External pressures demand earlier delivery of initiatives.	Active tracking and assessment of external factors, assessing their potential impact on strategic vision and implementation programme. To be included in 6 monthly reviews.

8.0 Next Steps

8.1 Communication of Strategic Direction

A programme of communications and publicity events with supporting materials will be prepared and delivered. This will predominantly focus on the content of this IT Strategy document, with the goal to ensure all key stakeholders and affected individuals are aware of the strategic intent of the University regarding IT.

8.2 Broad Actions Document

This will set out how each of the IT Themes will be put into action, with clear plans for launching the various supporting initiatives. The interdependencies, funding and resourcing consequences will be identified, reflected in overview time plans, and draft Project Initiation Documents (PIDs) prepared for the various feasibility studies to be launched. Approval will be sought from UEB. Ongoing monitoring and steering will be provided by the IT Strategic Planning Group.

8.3 Communication of Strategy Implementation Plans

A further programme of communications and publicity events with supporting materials will be prepared and delivered. This will focus on communicating the implementation plans for the various initiatives required. Where these involve the creation of new teams and roles, or the assembly of existing resources into project teams, the appropriate channels and procedures will be followed when dealing with such changes.

9.0 Acknowledgements and Thanks

Thanks are to be given to all those who helped throughout the process of creating this IT Strategy:

IT Strategy Board, IT Academic Advisory Group, IT Core team and IT Services Heads of Section.

All workshop participants and facilitators – from IT Services, Colleges and Corporate Services

Stakeholders, freshers, and suppliers who contributed to the data gathering phase

University management and governance groups: BSSG, College Boards, Council, EISC, ICG, ITIG, LGUA, SPRC, UEB

10.0 Glossary

AMG	Architecture Management Group
Banner	Software suite (supplier: Sungard) used for holding and managing student records.
BI	Business Intelligence
BIRMS	Banner Integrated Records Management System.
BSSG	Business Systems Strategy Group – responsible for strategic direction of applications.
CLAD	Centre for Learning and Academic Development.
EEG	Educational Enhancement Group.
FEC	Full Economic Cost
Frontware	A class of IT software which enable the provision of IT services with the specific goal of providing a seamless application service to end-users whilst integrating across a range of back-end systems, without any changes being required to those back-end systems.
HEI	Higher Education Institution.
HPC	High Performance Computing - a class of central processing/storage with extremely high capacity - e.g. Bluebear.
IMSG	Information Management Steering Group
ITIG	IT Infrastructure Group – responsible for strategic direction of infrastructure.
ITIL	IT Infrastructure Library - an industry set of common procedures for IT service delivery).
JANET	Joint Academic Network – the shared network providing UK HEIs with high speed connectivity.
JISC	Joint Information Systems Committee – a UK-wide committee of HEI staff directing a programme of initiatives and funded services (e.g. JANET).
LEG	Learning Environment Group.
Middleware	A class of IT software which sits between application systems provides mechanisms for robust data transfer between them – often using a ‘publish and subscribe’ model. Typically such systems can also map/transform data to and from standard data definitions, thereby facilitating the coexistence and interaction of systems compliant to any new data standards with legacy non-compliant systems.
R&KT	Research and Knowledge Transfer (Committee).
RGI	Russell Group Institution.
RSS	Most people believe it means: ‘Really Simple Syndication’. A class of automated news feeds whereby any changes to a website are automatically signalled to the end-user in their browser.
SaaS	‘Software as a Service’ – a class of outsourcing where relatively standard processes are externally hosted and offered as a bundled service.
Shrink-wrap	Class of software purchased ‘off the shelf’ – typically without any customisation or bespoke development.
Skype	An internet based service enabling PC to PC audio and video phone calls, and multi-cast (multi-participant) calls.
SLA	Service Level Agreement.

SOA	Service Oriented Architecture – an approach to IT system design which ‘envelopes’ various systems to then present them as a ‘black box’ service to other applications.
SPG	IT Strategic Planning Group – overall review and balance of the ongoing IT strategy and directions
TNE	Trans-National Education – the programme within U21G targeting international multi-institution provision of learning programmes.
U21G	Universitas 21 Global – an initiative within the U21 institutions, partnering with Thomson Learning to deliver online postgraduate learning programmes.