



15 August 2019

By email to: [request-590261-b74f5405@whatdotheyknow.com](mailto:request-590261-b74f5405@whatdotheyknow.com)

Dear Aditya Arora

I refer to your Freedom of Information request received on 19 July 2019 about the University's ICT strategy.

Details of any exemptions applied are below. Where any information is "not held", this is explained below. Those parts of the University's response (together with the details of how to ask the University to review the management of your request, or thereafter to seek a review by the Scottish Information Commissioner, should you wish to do so – please see below) constitutes the notice in writing that the information specified is not held by the University which is required under section 17 of the Freedom of Information (Scotland) Act 2002 ("FOISA").

Your enquiry and the University's response.

Dear University of Abertay Dundee,

Can you please provide me with the latest copy of your Digital strategy/IT strategy/ICT strategy/Mobile strategy

Information not held: Information Services does not have a strategy *per se*. The University has its Strategic Plan, which is underpinned by three-year operational plan for each School and Service. The operational plan is attached here for your information.

This concludes the University's response.

Your right to seek a review of how your information request was managed

If you are not satisfied with our response or our reasoning set out above, you have 40 working days in which to require a review of our decision. Any such request should be put in writing and should be sent to the University Secretary, Abertay University, at the address provided below. The request should:

- (a) detail your request for a review of our decision to be undertaken
- (b) describe the nature of your original request
- (c) explain the reasons why you are dissatisfied with our response

University Secretary  
Abertay University  
Bell Street

Dundee  
DD1 1HD  
Tel (01382) 308016

E-mail: S.Stewart@abertay.ac.uk

If you remain dissatisfied with how your request for information has been dealt with, you also have the right, in terms of section 47 of FOISA, and within 6 months, to apply to the Scottish Information Commissioner for a decision as to whether we have handled your request properly.

Information relating to your right to seek review is available from the Scottish Information Commissioner's website:

<http://www.itspublicknowledge.info>

or by contacting the Scottish Information Commissioner's Office at the following address:

Scottish Information Commissioner,  
Kinburn Castle,  
Doubledykes Road, St Andrews,  
Fife KY16 9DS

Telephone: 01334 464610

Fax: 01334 464611

E-mail: <mailto:enquiries@itspublicknowledge.info>

Website: <http://www.itspublicknowledge.info>

Or via the SIC's online appeals service:

<http://www.itspublicknowledge.info/YourRights/Unhappywiththeresponse/AppealingtoCommissioner.aspx>

If you are unhappy with the Commissioner's decision, you also have the right to appeal further to the Court of Session, on a point of law only, under section 56 of FOISA. Please refer to the Commissioner's website (details above) for further information about your right of appeal to the Court of Session.

Yours sincerely,

*FOI Processing*

Academic Registry  
Abertay University

Abertay University is a registered Scottish charity, no. SC016040

---

## Abertay University: [School/Service] Plan 2017-20 - SPRING 2019 UPDATE

Current operational plans cover the three years from 2017 to 2020 and set out the actions the School or Service will take to support the University's priorities. Schools and Services are now asked to update their plans and to highlight current progress and any changes planned for 2019-20. Updates should also set out initial plans for 2020-21 reflecting the emerging priorities for the period summer 2020.

**Completed plans should be submitted to the Planning Office ([planning@abertay.ac.uk](mailto:planning@abertay.ac.uk)) by 22 February for Services and by 1 March 2019 for Schools. Services should also submit the documentation for the Scrutiny Panel at the same time. Discussions will be held with Directors in w/c 4 March and Deans in w/c 11 March.**

### 1. Review of progress to date

Schools and Services are asked to provide an overview of performance (to date and expected up until end of July) against their existing operational plans.

#### **Support University compliance with the open access publication requirements for the next REF**

- Pure now fully utilised to monitor and report on compliance of research outputs to ensure they meet OA requirements for REF2021.
- All print PhD theses now digitised and freely available from the Pure Portal.

#### **Support University compliance with funder standards for Research Data Management**

- Research Data Management Policy reviewed and rewritten to align with the requirements of the [Concordat on Open Research Data](#) and UKRI open data requirements.
- Revised policy promoted to all research staff via GDPR and Research Data Management Workshops.
- 'Repository of last resort' established for research data.

#### **Support early career researchers' development of digital scholarship and information management skills**

- Workshops for early career researchers now listed in the Researcher Professional Development Programme as either *Essential* or *Advised* sessions for PgRs.
- New online support materials for bibliometric tools in Scopus and Web of Science created.

#### **Improve the availability of core reading materials to undergraduate and taught postgraduate students**

- Key reading materials are now available in 100% of modules that require a reading list via the Leganto system, via the virtual learning environment.
- Module survey feedback is generally very positive and as a result of the continuing roll-out there have been fewer negative comments regarding the availability of key readings (digital and print).
- There has been an increase in the number of student reading list views, citation views and full text downloads in the 2018-19 academic year to date (compared to the same period in 2017-18).
- 82 academic staff (29%) have interacted at least once with Leganto and some are regularly updating their lists [remainder of online lists created on behalf of staff by Library Services...].
- Integration of the CLA's Digital Content Store with Leganto expected before next start of next session, introducing workflow enhancements around copyright & digital content delivery to students.

#### **Support students as they transition into HE and develop the digital and information capabilities required to undertake independent academic study**

- The [Study Skills](#) site on the intranet (jointly created with Learner Development Services) was launched at the start of the 2018-19 academic year and has been viewed over 7,000 times to date. The [Getting Started](#) online guide for new students was launched, with approximately 1,200 views to date.

- The exercise to map programme input and review the nature of 4<sup>th</sup> year honours projects is in progress and once complete will inform planning for 2019-20.
- The School and Division action plans arising out of the Institution Led Review have highlighted key School contacts for supporting articulating students.
- Action has been taken to promote the online and face to face support provided by the Library Services Team and workshops specifically for these students have been arranged where possible.

#### **Enabling students and researchers to easily access the published scholarly information and data they require to develop understanding and enable intellectual discovery**

- Implementation of [BrowZine](#) has provided users with an easy to access online journal browsing tool, and enhanced journal title and article search results within [LibrarySearch](#)
- LibrarySearch has been enhanced with: i) Resource Recommender service, providing users with a set of recommendations (databases, web pages, people) based on search tags and with ii) Citation Trails for increased visibility of “cited in” and “cited by” links.

#### **Ensure that NSS score for Learning Resources (Library and IT) are at or above the average for all Scottish HEIs**

- Learning Resources combined score was 89% in 2018, comparing favourably to Scottish average of 84%

#### **Ensure high quality study facilities for staff and students, in line with our Estates strategy.**

- Refurbishment of Library Building completed by August 2018

#### **Ensuring we provide the highest standards of student support and customer service**

- SEZ achieved Customer Service Excellence accreditation with the service found to be fully compliant in all 57 elements of the Standard.
- The range of self-service options for students has been widened: status letters and module change options are available online and we are working with Student Services to improve self-service appointment check-in.

### **IT Services**

#### **Enabling students and staff to work more flexibly**

- In line with our mobile first initiative we continue to replace existing desktop PCs with laptops.
- Change the way we deliver software applications with the AppsAnywhere service
  - o The AppsAnywhere service will change the way we deliver software applications to students and staff. The service enables access to software wherever and whenever on any windows device, on and off campus. Users access apps from a customisable “app store”, students no longer have to follow apps around the campus, now the apps will follow them (subject to software licensing restrictions)
  - o Improved remote access for managed laptops.
- Survey and review the main campus Wi-Fi coverage and working with Estates and Campus Services plan to use stock Wi-Fi access points to improve coverage and remove blackspots.
  - o Review analytics to improve performance in areas of high concurrent usage.

#### **Change to frontline service operations**

- Restructured the IT service desk function to improve flexibility of service delivery.
- Working with colleagues we continue identify processes that are suitable for automation to improve efficiency by removing low level administrative tasks

#### **Ensure that our external network connections are fit for purpose**

- Replaced Janet network router equipment.

- Managed service contract now in place with JISC covering management, maintenance and support
- Upgrade our primary link to 10Gbs to cater for future capacity requirements.

#### **Ensure that corporate data is backed up and protected**

- A new enterprise backup and recovery system has been installed.
- The existing backup system installed at Dundee & Angus College for DR purposes has been replaced.
- Further training and DR testing is planned.

#### **IT Policy review**

- New and updated policies will be published (subject to approval)
- GDPR compliance.

#### **Hardware and software asset management**

- We will procure a software asset management system to give better visibility, control and insight into our software assets
- We will link this system with our IT service management system, UniDesk, for hardware asset management.

#### **Working with key stakeholders to improve IT/AV provision for teaching and learning**

- Refurbishment of the Library building
- Support for the “whitespace” refurbishment
- Support for future flexible learning spaces
- Outsourcing contract in place for specialist AV design and support.

#### **Continue to ensure a high level of cyber resilience**

- Achieved Cyber Essentials certification, accredited by CREST, in line with Scottish Government action plan.
- Preparing for Cyber Essentials Plus certification.
- Continue to implement cyber security best practice in line with Scottish Government and NCSC guidelines.
  - o Introduced mobile device management for corporate issued devices and application management for personally owned devices to protect university data
  - o Replace the password self-service portal
  - o Updated corporate issued smartphones to improve security and productivity.
  - o Email encryption with optional information management controls for marking and protecting sensitive document and email signing for non-repudiation purposes.
  - o Updated patch management schedule to improve our security posture.
  - o Change the way in which admin rights are requested and approved by implementing a policy of least privilege.
  - o Continue to evaluate best practice for email protection, such as DMARC, DKIM and SPF, to minimise the risk of data breaches and account compromises though phishing campaigns and password guessing.
  - o Ensure all laptops have encrypted storage
  - o Secure data storage and sharing

#### **Corporate Information Systems (CIS):**

#### **Transform the University’s corporate information systems, ensuring they are responsive to business needs**

- **Implementation of an enhanced timetabling and room booking management system:**

The implementation of the new timetabling and room booking system has provided the opportunity to enhance timetabling services to students and staff. With the publication of the Term 2 2018/19 academic timetables, using the new system, the following benefits have been realised:

- Personalised Term 2 2018/19 timetables were published for students and staff.
- Staff teaching timetables were automatically published to Outlook calendar.
- Ad-hoc room bookings has been streamlined, centralised and managed from Estates and Campus Services.
- Better integration with the student record system.

- **Enhance online application forms and make admissions processes paperless:**

Working with Academic Registry, new online application forms were developed and deployed in time for the start of the student admissions cycle in November 2018. Key benefits of the new application forms are:

- Mobile-first responsive and accessible form, with branding and styling closely aligned to the new corporate website.
- Provision for all postgraduate online applications, including research applications.
- Provision of Visiting and Partner online applications.

- **Enhance the information and services available to students and staff in OASIS:** Working with Academic Registry and SEZ, various self-service solutions have been developed and deployed to transform paper-based forms to online services for students. Examples of some of these online services are: student status letters, module change, discretionary fund and re-assessment requests.

- **Enhance the Research Ethics form:**

An enhanced online research ethics form has been developed and deployed to manage ethics applications for all research and student projects. Key benefits of the new Research Ethics form are:

- Mobile-friendly, responsive and accessible, and easy to use.
- Streamlined ethics form processes and support.
- Provision for uploading supporting documents, such as risk assessment.

- **Virtual learning environment (VLE) and E-Portfolio:** Working with Teaching & Learning Enhancement, a new VLE solution has been procured. Implementation phase started in January 2019 and it is expected to be completed by July 2019.

- **Lecture capture:** An enhanced lecture capture has been implemented and deployed across the University.

- **Further develop MyAbertay/Intranet:**

- Working with the Communications team, the MyAbertay staff dashboard was re-designed and associated intranet content re-classified to improve search and access to information. In addition, a new blogging system has been configured for the intranet.
- Working with Library Services and the Learner Development Services, new content services sites, such as Study Skills and Getting Started, were developed on the intranet for students.
- Working with Human Resources improved structure and content with document tagging. A document A-Z has been created which is delivered by the enterprise search solution, Funnelback.
- Usage analytics embedded within the Intranet to assist business areas in decision making.

### **Develop and implement business intelligence to enhance the use of corporate data to monitor performance, underpin forecasting and inform decision making**

- **Learning analytics and attendance monitoring:**

The Learning Analytics tools have been enhanced to include the following features to support the University's student retention objective, for the start of academic year 2018/19.

- RAG indicator to help identify students at risk and make it easier for Student Services to reach out to students.
- A holistic view of student progress is now available for Programme Leaders (PLs), making it easier for PLs to identify students needing additional support or those not attending classes.
- Additional visualisation reports on student attendance and VLE activities.
- View of Programmes for Heads of Divisions, Academic Curriculum Managers and Deans of Schools.

- **Module and programme evaluation**, including using summative and formative feedback: Additional components have been activated to provide reporting insight dashboard for academic staff. Through the dashboard, staff can provide constructive feedback to responses received on their module survey. The output of the closing the loop feedback is then subsequently uploaded to the VLE for students to access. This has resulted in an increased module survey response rate.

### **Deliver integrated data and systems that improve business processes relevant to the student and staff journey**

- An Application Programming Interface (**API**) feed has been developed and deployed to share data between PURE (Research Repository System), corporate website and the University enterprise search solution.

### **Ensure all services are Disability Discrimination Act (DDA) compliant**

- All new web-based services have been developed/configured with WCAG to AA accessibility standards in mind.
- Compliance checks for existing systems/services are on-going and where possible, services are enhanced to ensure compliance and adherence to regulatory requirements.

## 2. Summary of the School/Service's plans for 2017-20 and indication of priorities post-2020

Please **summarise** the key objectives and actions, focussing on any significant changes to your operational plan. **Please use this section to outline the priorities for the School/Service beyond the current three-year plan and how you will progress towards these (reflecting any new objectives in section 3 as appropriate).**

### Library Services

- Enabling students and researchers to easily access the published scholarly information and data they require to develop understanding and enable intellectual discovery
- Supporting students as they transition into HE and develop the digital and information capabilities required to undertake independent academic study
- Improving the availability of core reading materials to undergraduate and taught postgraduate students (as per current University Operational Plan)
- Support University compliance with the open access publication requirements for the next REF and with compliance with funder standards for Research Data Management
- Delivering digital library services to students undertaking different modes of study (particularly if University moves into online and distance learning markets)
- Improving score for NSS question 19 i.e. *"The library resources (e.g. books, online services and learning spaces) have supported my learning well"*
- *NB current level of investment in digital learning resources is already below the average per FTE spend for a UK post-92 HEI and continuation of a flat budget for a further two years, in an environment of above inflation price increases, will require cancellations of core licences. As a result an uplift in recurrent funding is proposed (see proposal ref X)*

### SEZ:

- Working with partners to identify processes that could be carried out at the first point of contact rather than referred, in order to improve the student experience and reduce the 'cost per enquiry'
- Investigating the emerging use of chatbots and AI in the sector to provide students with a more tailored online support experience and to improve support out-of-hours

### IT Services:

We will continue to work with key stakeholders, schools and services, the students association and external partners/suppliers to deliver IT services that meet the needs of students and staff

- Review options for building on Cyber Essential Plus certification to improve processes, policy and overall cyber resilience
- In line with the University's drive for efficient and effective service delivery review the current IT service offerings to assess if they are fit for purpose, identify areas for change and create a plan to address them.
  - o IT Services will challenge inefficient use of technology and working with colleagues will play a central role in constantly improving operational processes.
  - o Revamp and relaunch the IT service catalogue and service level agreement.
- Enabling easy access by researchers in all disciplines to infrastructure, tools, services and support.
  - o Continue to engage and support IT requirements across the research community.
  - o Review the current data storage services and processes we deliver to the research community to see if they remain fit for purpose
  - o Working in partnership develop IT support models for initiatives such as Cyberquarter.
- Enhance service solutions that support a bring your own device culture in conjunction with reviewing the software catalogue and student computing needs (Labs, laptop loans etc.)
- In partnership with Estates and Campus Services identify and implement IoT based sensors to assist in the measurement of room occupancy.
- Working with key stakeholders we will enhance the identity management support for systems including the review of existing cloud offerings to see if they are fit for purpose.



- We will evaluate options for migrating to cloud based identity management to improve security and resilience.
- Replace the current VoIP telephone system with unified communications
  - In line with our mobile first initiative we will give staff the option to use an app for voice calls on a laptop or mobile device.
  - Save opex and improve resilience by routing external calls over the Janet network rather than our existing voice circuit.
- Investigate the replacement of IT infrastructure with a fully managed service.
  - Working with key stakeholders explore ways of removing capex or “lumpy” expenditure by redirecting costs towards an opex supply and support model.
  - Plan for a different support model moving from managing infrastructure to managing operations.
  - Where it makes sense to do so broaden out the opex model to encompass other equipment such as Wi-Fi, wired network and security appliances.
- Integrated cyber defence and identity protection.
  - Review the current cyber threat protection across IT infrastructure and end user devices together with emerging cloud powered artificial intelligence to enable advanced threat detection and response.
  - Evaluate the security requirements for emerging technologies such as IoT.
  - Investigate using biometrics to replace passwords.
- Supplement the AppsAnywhere service with a VDI to extend the delivery of software applications to any device.
  - Enhance the AppsAnywhere service to deliver software applications to non-Windows based devices, such as Apple Macs, Chromebook etc (subject to software licence restrictions).
  - In addition VDI can also enable high performance software to be executed on low powered devices.
- Works towards achieving SDI certification for the IT frontline service.
  - SDI's Service Desk Certification (SDC) programme is the only industry, standards based accreditation programme designed specifically to certify service desk quality. The globally recognised best practice Service Desk Standard, provides a set of clear and measurable benchmarks for service desk operation; some of which may not be found within other frameworks and standards such as ITIL or ISO/IEC 20000.
  - To achieve certification, the maturity level of our service delivery operation will be audited against the SDI Service Desk Standard. Auditors will assess our compliance with the Standard and verify the level our service is operating at to award a reactive, proactive, customer-led or business-led status.
- We will review current methods of IT Service delivery to ensure that they continue represent best practice into the future and in particular, take into account the impact of changing delivery models such as cloud.
  - Engage with our customers to further understand their needs and continue to find ways in which to work in partnership
  - Streamline the IT Services we provide with more efficient delivery and support models.
  - Working with colleagues in ECR raise awareness of our IT service offerings through various marketing channels.
  - IT Services will act as a “trusted partner”, focusing on the staff and student experience as well as technology
- Investigate the use of AI/bots in service operations. An AI worker could be trained to completely resolve an incident/service request or simply do some pre-processing to help human frontline staff resolve the support call.
- Investigate a more consumer based, individual end user computing experience with less restrictions and barriers to getting the job done your way – the when, where and how.
- *NB: We are currently in Year 2 of 3 of our Microsoft Enrolment for Education agreement. This agreement covers the deployment Microsoft Windows 10, Office, enterprise mobility and security. We have been advised that our new agreement due to be in place by January 2021 will be subject to **at least a 20% increase in cost** (current agreement is c£43K+VAT). We will work with our supplier between now and the renewal date to minimise the increase above 20%.*

#### **Corporate Information Systems:**

As per the plan submitted in 2018, we will continue to work with other services and key stakeholders across the University to develop corporate systems transformation proposals and implement the initiatives outlined below:

- Room booking and timetabling, including digital signage, room and workspace utilisation: Working with Academic Registry, continue to implement the new timetabling and resource management (TRM) solution for 2019/20 - Advanced Resource Booker, Exam Scheduler and Student self-selection on tutorial groups. PC Availability service will be extended to improve machine availability information and usage trends.
- Enhance online application forms and make admissions processes paperless: Working with Academic Registry, continue to work towards making our admissions processes paperless by implementing an online process for: referral; viewing application form; and recording an academic decision.
- Enhance the information and services available to students and staff in OASIS: Working with Academic Registry and Student Services, review the processes which currently require students to complete a paper form and implement online processes or forms, where appropriate.
- Further develop the student information system (SITS) to improve data integrity and automate progression, awards and graduation processes.
- Learning Analytics and attendance monitoring: We will continue to support the University's work on student analytics and retention, providing the technology and data integration to enable other services to develop processes that enhance support for students.
- Implement a reporting dashboard for Learning Analytics, based on Power BI and Microsoft Reporting Services.
- Implement a solution to streamline and automate processes for monitoring student attendance, including SMS messaging, integration with GTI Target Connect and SITS.
- Implement a pre-joining/on-boarding site to gain early insight into student support and interactions – via questionnaire, Prometric tests and predictive analytics.
- Enable technologies to drive efficiency (**funding would be required, currently unknown**):
  - o Investigate artificial intelligence (AI) powered tools, process automation, workflow and personalised services/solutions, to streamline student/staff support processes and interactions. This will automate some human to human interactions to allow 24/7 responses.
  - o Explore the potential of block chains, to monitor student performance (automate recognition and transfer of credits to potentially open-up learning opportunities for students).
  - o Explore 24/7 online student advisory service by allowing students to ask questions and receive instant online answers, using AI/machine learning technology.
- Further develop the student information system (SITS) to automate and improve student record processes.
- Improve the current Module Catalogue application held within SITS and implement a similar framework application for the creation and maintenance of Programme Specification Documents.
- Virtual learning environment and e-portfolio - continued implementation
- Enhance lecture capture solution (**Proposal tabled by TLE, cost £28,800 per year**)
- Implement an augmented/virtual reality-based solution for teaching to solve complex challenges (**Proposal tabled by TLE**)
- Implement an online interactive learning resources solution and integrate with VLE for teaching in the School of Applied Sciences to manage pre-labs and post-labs activities (**Proposal tabled by TLE, cost £12,000 per year**)
- Implement a sentiment analysis solution for module survey feedback (**Proposal tabled by TLE, cost £7,656 year 1 then £5,076 per year thereafter**)
- Implement a Computer-aided facility management system (**Proposal tabled by ECS**)
- Implement a Health and safety system (**Proposal tabled by ECS**)
- Further develop MyAbertay to allow targeted information to users.
- Implement a solution to manage user access to the Gym (**Proposal tabled by Student Services/ECS**)
- Implement suitable solution for the management of information assets and vital records - document management (Business Case already tabled at formal Executive meeting)
- Implement Payment Card Industry Data Security Standard (PCI DSS) compliance requirements (**see proposal ref X, cost £12,000 per year**)

- Upgrade Raiser's Edge software (**Proposal tabled by ECR, additional cost of £13,106.03 year 1 and an uplift of £6,176.03 per year**)
- Identify Access Management: Investigate and deploy role-based or functional-based security access to services and systems.
- Enable smart campuses to adopt advanced systems to automatically monitor and control facility (e.g. monitor parking space, building alarms, room usage, building management system - heating and lighting).
- **NB: Experience has shown that the annual software license and support maintenance costs increased significantly above inflation price increases. With a continuation of a flat budget for a further two years, cancellations of core software licences and support agreements will be required to meet short falls. As a result, an uplift in recurrent corporate systems funding is proposed (see proposal ref X, cost £17,000 per year)**

### 3. Future objectives and planned activities:

Please set out a summary of the future objectives of the School or Service and comment on the planned actions, resources, and timescales relating to the delivery of these objectives. This should cover the three year period 2017-18, 2018-19 and 2019-20. **Please highlight any significant changes to your previously agreed operational plan and include initial objectives for 2020-21 and beyond where appropriate. .**

Schools/ Services should also demonstrate how they are contributing to the delivery of the [University's Operational Plan](#), the [University's Equality Mainstreaming Report](#) and the [University's outcome agreement](#).

#### SP1: Choosing our own path

***Continue to invest in our IT infrastructure to provide modern and leading edge systems which support our new ways of working + ensuring campus-based programmes are supported by an appropriate IT infrastructure***

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School /Service]	Timescale/ target date	Measurement of progress
Provide an IT environment that facilitates high quality collaboration and communication.	Investigate use of a cloud based unified communications system, in conjunction with Office 365 and Skype for Business/Teams, to provide an integrated communication and collaboration platform across devices. <b>[Continuing]</b>  Implement additional Skype enabled rooms to replace the main videoconference suite after closure due to whitespace refurbishment <b>[New]</b>	Within budget	All schools and services	2018-19	

Enable seamless access to services at any time in any location and through any device.	The AppsAnywhere service will change the way we deliver software applications to students and staff. The service enables access to software wherever and whenever on any Windows device, on and off campus. Users access apps from a customisable “app store”, students no longer have to follow apps around the campus, now the apps will follow them (subject to software licensing restrictions) <b>[New]</b>	Within budget	All schools and services	2019-20	Availability of software applications from university app store
	We will improve remote access for managed laptops. <b>[Continuing]</b>	Within budget		2018-19	Managed laptops can work seamlessly off campus
	Enhance the AppsAnywhere service to deliver software applications to non-Windows based devices, such as Apple Macs, Chromebook etc. (subject to software licence restrictions). In addition VDI can also enable high performance software to be executed on low powered devices. <b>[New]</b>	Subject to approved business case		2019-20	AppsAnywhere service available across all devices.
	Replace existing wireless access points with modern equivalents to improve speed, coverage and density (where required). <b>[New]</b>	Within budget		2018-19	Improved Wi-Fi coverage
Protect and maintain the confidentiality, integrity and availability of the University's digital assets with appropriate security, policy and guidance.	<p>Implement software asset management to provide a unified view of IT hardware and software assets, license entitlements and application usage metrics. Ideally with integration into our service management system - UniDesk.<b>[Continuing]</b></p> <p>Implement S/MIME to digitally sign and encrypt email and multi factor authentication for two step verification to help safeguard access to data and applications. <b>[Continuing]</b></p> <p>Implement mobile device management for corporate and BYO devices to improve security and prevent sensitive data leakage.<b>[Continuing]</b></p>	Within budget	All schools and services	2018-19	<p>Availability of integrated software and hardware asset management</p> <p>Options available to secure email and documents</p> <p>All mobile devices accessing university data are secure and protected</p> <p>A policy of least privilege best practice is implemented</p>

	<p>Change the way in which admin rights are requested and approved by implementing a policy of least privilege. <b>[New]</b></p> <p>Prepare for Cyber Essentials Plus certification <b>[New]</b></p>				Certificate
Ensure the underlying infrastructure is secure, resilient and supports business requirements.	<p>Replace legacy public telephony circuits with modern SIP trunks that route voice communications over our JANET network connections to reduce cost and improve resilience. <b>[New]</b></p> <p>Investigate the replacement of IT infrastructure with a fully managed service. <b>[New]</b></p> <p>Replace the current VoIP telephone system with unified communications <b>[Continuing]</b></p>	<p>Subject to business case</p> <p>Subject to business case</p> <p>Subject to business case</p>		2019-20	Production of business case

**Invest in our Digital Library, enabling students and researchers to easily access the published scholarly information and data they require to develop understanding and enable intellectual discovery**

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
Improve the availability of core reading materials to undergraduate and taught postgraduate students	Use the Brightspace implementation as an opportunity to encourage academic colleagues to follow reading list best practice guidelines and to increase the number of staff managing their key module readings using Leganto. <b>[New]</b>	Within current budget	All Schools	2019-20	Best practice guidelines produced in conjunction with academic staff  Increase in % of academic staff self-sufficient in use of Leganto
	Increase exposure of Leganto course resources by enabling users to navigate & access reading lists directly from LibrarySearch <b>[New]</b>	Within current budget		2019-20	Implementation of improved functionality
Deliver digital library services to students undertaking different modes of study	Be proactive in responding to any University plans for increased online, blended or distance learning with support and advice re: licencing, integrated e-resource delivery and student support <b>[New]</b>	Dependent on University activities and plans in this area	All Schools	Dependent on University activities and plans in this area	Dependent on University activities and plans in this area
Evaluate and implement enhancements to our Discovery systems	Maintain watching brief on how to best utilise Linked Data & SEO initiatives that enable crawlers to better understand library materials, and expose of data to wider web using schema.org. <b>[New]</b>	Watching brief within current budget		Ongoing	Advice and support available to research active staff based on current and expert knowledge of search and discovery services, systems and resources
	Maintain watching brief on AI and Machine Learning technologies and Augmented Analytics in order to automate insights, enhance searching and context-driven services. <b>[New]</b>	Watching brief within current budget		Ongoing	
	Leverage Open initiatives for increased discoverability and integration of OA, OER etc. and ensure seamless discovery of less traditional materials (datasets etc.) <b>[New]</b>	Within current budget		Ongoing	

Supporting students and embedding the Abertay Attributes in our curriculum					
Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
Support students as they transition into HE and develop the digital and information capabilities required to undertake independent academic study	Use the map of current IL and DL programme input to review delivery models and look at opportunities for embedding targeted online learning at specific relevant points in programmes, maintaining contact with articulation tutors in particular. <b>[New]</b>	Within current budget	All Schools	2019-20	Review of delivery model completed with online learning objects embedded where required.
	Use any evidence arising out of University's participation in the JISC Digital Capabilities and Learner Analytics initiatives to inform information and digital literacy planning and delivery. <b>[New]</b>	Within current budget	All Schools	2019-20	IL and DL delivery informed by JISC initiatives as appropriate
Ensuring we provide the highest standards of student support and customer service					
Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/Service ]	Timescale/ target date	Measurement of progress
Improve and widen the portfolio of self-service options available to students	Investigate the emerging use of chatbots and AI in the sector to provide students with a more tailored online support experience and to improve support out-of-hours. <b>[New]</b>	Investigation within current budget		Commencement of scoping in 2019-20	Completion of scoping exercise
Continue to develop our One Stop Shop	Further develop customer support strategies with the aim of gaining <i>Compliance Plus</i> accreditation for our ongoing <a href="#">Customer Service Excellence Standard</a> accreditation for SEZ. <b>[Continuing]</b>	Within current budget	External Accreditation Agency	2019-20	Re-accreditation of SEZ and scoring of key criteria as 'compliance plus'
	Work with partners to identify processes that could be carried out at the first point of contact rather than referred, in order to improve the student experience and reduce the 'cost per enquiry'. <b>[Continuing]</b>	Within current budget	All stakeholders that SEZ partners with	Reviews with all partners to be completed by 2020	Process reviews conducted with each partner

<i>Show improvement in our benchmarking against comparable modern universities and, consequently, improvement in our league table position</i>					
<b>Objectives</b>	<b>Planned actions (new or continuing)</b>	<b>Resources allocated (financial, staffing ...)</b>	<b>Working with [other School/ Service]</b>	<b>Timescale/ target date</b>	<b>Measurement of progress</b>
Ensure that NSS score for Learning Resources (Library and IT) are at or above the average for all Scottish HEIs	Produce and act upon an annual action plan in response to NSS results, and to consolidated feedback gathered via other channels (module surveys etc.) <i>[Continuing]</i>	<b>NB – see proposal for strategic investment in digital library</b>	Schools	Ongoing	NSS results and trends
<i>Ensuring high quality study facilities for staff and students, in line with our Estates strategy.</i>					
<b>Objectives</b>	<b>Planned actions (new or continuing)</b>	<b>Resources allocated (financial, staffing ...)</b>	<b>Working with [other School/ Service]</b>	<b>Timescale/ target date</b>	<b>Measurement of progress</b>
Improve Classroom AV facilities	Working with key stakeholders and external design authority develop a plan to transform labs into more flexible teaching spaces	Subject to business case	Schools	2019-20	Availability of flexible learning spaces



**Promote a culture of continuous improvement ... and improve efficiency and sustainability in the way we do things...**

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
		<b>NB – see also proposal for an uplift in recurrent corporate systems funding - cost £17,000 PA</b>			
Transform the University's corporate information systems, ensuring they are responsive to business needs	Contribute to the implementation of an enhanced room bookings and timetabling solutions <b>[Continuing]</b> .  <b>Priority Area:</b> SR Space, SR Supp	Within CIS approved improvements budget	Academic Registry, Estates & Campus Services	By end of session 2019-20	Exam scheduling and other components fully implemented and deployed into production.
	Enhance online application forms and make admissions processes paperless <b>[Continuing]</b> .  <b>Priority Area:</b> SR Recruit	Within CIS approved improvements budget	Academic Registry	2019-21	Business process reviewed and agreed; and paper-free admissions process in place.
	Enhance the information and services available to students and staff in OASIS <b>[Continuing]</b> .  <b>Priority Area:</b> SR Supp	Within current budget	Academic Registry	2019-21	Scoping exercise completed; business process reviewed and agreed; and services deployed into operations.
	Further develop the student information system (SITS) to improve data integrity and automate progression, awards and graduation processes. <b>[New]</b>	Within CIS approved improvements budget	Academic Registry	By end of session 2019-20	Scoping exercise completed; business process reviewed and agreed; and enhanced services deployed into operations.
	Improve student record processes within SITS to decrease processing time <b>[New]</b>	Within current budget	Academic Registry	2019-21	Business process reviewed and agreed; appropriate solutions implemented for

					some of the priority processes.
	Implement suitable solution for the management of vital records. <b>[New]</b>	Financial: Dependant on approved business case <b>(see proposal tabled by AR)</b>	Academic Registry	2019-21	Production of business case
	Improve the current Module Catalogue application held within SITS and implement a similar framework application for the creation and maintenance of Programme Specification Documents. <b>[New]</b>	Within current budget	Academic Registry	2019-21	Scoping exercise completed; business process reviewed and agreed; and enhanced services deployed into operations.
	Implement a digital signage solution, to complement the timetabling solution <b>[Continuing]</b> .	Within CIS approved improvements budget <b>(to be confirmed)</b>	Academic Registry, Estates & Campus Services, Teaching & Learning Enhancement	2019-21	Procured and deployed suitable signage devices
	Contribute to the implementation of a replacement Virtual Learning Environment and e-portfolio solutions <b>[Continuing]</b> .	Within CIS approved improvements budget	Teaching & Learning Enhancement	By start of session 2019 - 20	New VLE fully deployed into operations.
	Contribute to the Implementation of a replacement Lecture Capture solution <b>[New]</b> .	Financial: Dependant on approved business case <b>(see proposal tabled by TLE - cost £28,800 PA)</b>	Teaching & Learning Enhancement	2019-21	Production of business case
	Implement an augmented/virtual reality-based solution for teaching to solve complex challenges <b>[New]</b> .	Financial: Dependant on approved business case	Teaching & Learning Enhancement	2019-21	Production of business case

		(see proposal tabled by TLE)			
	Implement an online interactive learning resources solution and integrate with VLE for teaching in the School of Applied Sciences to manage pre-labs and post-labs activities <b>[New]</b> .	Financial: Dependant on approved business case (see proposal tabled by TLE - cost £12,000 PA)	Teaching & Learning Enhancement	2019-21	Production of business case
	Implement a health and safety management solution. <b>[New]</b>	Financial: Dependant on approved business case (see proposal tabled by ECS)	Estates & Campus Services (ECS)	2019-20	Production of business case
	Contribute to the Implementation of a replacement Computer-Aided Facility Management solution. <b>[New]</b>	Financial: Dependant on approved business case (see proposal tabled by ECS)	Estates & Campus Services (ECS)	2019-21	Production of business case
	Enable smart campuses to adopt advanced systems to automatically monitor and control facility (e.g. monitor parking space, building alarms, room usage, building management system - heating and lighting). <b>[New]</b>	Financial: Dependant on approved business case (see proposal tabled by ECS)	Estates & Campus Services (ECS)	2017-2020	Production of business case
	Implement an enterprise document management solution. <b>[New]</b> .	Financial: Dependant on approved business case (see business case tabled at formal Exec)		2019-21	Scoping exercise completed; business process reviewed and agreed; and enhanced services deployed into operations.
	Further develop MyAbertay to allow targeted information to users <b>[New]</b>	Within current budget	External & Corporate Relations (ECR)	2019-21	Implementation of improved functionality

	Implement a solution to manage user access to the Gym <b>[New]</b> .	Financial: Dependant on approved business case <b>(see proposal tabled by ECS)</b>	Student Services	2019-2021	Production of business case
Explore technologies to drive efficiency and improve customer experience	Investigate artificial intelligence (AI) powered tools, process automation, workflow and personalised services/solutions, to streamline student/staff support processes and interactions. <b>[New]</b> .	Within current budget		Ongoing	Report containing recommendations on feasibility of implementation
	Explore the potential of block chains, to monitor student performance (automate recognition and transfer of credits to potentially open-up learning opportunities for students). <b>[New]</b> .	Within current budget		Ongoing	Report containing recommendations on feasibility of implementation
	Explore 24/7 online student advisory service and service desk, which can allow students to ask questions and receive instant online answers. <b>[New]</b> .	Within current budget		Ongoing	Report containing recommendations on feasibility of implementation
Improve security and compliance of corporate systems and services	Implement Payment Card Industry Data Security Standard (PCI DSS) compliance requirements. <b>[New]</b> .	Financial: Dependant on approved business case <b>(see proposal tabled by Finance - cost £12,000)</b>	Finance	2019-2021	Scoping exercise completed; recommended actions reviewed and agreed; and enhanced security deployed into operations.
	Identify Access Management: Investigate and deploy role-based or functional-based security access to services and systems. <b>[New]</b> .	Within current budget	Human Resources	2019-2021	Scoping exercise completed; role-based recommendations reviewed and agreed; and enhanced security deployed into operations.
Structure and deploy services to meet changing user needs					

## SP2: Recognising and developing potential

### Streamline and improve our systems for monitoring student progress

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
Develop and implement business intelligence to enhance the use of corporate data to monitor performance, underpin forecasting and inform decision making	Continue to implement the Jisc Learning Analytics initiatives (predictive data models; alerts and intervention systems) to support student retention and help identify students at risks. <b>[Continuing]</b>  <b>Priority Area: SR Supp</b>	Within CIS approved improvements budget	Academic Registry, Student Services, Teaching & Learning Enhancement, Schools, Strategic Planning	2019-21	Student Retention
	Implement a reporting dashboard for Learning Analytics, based on Power BI and Microsoft Reporting Services <b>[New]</b>	Within current budget	Student Services	2019-21	Student Retention
	Implement a pre-joining/on-boarding site to gain early insight into student support and interactions – via questionnaire, Prometric tests and predictive analytics <b>[New]</b>	Within current budget	Student Services	2019-21	Student Retention
	Implement a solution to streamline and automate processes for monitoring student attendance, including SMS messaging, integration with GTI Target Connect and SITS. <b>[New]</b>	Within current budget	Student Services	2019-21	Student Retention
	Implement a sentiment analysis solution for module survey feedback <b>[New]</b> .	Financial: Dependant on approved business case <b>(see proposal tabled by TLE - cost £7,656 year 1 then £5,076 per year thereafter)</b>	Teaching & Learning Enhancement	2019-21	NSS results Module survey response rate

**SP4: Working in partnership**

*Improve co-ordination of activity across the University to ensure that we are working together for maximum impact*

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
Deliver integrated data and systems that improve business processes relevant to the student and staff journey	Upgrade Raiser's Edge CRM software. <b>[New]</b>	Financial: Dependant on approved business case <b>(see proposal tabled by ECR - cost £13,106.03 year 1 and an uplift of £6,176.03)</b>	External & Corporate Relations (ECR)	2019-20	Implementation of improved functionality
	Conduct stakeholder engagement and map business processes, to aid successful implementation of CIS projects. <b>[Continuing]</b>	Within CIS approved improvements budget	All schools and services	2019-21	As per project plan

**SP5: Making our knowledge accessible**
**Align our research, innovation and knowledge exchange strategy and activity with national and local priorities**

Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/ Service]	Timescale/ target date	Measurement of progress
Support University compliance with the open access publication requirements for the next REF	Monitor developments and adoption of PlanS by funders such as UKRI and work with groups such as SCURL and JISC to adapt and align our policies and strategies to ensure transparency and funder compliance. <b>[New]</b>	Within current budget	Research active staff and Graduate School	Preparation for REF 2021	Outputs published on PURE meet all requirements re: metadata, copyright and publisher permissions
	Monitor and implement any new tools that will help streamline open access workflows. In particular, any developments allowing automatic exchange of information between publishers and institutions. <b>[New]</b>	Within current budget	Research active staff and Graduate School	Preparation for REF 2021	Implementation of any opportunities to improve data exchange between publishers and the University
	Monitor developments and funder requirements for open access monographs, and review/revise Abertay's OA policy as required. <b>[New]</b>	Within current budget	Research active staff and Graduate School	Preparation for REF 2021	Revision of OA Policy if required
Support University compliance with funder standards for Research Data Management	Implement all actions assigned to I.S. in the Research Data Management Roadmap 2018-2020. <b>[Continuing]</b>	Within current budget and capital plans	Research active staff and Graduate School	2022	All actions in roadmap completed
	Monitor developments arising from the UK Government's <a href="#">Research Data Task Force Report</a> particularly incentives and services to support researchers' needs as both creators and users of open dat. <b>[New]</b>	Within current budget	Research active staff and Graduate School	Ongoing	RDM policies, workflows and support aligned with sector guidelines
Support development of early career researchers' digital scholarship and information management skills, as per Vitae Research Development Framework	Adapt and align support for researchers as required to meet funder and government requirements for open access outputs and data.	Within current budget	Graduate School	Ongoing	Workshops delivered as requested by Graduate School

Priority Area: Equality and diversity					
Objectives	Planned actions (new or continuing)	Resources allocated (financial, staffing ...)	Working with [other School/Service]	Timescale/ target date	Measurement of progress
Ensure all services are Disability Discrimination Act (DDA) compliant	Ensure all systems and solutions from the CIS Improvements and website-related projects are accessible to all users. <b>[Continuing]</b>	Within CIS approved improvements budget		Ongoing	As per project plans
	Continue to carry out compliance checks for new and existing services. <b>[Continuing]</b>	Within current budget		Ongoing	