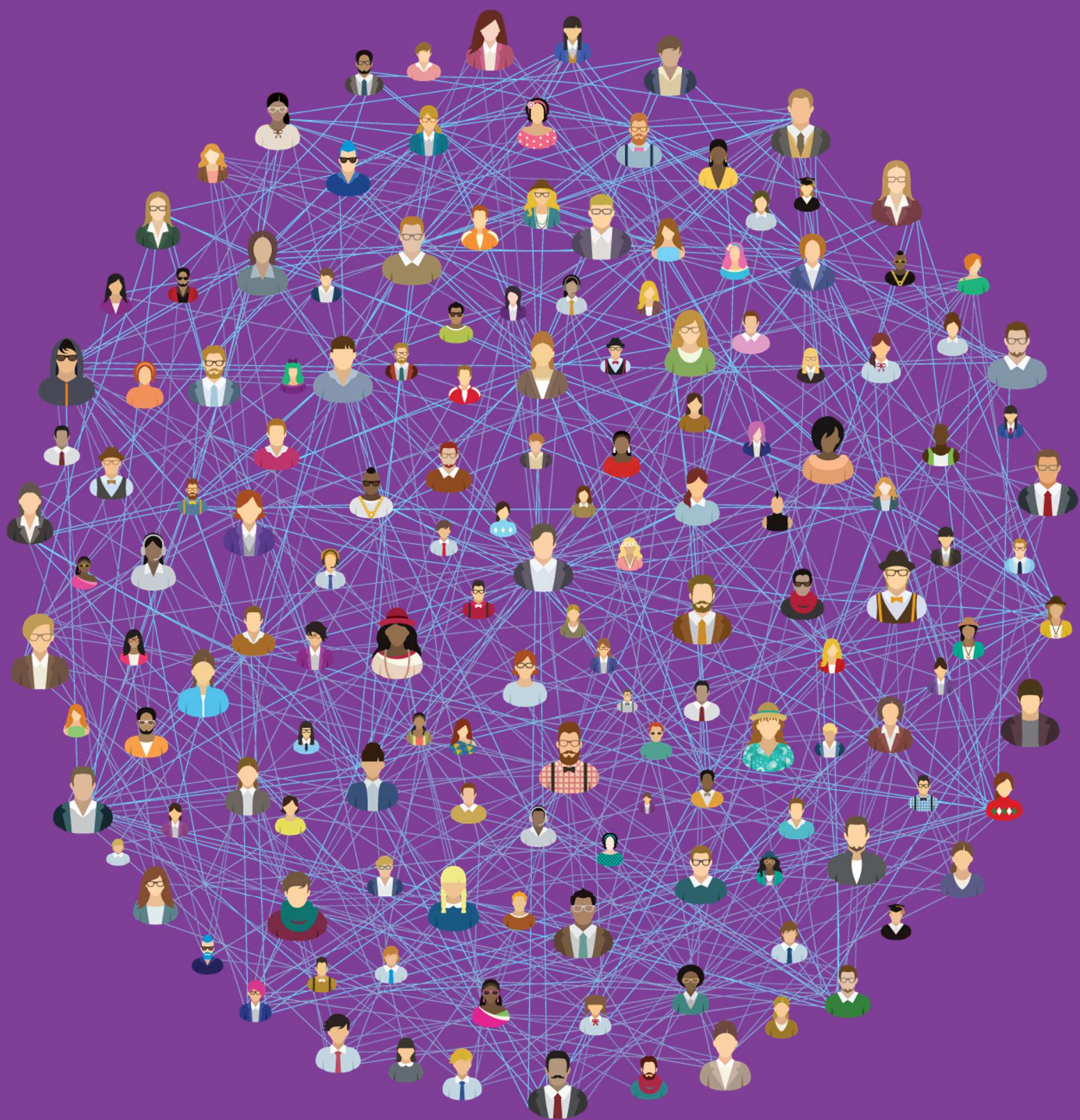




# Information Technology Strategic Plan 2018/19 – 2022/23







## **Mission**

To facilitate high-quality teaching, learning, research, clinical services and enable a positive student experience, through reliable, effective, secure, accessible and scalable IT solutions

## **Vision**

To achieve IT excellence through digital innovation, we will take a 'customer focused' approach to deliver continual improvement of the IT services provided, with timely and proactive support and responsive, agile and resilient IT infrastructure

# Values

## Customer focused

Listening to our users' ideas and suggestions to help improve and deliver customer focused IT services and reflect the user experience in everything we do with particular emphasis on providing positive student engagement

## Accountable and open

In our service delivery, be open and clear about policies and procedures and ensuring that information and any advice provided is accurate and complete

## Honest and clear communication

Committed to communicate clearly and professionally, using language free from technical jargon. Simplify procedures, forms and information

## Cyber security

Committed to proactively managing risks and opportunities related to maintaining the security of information technology systems that digital technologies, devices and media rely upon

## Sound investment

Resourcing future proof IT infrastructure for those long term developments that will align with the College's future direction, underpinned by robust business cases which deliver value for money

## Staff development

Support ISD staff in developing the skills, capabilities, behaviour and knowledge they need to deliver excellent service

## Adaptable

Identifying and maximising the opportunities offered by innovations in technology and being able to respond positively and with agility to internal and external factors

# Introduction

IT services are amongst the most visible in the College and it is now impossible to deliver any of the six goals of the College's strategic plan, without using some facet of information technology where research and innovation, teaching and learning, student recruitment and experience and clinical services of the College are all increasingly dependent on IT in one form or another.

IT infrastructure is a vital part of all the College activities and is crucial if the College is to deliver on its vision of becoming the place of recommendation for education, clinical care, expert opinion and employment in veterinary medicine and science.

This dependence upon IT will increase as technology becomes more ever-present and new generations of students and staff, who have only known a technology-enabled world, come to study and work at the RVC. The implication of this dependency is that IT needs to be seen as a key strategic asset for the College and managed and resourced accordingly.

The IT strategy provides an overall framework and vision for IT for the next 5 years, to build a comprehensive and robust capability for the long-term management of information, information systems and information technology. It is aligned with the College's policies, aims and objectives and aims to identify current and future digital technology and information applications for the College that provide maximum benefits in close alignment with the College's strategic plan.

The College's Strategic Plan 2014 - 2019 presents significant opportunity for IT to play an important supporting role in achieving College's strategic objectives. Reflecting College's key strategic goals, IT's Strategic Plan 2018/19 – 2022/23 sets out the Infrastructure Services Directorate (ISD) department's commitments, underpinned by five core imperatives:

- 1. Supporting Teaching, Learning and the Student Experience**
- 2. Providing Robust and Secure IT Infrastructure**
- 3. Maximising Efficiency and Effectiveness of IT Services and Project Delivery**
- 4. Supporting Research and Innovation**
- 5. Supporting Clinical Services**

These imperatives provide the framework for IT's strategic priorities for the next five years, aiming to instigate a customer focused approach and deliver service excellence.





# 1 Supporting Teaching, Learning and the Student Experience

## 1.1. Technology enabled learning spaces

- Working with our colleagues in Learning and Wellbeing, we will review how technology enabled learning spaces can create inclusive and accessible environments that foster engaging and productive learning
- In order to enable students to personalise their study, we will support both collaborative and individual learning methods and provide attractive and inspirational learning and study spaces that provide opportunities for flexible learning
- We will work to ensure that our Learning Resource Centres (LRCs) provide an excellent environment conducive to effective study and research. They will consist of a variety of adaptable spaces with appropriate technologies always available

## 1.2. Blended Learning

- Working with academic colleagues and staff in Learning and Wellbeing, we will assist in the development and integration of blended learning solutions that will include providing an end-to-end process of assignment submission, marking and feedback of student assignments and a secure online assessment service

## 1.3. Anytime, anywhere learning and technical support

- In this digital generation, students have high expectations of how to interact and learn, we will design the College's network to meet the changing technological needs of students and staff and build capabilities to keep on evolving as the technologies develop
- We will assist our colleagues in Learning and Wellbeing, to develop improvements to all our learning systems and capabilities for providing data learner analytics, so that we can understand how these systems can help us to understand student engagement and provide appropriate interventions
- We will aim to maximise efficiency in the handling of IT incidents and how IT service requests are fulfilled through the encouraged use of Self Help tools. We will develop a comprehensive knowledge base and provide a user-friendly service desk application for users to communicate with IT, log IT incidents and make requests. We will track progress and analyse report data in order to better understand user needs and make improvements where required.

## 1.4. Supporting students' digital lifestyle

- Working with colleagues in Professional Services, we will support the entire student journey, from initial lead to graduation and beyond, through digitally enhanced student services that provide mobile access and support
- We will provide a single online payments platform, that will be secure, integrated with key business systems, delivering ease of use for making payments for a range of services
- We will further improve the technologies for collaborative working to equip students with the digital skills that they will require in the workplace
- We will continue to improve wireless network provision throughout the campuses, to support connectivity of multiple personal devices on the RVC's IT infrastructure

# 2 Providing Robust and Secure IT Infrastructure

## 2.1. Identity and Access Management (IAM)

- IAM is a fundamental part of the College's IT infrastructure and supports the creation and management of user accounts and the systems and services users have access to. In partnership with HR, Registry, Security and CSS departments, we will modernise the IAM service, by reviewing and streamlining business processes and underlying technology and standards, with the aim of centralising the related processes
- The IAM service will support single sign on with multifactor authentication, to facilitate easy and secure access to business services, to protect digital identity

## 2.2. Technology and infrastructure

- Through providing state of the art video conferencing and audio visual facilities, we will improve user experience and remove technological barriers for an international and multi-campus institution
- We will adopt a hybrid strategy model for the selection of technologies, by evaluating Cloud based and on-premises solutions, to best meet the institution's goals
- We will further exploit the benefits of the collaboration platform Office 365 (email, SharePoint, Skype for Business (SfB), OneDrive, Dynamics, etc.) by maximising benefits to the College
- We will continue to improve and review unified communications technologies (SfB, contact centre, mobiles, landlines, etc.) and proactively engage with the vendors to have good understanding of the product roadmap, in order to assist in strategic decision making
- We will further enhance the capabilities and capacity of the College's enterprise storage and servers infrastructure, in line with the growth of the College and the needs of our users
- We will further enhance the capacity of network infrastructure to ensure greater bandwidth across the campuses and to the Internet, for high speed data transfers
- Throughout the IT equipment lifecycle, we will consider ways to minimise the environmental impact
- We will aim to deploy the 'software defined network' architecture, to achieve network automation and control, building highly scalable, flexible networks that readily adapt to changing business needs and better traffic management to handle scalability, delivery of critical data, increased bandwidth requirements, and faster provisioning of network services
- In order to provide a means of making informed data led decisions at all levels, software development and systems operated must reflect the business needs of the institution. A hybrid model mixing 'off-the-shelf' and bespoke software solutions will continue to be adopted, in order to offer best value, sustainability and where a specialised need requires, fully customised in-house software solutions.



- We will aid the capture and retention of the knowledge present within the institution through maximising the benefits possible from information management systems, such as Microsoft SharePoint
- We will continue to enhance the College's IT disaster recovery and business continuity procedures and underlying technology

### 2.3. Cyber security

- We will aim to attain the Cyber Essentials Plus certification in the first half of this strategy's term, to guarantee that appropriate security controls are in place within the College's IT that are addressing cyber security effectively and mitigating the risk from Internet-based threats
- User and Internet of Things (IoT) devices are increasing exponentially; we will build the College network to manage the onboarding of new devices and deploy technologies supported by telemetry and sophisticated systems to create accurate, rapid and actionable advanced threat intelligence that will provide visibility, intelligence, sense suspicious activity and secure access
- There have been big advances in automation and machine learning (ML) in the development of intent-based networks. With this in mind, we will aim to harness and implement automation and ML technologies into the RVC network to help with analytics, the automated diagnostics and troubleshooting of issues and the detection of threats at network level. With the aid of ML in security, we will be able to have greater control of access, block more threats and quickly mitigate those that do breach our defences.
- We aim to implement secure remote access technology with a view to promote the College's productivity by allowing the availability of network applications and data drives so that they can be securely and remotely accessed by users
- We will aim to proactively assess IT systems, processes, infrastructure and make recommendations to Information Security Group (ISecG), in order to minimise risks identified
- In close partnership with HR and Student Registry, we will continue to further develop the mandatory Information Security Awareness training that is available for staff and students
- We will regularly review and improve security incident response procedures and processes
- We will proactively deploy the latest technologies to counteract malware, ransomware, viruses, infections, etc.





# 3 Maximising Efficiency and Effectiveness of IT Services and Project Delivery

## 3.1. Strive to develop a partnership with colleagues through a shared planning process

- By recognising and understanding our customers' needs better, in order to provide services that are inclusive to all
- By successfully aligning our services with core business needs, we will aim to improve the partnership that includes integrating business and IT efforts from conception stages of all business projects
- By working in partnership with business system owners and managers, we will develop a roadmap for an integrated suite of enterprise systems; offering joined up services and fit for purpose information to both students and staff

## 3.2. An agile, proactive and communicative approach to service delivery

- We will develop a service portfolio management approach to our service development and delivery, to ensure that we have an accurate picture of what new services we need, the services we offer (service catalogue) and the services we need to retire
- We will aim to improve the first-time fix support provision through multiple channels to improve accessibility, irrespective of location
- We will provide a more unified identity for the Infrastructure Services Directorate through providing users a single web portal for all aspects of the service catalogue and improve workflows related to the fulfilment of requests and incidents resolution through a more efficient delivery of services
- We will strive to maintain positive relationships with customers, carry out and evaluate regular feedback and consultation, to achieve continual improvement
- We will work with business systems owners to define service levels and review regularly
- We will review the out of hours support provision to manage increasing user demand patterns
- We will continue to invest in, exploit and provide support for all major devices and platforms with the focus being to ensure customers can securely access IT services from anywhere and anytime
- We will provide a self-help knowledgebase, available to our user community in a format that they can utilise for timely and relevant information

## 3.3. Develop our people

- Through continuing professional development of IT staff, we will enhance IT capabilities in the management of people, technical support, project and business relationship management
- In recognition that the IT staff work in demanding and challenging environment, often under pressure, we will develop both soft and technical skills of our staff
- To develop IT staff capabilities, skills and competencies, we will concentrate on fostering a culture of continuous learning and take a much more holistic approach to learning and development



### 3.4. Enterprise Business Systems Interfacing, organisational dashboard and data analytics

- We will work in partnership with the Business Intelligence Group (BIG) and aim to create an internal map of data assets and requirements and identify opportunities to move closer to the use of data as insight for decision making, for individuals and committees by connecting information flows across strategic and operational levels
- Support to business information systems is vital, as is the work to better interface between them. Our goal is to link key business systems and to provide a single point of access to the suite of business information, needed by senior managers and others, facilitating an organisational dashboard
- We will maximise efficiencies by further developing ISD operational dashboards and establishing key performance indicators

### 3.5. Streamline project delivery through enhanced project portfolio management and transparency

- We will improve the project approval process, giving the Infrastructure Project Management Group (IPMG) visibility of investments and project progress
- We will aim to bring visibility into all our demand, resources and project portfolio, to help better align our efforts with the strategy and enhance resource allocation across every project
- We will enhance the project management process and continue to review and develop, with the focus for IT on project delivery and outcomes, where benefits will be tracked and reported regularly
- We will build a projects dashboard through the enterprise service management software, allowing shared access and instant visibility to track project progress
- We will continue to embed IT infrastructure and associated IT/AV facilities seamlessly into Estates capital projects, whatever their size, in order to optimise the benefits from new, re-purposed and refurbished facilities

### 3.6. Further enhance and develop IT's processes and procedures in line with industry standards

- We will aim to attain global accreditation standards for Information Security Management System ISO27001 and Information Technology Service Management ISO20000
- We will adopt more automation to deliver change, with activities including automated testing and test-driven development, to ensure consistency and stability of bespoke or off-the-shelf solutions
- We will embed the principles of the best practice IT service management framework into all aspects of our service delivery, to get the balance right between people, processes and technologies
- Principles of sound IT governance will underpin processes and practice at all times, with appropriate reporting, metrics and benchmarking employed to demonstrate internal and external audit requirements have been achieved or surpassed
- We will work closely with our colleagues in the Finance Department to ensure our procurement is compliant and follows best practice





# 4 Supporting Research and Innovation

## 4.1. Research Data Management (RDM)

- We will support the work towards research data management (RDM) compliance with funders'/government requirements and improve the RDM web presence, through technological advancements
- We will support the Research Office, in the end to end solution delivery of the Research Information Management system, for pre-award, post-award, outputs and profiles, integrating, managing and authorising research grant submissions; with grant financial management, publications management and academic staff profiles

## 4.2. High Performance Computing (HPC) research facility

- Working in close partnership with the Research office, we will develop a centrally-managed and supported high performance computing facility, for research computing needs
- We will secure investment for the upgrade of the College's HPC facility

## 4.3. Big data, artificial intelligence (AI) and machine learning (ML)

- The exponential increase in data generated has led to challenges for data management, processing and analysis, but also presents opportunities for integrating disparate and novel data sets to discover trends and relationships. We will aim to design all future software systems with regards to capturing high quality data to enable task automation via machine learning
- We will further enhance the use of artificial intelligence and machine learning in the development of bespoke clinical and research applications development and select off-the-shelf solutions that also leverage advanced AI and ML
- We will regularly take steps to increase awareness of machine learning with internal staff with the aim of setting up ML research projects i.e. by presenting to potentially interested groups, creating advertising and informational materials



# 5 Supporting Clinical Services

## 5.1. Truly integrated Hospital Information System (HIS)

- We will work with Clinical Science and Services (CSS) departments and their teams to make incremental improvements to our existing IT systems and strategies to improve the efficiency of our current business processes and to support clinical excellence
- Through successful partnerships with clinical staff and others implementing a new Hospital Information System (HIS), we will achieve a system that is scalable, adaptable, integrated and innovative, to accommodate the growth and excellence of all our clinical units and services. This will provide benefits in patient information for internal and external stakeholders, including referring vets, owners and accrediting organisations; streamline patient flow and hospital resource management; support and facilitate effective and efficient clinical and business processes; and meet the interrelated demands for undergraduate and postgraduate clinical training, requirements for operational efficiency, clinical research, financial management, clinical governance, marketing and accreditation.
- We will continue to develop and invest in systems that are fully integrated, scalable, responsive, and adaptable, which can accommodate future growth. These will also facilitate enhanced information integrity and Business Intelligence to inform future resilience and effectiveness whilst underpinning the reputational demands of our internationally recognised Clinical Services.

## 5.2. Reliable and scalable unified communications system

- Following on from the initial deployment of Skype for Business (SfB) telephony system and Geomant contact centre, we will work with the colleagues in CSS and vendors, to continue to improve and invest in the capabilities of the communications systems and address the challenges to facilitate efficient hospital management
- We will continue to invest in communications systems improvements to enhance and streamline the capabilities of our systems whilst improving the services we provide both internally and to our clients





## IT Helpdesk

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## Committed to making IT work