



IT Annual Review

2022-23





Introduction

IT Services underpins all aspects of University life.

While you will be familiar with some aspects of our work, such as the computers and software you use every day, that is only a small part of what we do. Over the last 12 months we have been busy supporting students and staff to transition back to working on campus in a hybrid manner, whilst building the foundations that will help us execute our digital transformation strategy.

The IT Services team has been through substantial change and growth, and this last year has provided many challenges. But thanks to the dedication, expertise and integrity of our team we have made great strides in delivering the foundational work, the activity beneath the surface, that is already enhancing our ways of working, campus facilities and operational activity.

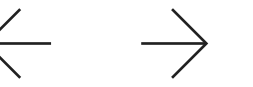
I am also delighted to report on the progress we are making with IT that supports research. This will be crucial in facilitating high quality, collaborative and globally impactful research and innovation.

This annual review is an opportunity to share and celebrate the achievements of IT Services. We hope it gives you an insight into the contribution we're making to enhance our students' learning experience and our research activity, and the steps we're taking to improve the University's processes, infrastructure and physical estate.



Kind regards
Dan Simms,
Chief Information Officer





IT in numbers, 2022

0.8m

sheets of printer paper saved
by IT-driven print system

8.4m

pages printed using MyPrint in 2022

1,635

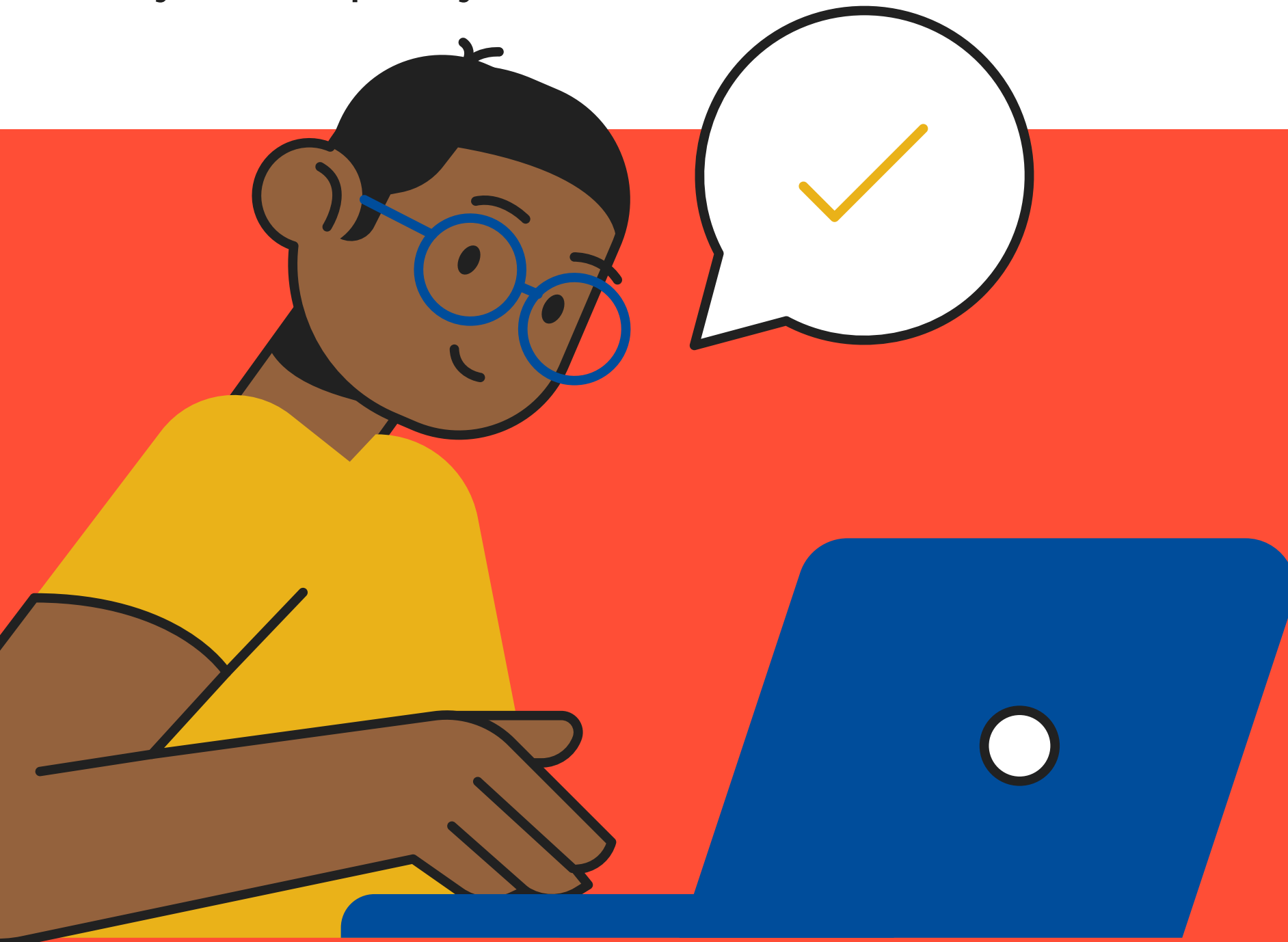
participants in 122
courses for researchers

300

participants in 48 staff courses

1,210

participants in SAP
and Banner courses



Over

400

applications
made available

4,000

telephone extensions
moved to Teams Voice



4,000

laptops and desktops replaced

15,000+

existing computers updated enabling
the latest security features



On average, each week at the University:

10,000+

Teams calls



11,000

Teams channel messages

70,000

responses to Microsoft Forms

400,000

Teams chat messages

4m

emails received

700,000

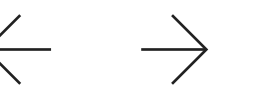
emails sent



Over

210m

files on OneDrive using 830TB in total



Responding to the University vision

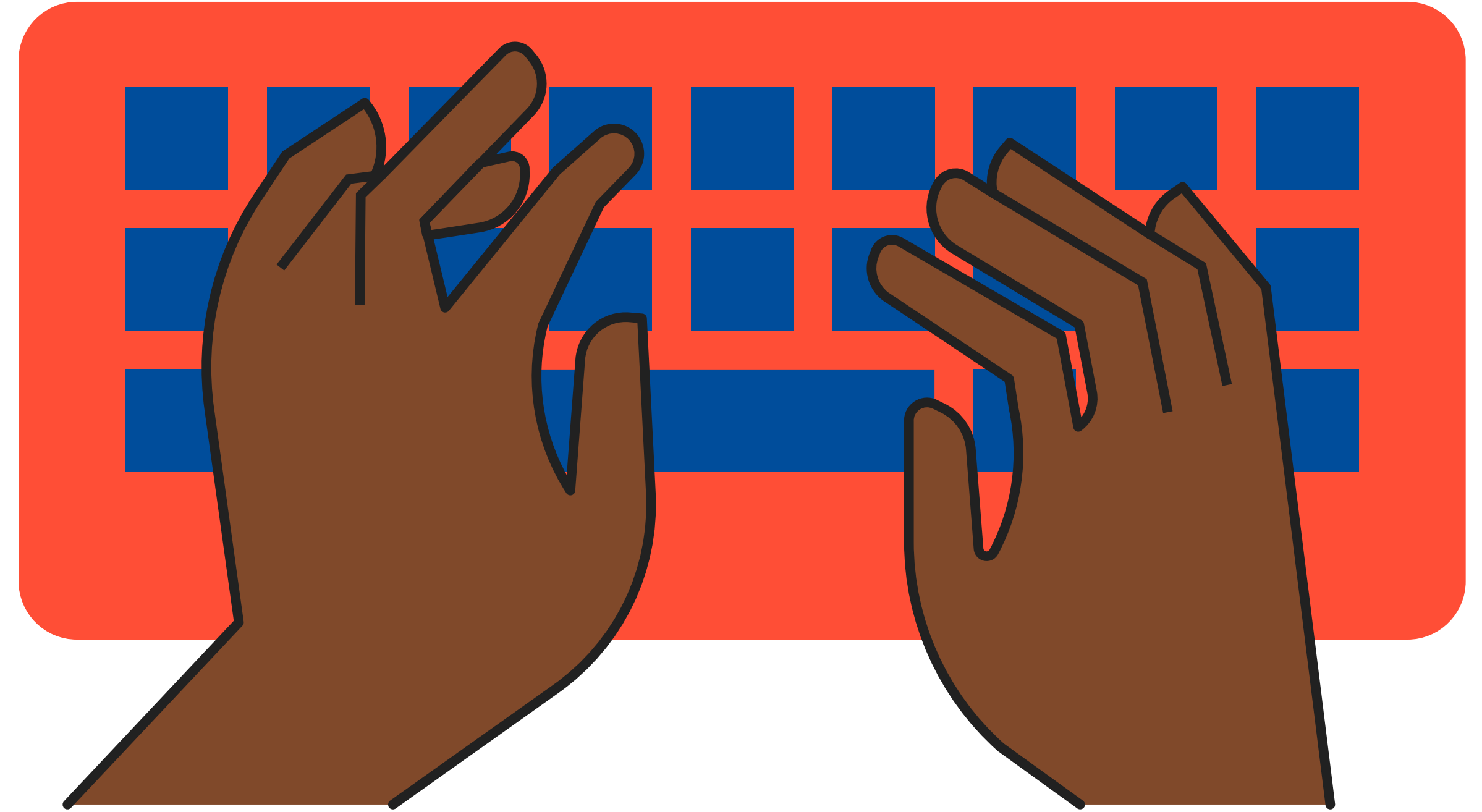
Digital transformation vision

Digital technologies have a key role to play in helping the University achieve its vision of tackling global challenges.

Through the effective application and management of digital technologies and data we will:

- enhance our students' learning and experience
- provide and enrich learning opportunities for individuals globally
- enhance our research activity and impact to tackle global challenges
- improve the University's processes, infrastructure and physical estate.

In April 2021, the University Council approved a five-year investment programme of £76m to deliver two interlinked IT programmes: Digital Enablement, our IT modernisation programme and Be Safe, our cyber security programme. Through these programmes, we are developing the necessary IT services to support the ambitious vision described in the University Strategy and Digital Transformation Strategy. Due to run until 2026, these two programmes have already brought significant improvements to the University.



£76m

to deliver two interlinked IT programmes

Enhance

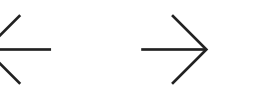
our research activity and impact to tackle global challenges

Due to run until **2026**

Digital Enablement and Be Safe have already brought significant improvements to the University



Digital technologies have a key role to play in helping the University achieve its vision of tackling global challenges.”



Responding to the University vision



Digital Enablement

The Digital Enablement programme focuses on modernising IT services and laying the foundations to support a secure, digitally-enabled University.

It's not just about the foundations. There are significant benefits to staff and students, including modernising our computer estate, updating to the latest versions of software, including Microsoft Office, and delivering 24/7 support for business-critical systems such as Minerva, SAP and Banner. We are also in the process of moving everyone to a new Microsoft Teams-based phone system to support hybrid working.

Through the programme we will:

- improve the services that we deliver, with a focus on getting the basics right
- provide increased assurance around information and cyber security
- overhaul our infrastructure and applications, migrating to the cloud where possible
- deliver a new approach to governing data and hire a new Data Services team.

The Digital Enablement programme will provide a service, technology and data landscape that is fit-for-purpose, scalable, resilient, secure and aligned to the overall IT Strategy.

Be Safe

Be Safe is the University's dedicated cyber security programme designed to protect our staff, students and digital infrastructure. Through the recent rollout of Duo two-factor authentication, Be Safe has already significantly reduced the number of compromised accounts. As part of this programme, we also established a Security Operations Centre dedicated to reducing the likelihood and severity of security incidents and cyber attacks.

Through the programme, we will:

- set up a new cyber security function
- create a Security Operations Centre
- develop cyber resilience capabilities
- increase security of digital identities
- redesign network security
- improve identification and protection of assets.

Improving our services

We're working hard to improve the quality of customer experiences by:

- implementing a new way of working through our IT Operating Model (ITOM). This is a blueprint for how we organise our technology, people, processes and governance
- using a single prioritised list of projects, so our priorities are transparent and understood
- rolling out a series of improvements to our service.

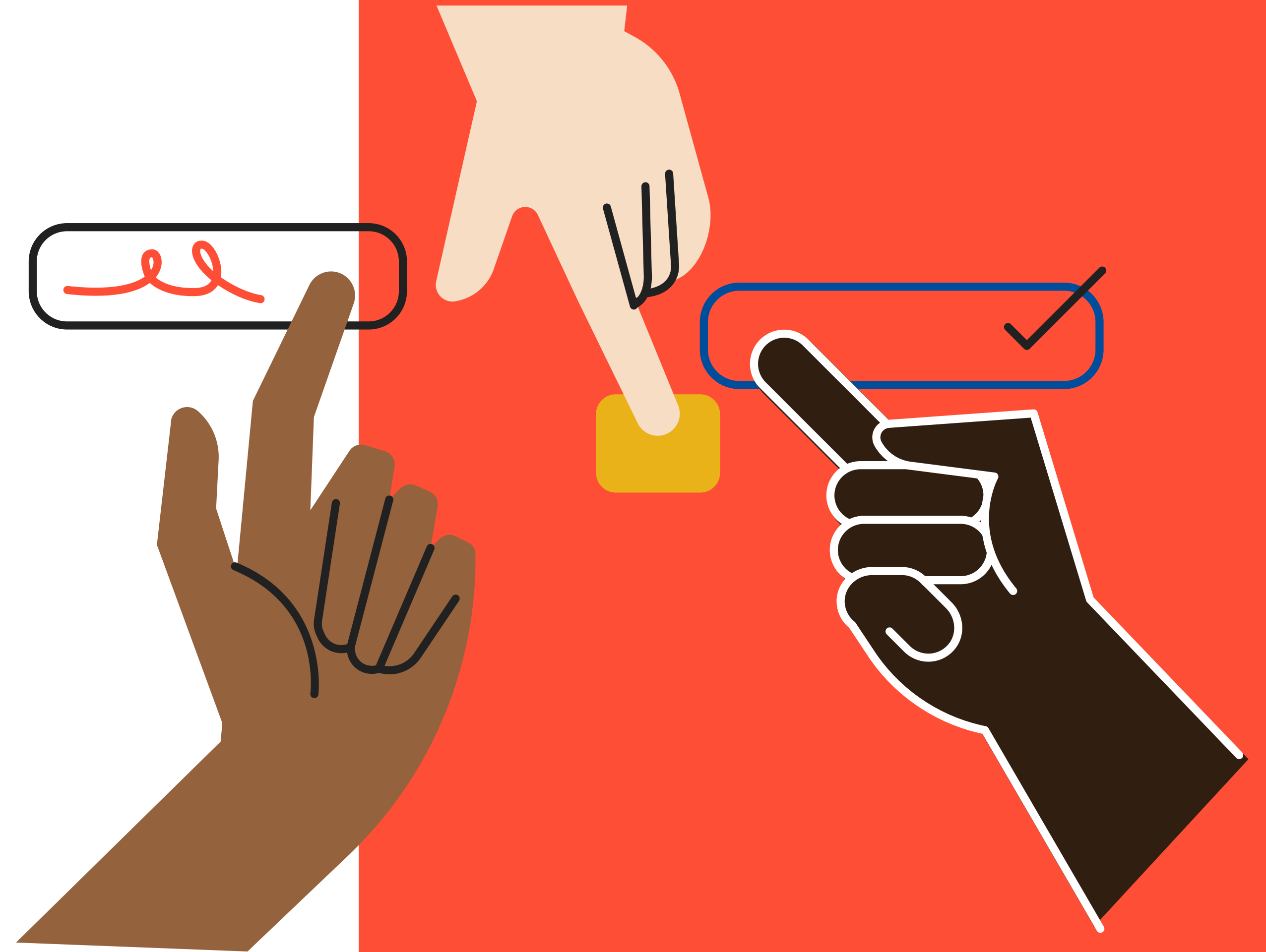
Feedback

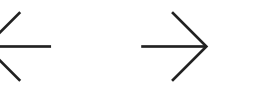
You told us...

- the IT service has become a little faceless
- there is a lack of understanding within IT about what we do - our teaching, science, research and equipment
- there are frequent delays with the basics
- there is poor customer communication and empathy
- your governance and funding model is unclear with a lack of communication about the IT strategy, roadmap and delivery plans
- you lack robust prioritisation processes
- not enough people within IT have the necessary expertise
- there is a lack of support helping us cost grant applications.

So we are...

- putting you at the heart of our operation to increase engagement and transparency
- providing product and service teams dedicated to delivering support and change
- building stronger connections with you by having faculty-aligned support teams
- providing a single 'front door' to IT by introducing a standardised Service Catalogue
- creating new teams dedicated to prioritisation, planning and resourcing
- adopting Agile working methods to reduce bureaucracy and silos
- recruiting new people with the right skills to fill critical knowledge gaps.





Improving our services

How we'll operate



As part of our investment into Digital Enablement and Be Safe, we have been defining a new way of working through the IT Operating Model (ITOM). This aims to place University staff and students at the heart of what we do, creating a modernised IT service fit for a world-class institution. By reviewing how work flows through our teams, the ITOM aims to deliver a better service to staff and students. It will address how our teams are structured, how we work, how we govern ourselves and how you receive and use our services.

So far, we have made the following progress:

- £76m investment into our IT modernisation plan
- appointed a new senior leadership team of IT professionals
- appointed or appointing Cyber Security, Data Services and IT Communications teams
- increased the number of IT staff
- developed our core curriculum
- facilitated a return to campus, including technology solutions to support hybrid working
- ran culture change and adoption surveys in IT and compared to baseline survey
- formed 'early adopter' squads to help us develop Agile ways of working across IT
- initiated a Change Champion Network in IT to help us develop change role models
- introduction and rollout of Change Impact Assessments across all programmes
- rolled out employee engagement and wellbeing solution.

£76m

investment into our IT modernisation plan

“

place University staff and students at the heart of what we do.”



Improving our services

Supporting and developing our people

We are investing in our people to ensure they have the skills to deliver excellent customer service, focusing on boosting our Executive Leadership, Cyber Security and Data teams.

In 2022 we filled 146 vacancies and made 55 internal appointments.

Tailored learning plans

To match learning opportunities to training needs we've piloted a learning needs survey to help us develop a personalised training plan for each team member. Following a successful pilot, this approach is now being rolled out across IT to complement the existing Staff Review and Development Scheme (SRDS).

Core IT Curriculum

We devised the Core IT Curriculum to guarantee everyone across IT has a basic set of necessary skills. The curriculum focuses on five key competencies:

- Customer service
- Agile
- Communication
- Cyber security
- Equity, diversity and inclusion.

New competencies for the 2023 curriculum are now being developed.

New staff

We launched a new employee onboarding solution, setting all new recruits a series of daily challenges to work through, helping them to understand our processes, how we work and the University's aims.

Improvements to our service

In 2022 and early 2023 we've rolled out a series of improvements as part of the IT Service Excellence project.

- In August 2022 we launched Falco, a new chatbot for the IT website, and in November Falco was launched on Microsoft Teams. Falco was also the face of our student welcome campaign in September.
- In March 2023 we introduced a new look and feel for the IT website with better navigation and additional functionality to enhance the user experience.
- We reviewed and updated our internal processes so that we can quickly address root causes of IT issues and key risk areas.
- We improved workload management across IT so we are resourced correctly.



Falco in numbers

Over

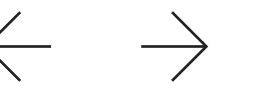
3,000

people used Falco before the end of 2022.

80%

of users gave Falco good or neutral feedback.





Improving processes and infrastructure:

Digital Enablement programme



Keeping devices up to date

The Windows Refresh project aims to ensure that the computers and laptops used by staff always:

- have up-to-date technology
- are protected by the most up-to-date security
- are replaced when obsolete with newer, better hardware.

The Windows Refresh project is split into two workstreams:

1. The replacement of 4,000 computers using Windows 7 with new computers running Windows 11. The main rollout started in November. The remaining computers will be upgraded early in 2023.
2. Updating 20,000 computers to an up-to-date version of Windows 10, improving security.

The project has guaranteed a more efficient means of supplying hardware in the future and we will be able to deliver new devices directly from the manufacturer, preconfigured to meet your needs.

Telephone and Teams Voice

Microsoft Teams Voice is a cloud-based telephone system which gives staff the flexibility to make and receive phone calls from anywhere, making hybrid work patterns easier to manage and reducing hardware costs. In 2022 we moved 4,000 colleagues onto Teams Voice. In 2023 we will provide a solution for staff who have complex telephone needs, for example use hunt groups, contact centres or switchboards as part of their role.

Online IT induction

We have reviewed and restructured our IT induction to allow new staff and students to more easily access the information they need, when they need it.

Email distribution groups

At the end of October we started moving our email distribution groups from Mailman to Microsoft 365. Microsoft 365 is more reliable, offers better security and allows better integration with other Microsoft 365 applications.

Networks in halls of residence

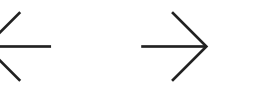
To improve student connectivity, we worked with Residential Services to roll out a new Wi-Fi and wired network to 3,000 rooms across five halls of residence. Students now benefit from a domestic-style service, allowing them to connect to wireless devices such as printers and smart speakers, while still allowing the University to manage cyber security. We will continue to roll this out to other halls of residence in 2023.

15,000+

existing computers updated enabling the latest security features

3,000

rooms in five halls of residence upgraded with fast wired and wireless internet



Improving processes and infrastructure:

Digital Enablement programme

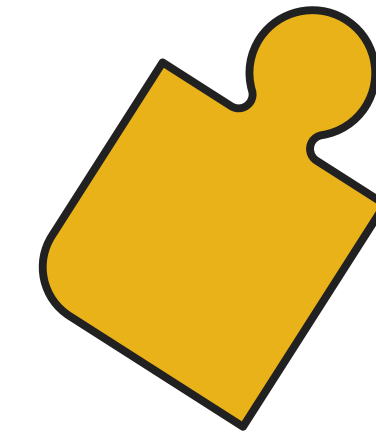
Teaching software update

We have moved from a single yearly review of software to a rolling review. This means that staff can access a list of core teaching software at any time, and request new programmes using our teaching software request form.

Student Lifecycle Programme support

The Student Lifecycle Programme (SLP) works to improve the experience of students and colleagues through enhancements to processes, systems and ways of working. It supports the lifecycle of the student journey and takes a view across the perspectives of people, processes, technology and data. Working with the Transformation Office, we support SLP in the following ways:

- Upgrading Banner to Banner 9G**
 Providing the latest features to support our HESA (Higher Education Statistics Agency) and UCAS admissions requirements.
- Preparation for HESA returns**
 Provided new functionality to collect data at student registration. This will be required when reporting to the regulator, HESA, in 2023.
- Fees and charging**
 Implemented the first stage of work to reduce the complexity and increase the flexibility of the fee charging model. The final stage of this project was completed in early 2023.



Infrastructure

As part of the Digital Enablement and Be Safe programmes, the Infrastructure workstream aims to modernise aspects of our IT estate which are currently outdated or in ‘technical debt.’ Achievements in 2022 included:

- All staff and students and applications were moved to a new cloud-based authentication system.
- Implemented a new cloud-based Apple and Windows computer device management solution.
- Migrated our existing PGT-CRM (Postgraduate Taught - Customer Relationship Management) solution to a new hosting solution.
- Decommissioned several tonnes of old equipment from our on-campus data centres.
- Implemented 10 petabytes of new storage for our research community.

VPN upgrade

We’ve made how you access University systems more secure with a new VPN (Virtual Private Network).

Decommissioning equipment

We removed and recycled (where appropriate) around 14 tonnes of servers and HPC (high performance computing) equipment since the beginning of 2021.

Cloud migration workstream

The Cloud Migration workstream is modernising all our core systems, moving them from University-based servers to the cloud, where they will be more secure and flexible. 270 applications were migrated by the end of 2022, and we started the project to migrate information on the M/N drives and Documentum to OneDrive and SharePoint.

Linux next generation platforms

The Linux Next Generation Platform provides a common and secure method of building new Linux based equipment, supporting several core University functions including research. New Linux devices will be built to the new standard, centrally managed and maintained, and applications downloaded from a verified source.

Improving email security

We are improving security by removing vulnerable legacy on premise servers and moving services to the cloud. We have already removed over 10 legacy servers, with more decommissions planned, and new Exchange 2016 servers have been built and hosted in Azure (Microsoft’s cloud service).



Improving processes and infrastructure: Digital Enablement programme

Architecture and Business Analysis

The Architecture and Business Analysis function supports over 60 transformational projects across the University including many Digital Enablement and Be Safe projects.

Project highlights

Projects we support include:

- Student Lifecycle Programme, including upgrading Banner (see p11).
- Leeds Online: we helped devise the technology roadmap that will help the University realise its ambitions to grow its online education portfolio.
- Hybrid Meeting Rooms: we are working with the Facilities Directorate to help our staff use existing spaces for digital collaboration, facilitating hybrid work patterns.

Governance

We run the Technical Design Authority (TDA), responsible for reviewing project proposals and assessing their alignment to architecture principles, deliverability and supportability. The TDA operates a bi-weekly Design Surgery where projects are encouraged to present and test proposed designs and ideas without the formality of requesting a governance decision.

Design guidance

We issue guidance to designers and developers across the University. New guidance issued this year includes:

- Integration principles: describing how University applications will integrate with other applications and components.
- Data principles: outlining some core data management principles.

Enterprise Architecture

Our Enterprise Architecture (EA) function guides the process of planning and designing IT capabilities, making sure they meet the University's strategic aims.

Developments include:

- University Level 1 Capability Model: a high level view of the University's business capabilities.
- University Level 1 As-Is Application Architecture View: a high-level view of the University's current application architecture and identification of key challenges.
- University Level 1 To-Be Application Architecture View: a high-level view of the University's target application architecture.
- Level 1 User-Journeys: high-level views of key user journeys for the University including student, staff and researchers.

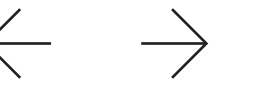
These help us describe the University's business and technology estate, and will be maintained by the Enterprise and Technical Design Authorities.

Design Office and Enterprise Design Authority

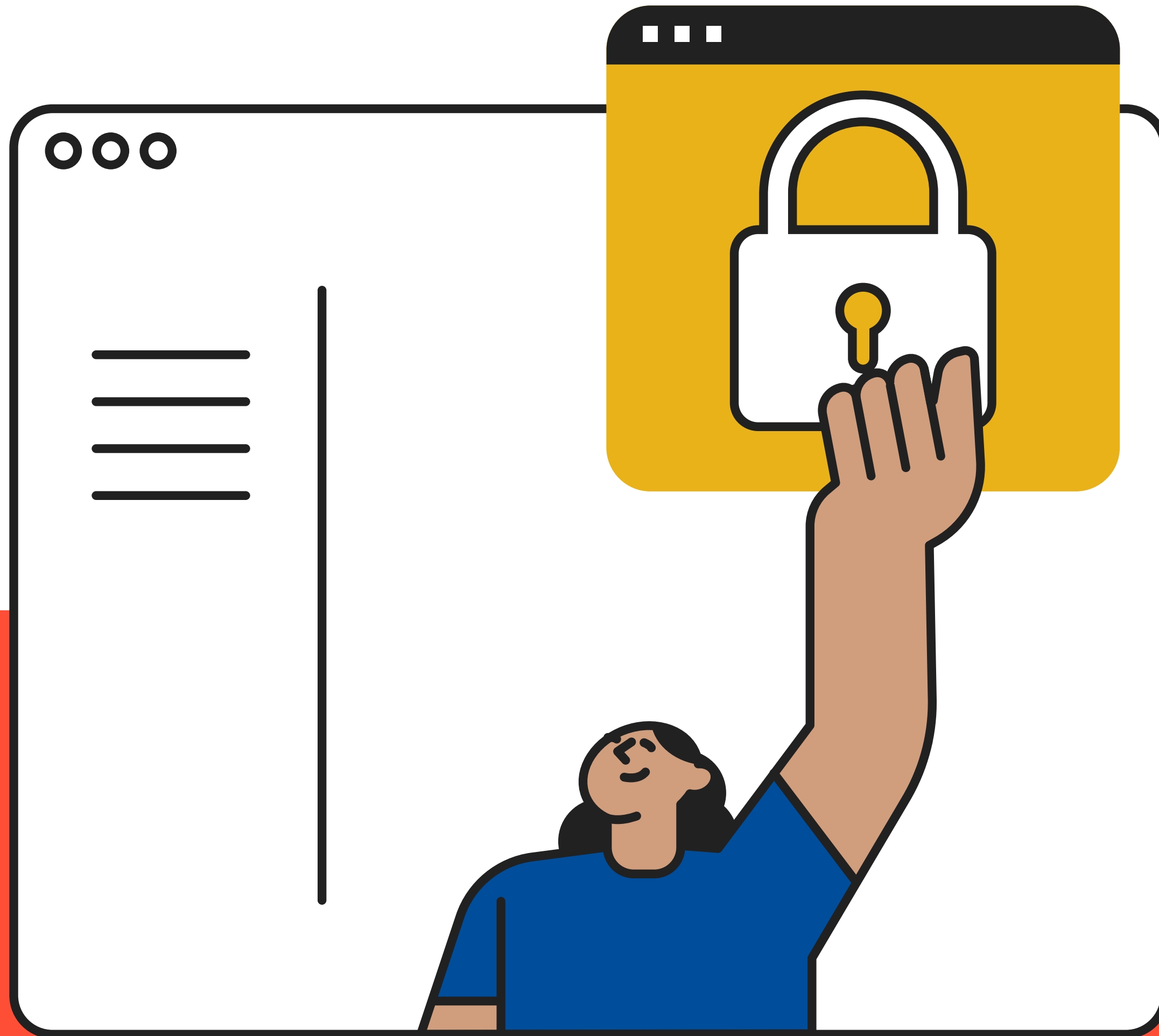
We have worked closely with the Transformation Office (TO) to establish a new Design Office and a proposed Enterprise Design Authority.

- TO Design Office: providing a triage function for new project proposals, helping to evaluate proposed business benefits and their alignment to the University's strategic priorities.
- Enterprise Design Authority: a key governance forum combining business stakeholders from all faculties and professional services to review, prioritise and govern new projects and programmes.





Cyber Security



Cyber security incident

On Monday 14 March 2022 the University detected a cyber security incident. We acted swiftly to protect University systems, helping to prevent the exposure of any data. We temporarily shut down several services, moving them to a more secure cloud-based location (Azure), before working to restore them.

Key points:

- no data exposed
- limited disruption
- 95,000 passwords changed.

We asked everyone in the University to change their passwords, including on project and shared accounts. This was a major undertaking involving the reset of over 95,000 passwords.

IT staff worked hard to limit the disruption to staff and students.



The amount of work which has been done to mitigate the attack has been absolutely amazing! So – on behalf of all the Senior Team – a big thank you to everyone involved.”

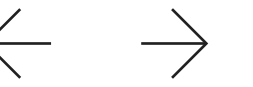
**Dennis Hopper,
Interim Chief Operating Officer**

95,000

passwords changed



The amount of work which has been done to mitigate the attack has been absolutely amazing!”



Cyber Security



Duo

Duo is the University's two-factor authentication system. Fully launched in February 2022, over 64,000 University accounts are now registered with Duo. This has drastically reduced the number of compromised accounts we see each month.

Information Governance training

Like all universities, we are continually being targeted by hackers. A new information governance training programme was rolled out between April and July to all staff. This will help educate staff on steps they can take to protect their data. The training is also available to postgraduate researchers.

Identity and access management

In order to be secure, we need to understand who has access to University services. This project will transform and modernise all the processes across the University dealing with identity management, including the introduction of additional software tools. We know some processes cannot wait for new technology, so we are building interim processes to deliver better experiences for both staff and students when they want to make a change to their digital identity.

Authentication

To enhance security, in 2022 we changed the way you authenticate across many applications. Our new authentication method, using Azure, is cloud-based and therefore more secure than using an on premise server.

Accessing University systems off campus

We have limited the ways University systems can be accessed to tighten security. These are: the Windows Virtual Desktop (WVD), cluster remote access, the remote desktop gateway (RDG), SSH and the VPN.

Security Operations Centre (SOC)

We launched our Security Operations Centre (SOC) in October to monitor and analyse security alerts on the University network on a 24/7 basis. Delivered in partnership with Accenture, the SOC represents a significant improvement to our ability to detect and manage cyber security incidents around the clock.

Privileged Access Management

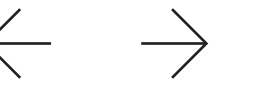
'Privilege access' accounts have more access than a normal account as they are used to perform administrative operations and/or access sensitive data. This means privileged accounts are a prime target for attackers. To combat this we are introducing Delinea Privilege Manager. This tool gives researchers enhanced access only when they need it, giving them better access and control and helping us to boost security and streamline permissions.

Safe links and attachments

In March we introduced Safe Links to help keep staff and students safe from malicious links in emails. Later in the year we introduced Safe Attachments. Files attached to emails, or in SharePoint, OneDrive or Teams, are now scanned before you receive them and blocked if they are malicious.

GDPR compliance

In 2023 we will introduce a new software tool, Varonis, to help us manage and protect the large quantities of data that are stored in various places across the University's digital landscape. Varonis will give us oversight of where our sensitive and stale data is held, as well as alerting us to any malicious activity taking place across file stores. The rollout of this software will provide an opportunity for us to work with schools and services to identify the types of information held, recommend remediation action in line with our retention schedule and alert appropriate teams to potential security issues.



Research IT

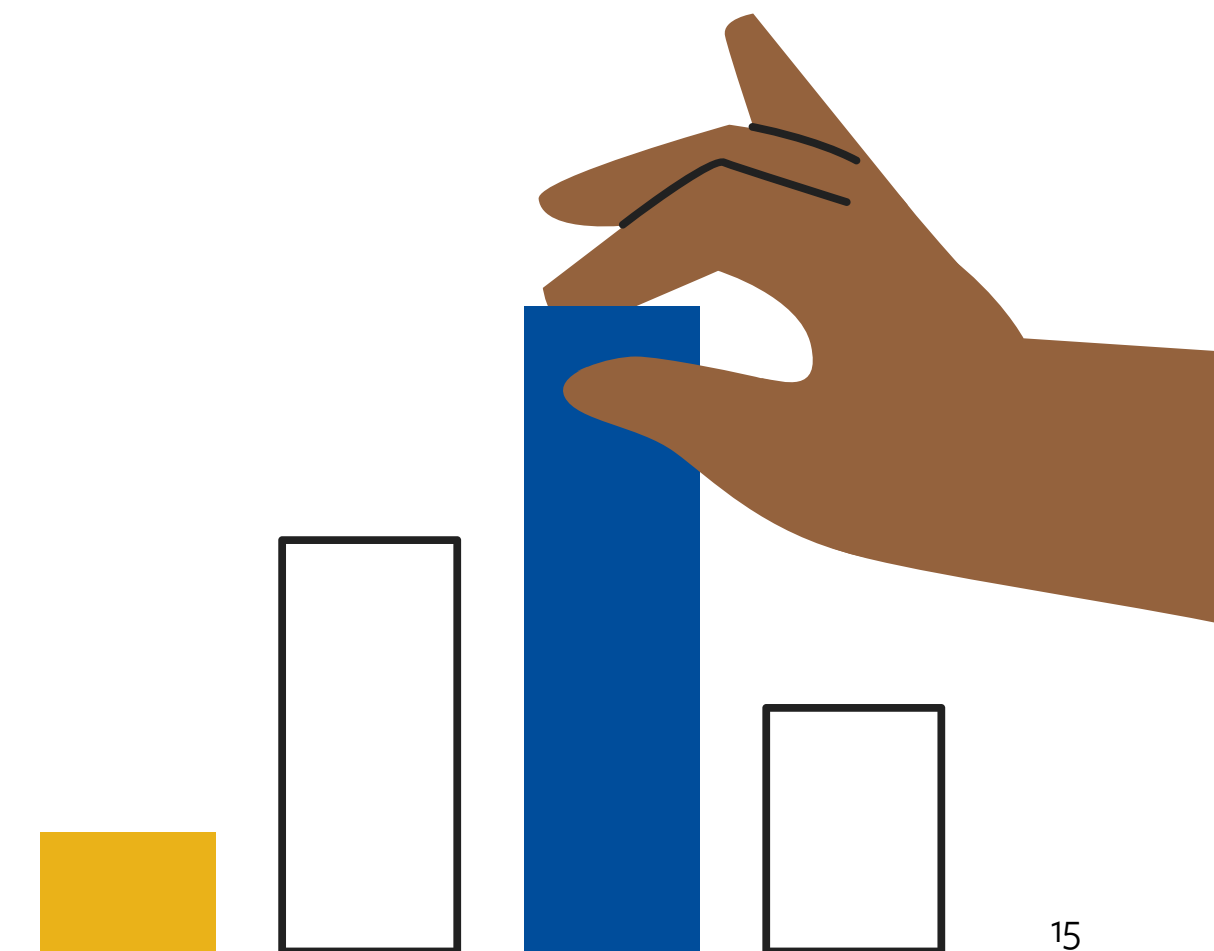


Our current Research IT infrastructure is not sufficiently flexible or financially sustainable to meet future research needs. Through the Research IT project we will:

- deliver research IT infrastructure and support
- enable secure, data analytics-based research
- support research in High Performance Computing (HPC).

2022 successes

- Developed and received approval for a five-year £27.7M Research IT Business Case.
- Delivered the first ever Research Computing Leeds Conference showcasing campus-wide computational research.
- Supported computational research with a total of 3,982,631 computational jobs.
- Delivered 30 training courses to over 400 researchers on computational techniques.
- Developed and delivered two new training courses for researchers: High Performance Python, and Installing and Managing applications on HPC.
- Supported six research software engineering projects working with academics from Linguistics to Environment to ensure software engineering best practice.
- Spoke at the Leeds Digital Festival showcasing the awesome added value of research software engineering for research at Leeds.



Data

Data is essential to day-to-day operations, long-term planning and performance management. It also powers vital research. Under our new Data Strategy our data service will offer guidance on data standardisation and storage. It will create a centralised data storage platform that will make data secure, accessible and available to our whole community.

At present the University collects, stores and processes data in different places, meaning over 250 applications need customised ways of sharing data. This complex system is inefficient and riddled with security risks.

Data Strategy

Our Data Strategy describes our mission to harness the potential of data in education and research while maintaining the highest standards of privacy, ethics and accountability. The Data Transformation project will deliver Enterprise Data Services, an Integration Platform and a Data Repository. This new ‘data backbone’ will give the University the ability to centralise and control student and employee data, allowing us to piggyback a trusted data source when providing additional digital services.

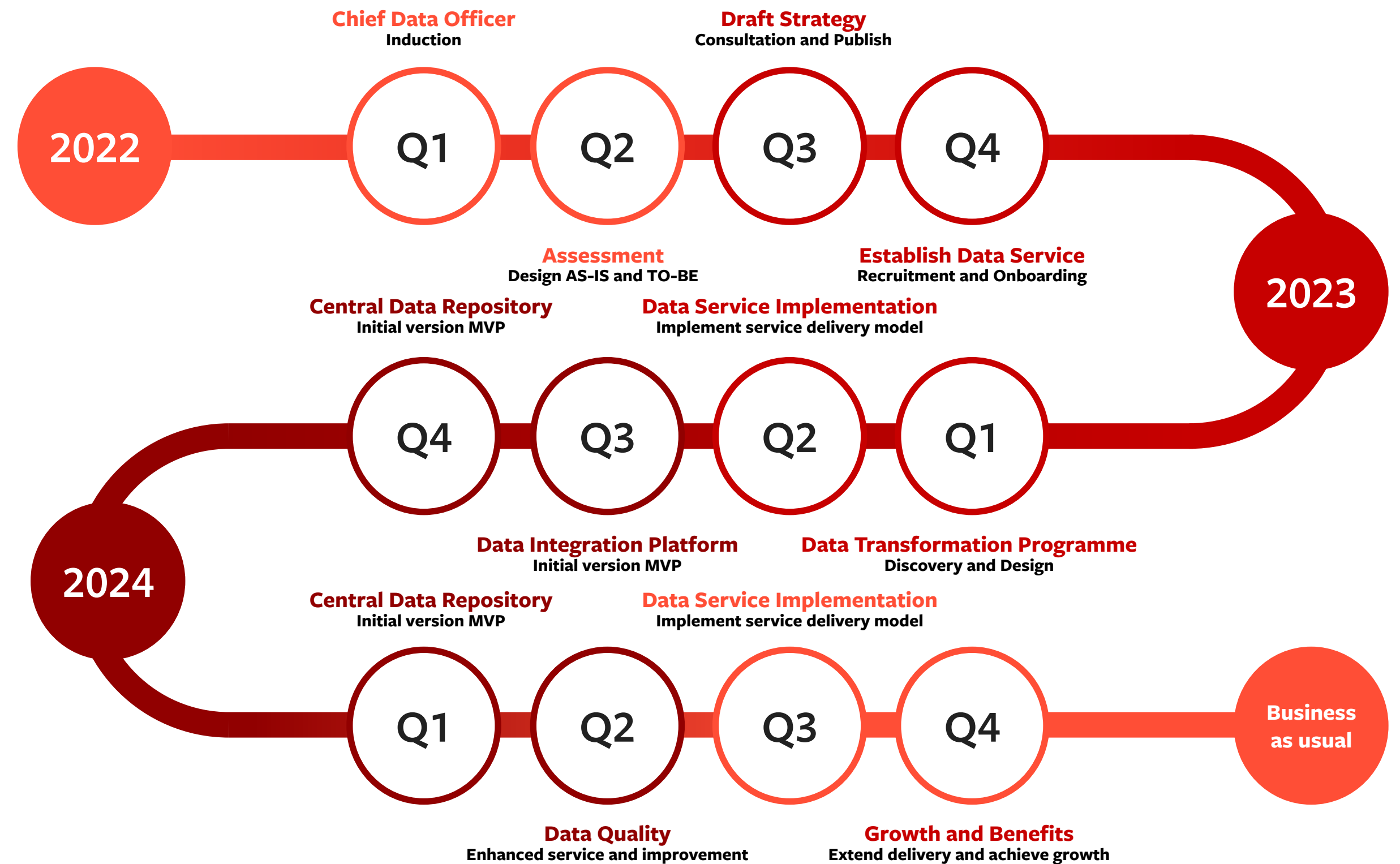
This new data backbone will be connected to a central data warehouse using modern data integration practices, giving the University an aggregate view of data and the opportunity to drive real insight to improve learning and research outcomes.

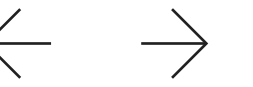
Staff will start to see project impacts in 2023 including additional data literacy training, the ability to create and configure reports, updated policies and procedures, and improved onboarding of applications. We have an Agile Applications Platform and we are using it to support University services, including the new Student Information Services (SIS) Enquiries and Postgraduate Taught (PGT) database.

The team will be split into:

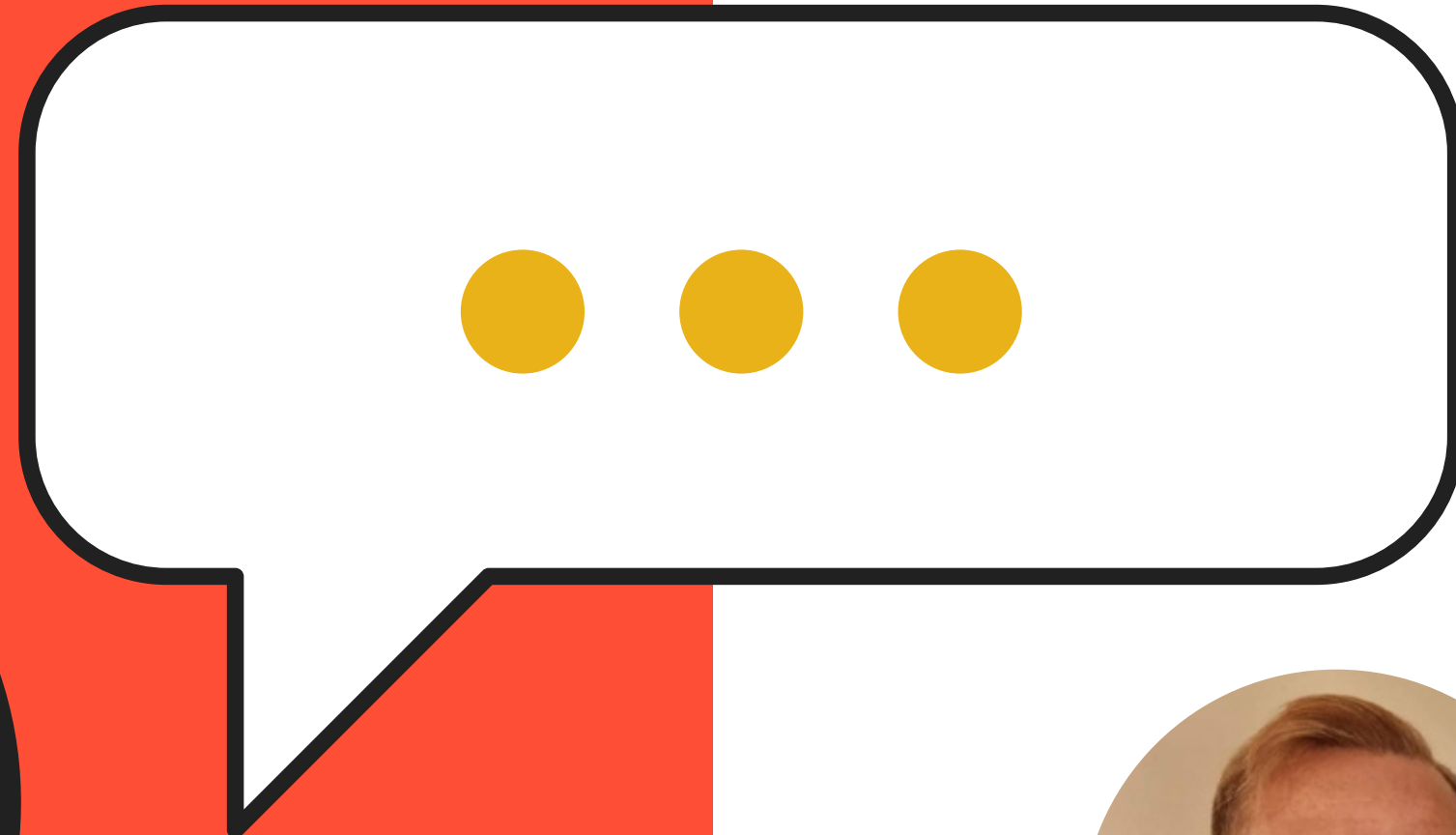
- data governance and quality
- data modelling
- data engineering
- data integration development
- data services management.

Data Strategy Roadmap 2022–2024 3 Year Plan





IT Executive Leadership Team



Dan Simms

Chief Information Officer



Monica Jones

Chief Data Officer



Alex Rogers

Director of Strategy and Architecture



Jason Preston

Director of IT Project Delivery



Adam Toulson

Chief Information Security Officer



Mark Conmy

Head of Research IT



Martin Lomas

Interim Head of Digital Development and Operations



Peter Halifax

Chief Technology Officer



Amina Vora

Interim Director of Customer and Employee Engagement



Need IT help?

Visit the [IT website](#) for self-help, tips and information, to tell us something is broken, or request equipment or software.

You can also chat with Falco, our 24/7 chatbot.

Follow us on Twitter [@ITServicesUoL](#) for service updates and helpful tips.

