Client Story

Queen Mary University of London

Transforming culture, technology and leadership in higher education

BLOCK

Introduction

Trust, collaboration and culture drive digital transformation forwards. With these in place, big ambitions turn into better learning experiences.

The success of the initiatives at Queen Mary demonstrates that digital transformation isn't only possible, but vital if institutions are to stay at the forefront of innovation in higher education.

Enhancing educational delivery, fostering innovative research, advancing operations, and maintaining a commitment to ethical practices – these are the results of achieving significant milestones in digital transformation.

Such an endeavour requires more than the latest technologies. It calls for strategic leadership, smart deployment strategies, an accessible yet secure environment, and a commitment to creating a digitally inclusive, future-proof campus.

A global university committed to improving lives

Queen Mary became known as such in 2000, but its history dates as far back as 1785.

Queen Mary alumni include trailblazing physicists, celebrated novelists and nine Nobel Prize winners. Its students have discovered a planet, won Olympic gold medals and developed lifesaving treatments.

Today, Queen Mary sits within the top 10% of global universities. More than 31,000 students and over 5,700 members of staff operate across five campuses in London. Queen Mary's presence extends far beyond the nation's capital; staff and students collaborate with sites in Paris, Malta, China, and Singapore, as well as with academics and researchers internationally.

Queen Mary's goal, as set out in its 2030 strategy, is to be the most inclusive research-intensive university in the world.

[1] https://www.qmul.ac.uk/alumni/ouralumni/notablealumni/
[2] https://www.qmul.ac.uk/about/facts-and-figures/
[3] https://www.qmul.ac.uk/about/facts-and-figures/
[4] https://www.qmul.ac.uk/strategy-2030/

Challenges to digital transformation

An outdated network unable to meet modern demands

Many universities, especially those with a long history like Queen Mary, face challenges with legacy IT infrastructure. This issue is not only about the technology itself but about its compatibility with newer digital tools essential for modern learning.

High-speed, reliable networks are crucial across all disciplines. In medicine, they support real-time diagnostics and virtual simulations. In computing, they enable explorations into AI and collaborative coding. In economics, they provide access to market data and, in the arts, these networks power multimedia archives.

Outdated networks hinder learning, leading to inefficiencies and frustration for students and staff. How can higher education create the robust infrastructure needed to be capable of handling an ever-increasing volume of data?

Increased device usage post-pandemic

The pandemic sped up digital adoption in education, rapidly shifting learning online. While students no longer need to wear face masks, personal devices remain close at hand.

Students rely on tablets, laptops and phones for lectures, virtual classrooms and clinical simulations. But this strains university IT teams, who must manually troubleshoot infrastructure issues and handle avoidable support tickets. Without better tools, they face unnecessary stress and heavy workloads. How can universities ensure cyber security, protect privacy, and ease this burden on IT teams while maintaining a smooth learning experience for students?

Tight deployment timeline during the summer break

Upgrading systems and deploying new technology during the short seasonal window of the summer holidays is a common challenge in higher education. The technical demands of digital transformation must be balanced with academic schedules.

This issue is especially challenging for disciplines that rely on specialised equipment and systems, which require careful installation and testing. How can upgrades be completed efficiently within the limited timeframe without disrupting course delivery or student experience?

Diverse building environments

Across Queen Mary's campuses, you'll find the Grade II-listed People's Palace, Edwardian-era Mile End Road buildings, and cutting-edge facilities within the brand-new Sir John Vane Science Building.

Many heritage universities have a similar eclectic makeup and present the unique challenge of seamlessly integrating digital infrastructure across very different architectural spaces.

The issue isn't just about online changes; it involves physically installing hardware too, which can require significant alterations to buildings. The process then calls for specialist care, which adds an extra layer of complexity.

This means additional stress for university IT teams, trying to balance respect for the fast with the need to future-proof their campuses. How can all building types become resilient for digital needs, like network capacity and security, while maintaining respect for their heritage?

A FutureNow Network for higher education

Transitioning to the FutureNow Network

Our FutureNow networks allow clients to deploy automation, AI, open integrations and agile development to keep the network updated, evolving and continually improving.

FutureNow simplifies control and lets users move securely across sites with seamless access. It makes the most of smart analytics for continual improvement, while safeguarding sensitive data 24/7 with robust cyber defences.

Harnessing Block's expertise

We've delivered successful network transformations for large, complex organisations across the UK, with outstanding results every time.

Our team handles logistics with precision; careful planning minimises delays, reduces complexity and ensures smooth rollouts. Our pre-configuration process eliminates potential errors, and mean solutions arrive on site ready to go.

Our expertise extends far beyond design and build; Block's tech specialists stay dedicated to the network's evolution and provide IT teams with a comprehensive programme of ongoing enablement and support.

Integrating artificial intelligence

We help organisations leverage AI-driven tools to proactively identify and resolve network issues, enhancing reliability and performance across campus. For example, detecting when connectivity in a lecture hall drops because of too many devices, and suggesting a fix to IT staff before students even notice.

Juniper Mist AI offers comprehensive visibility into network health, helping Wi-Fi connectivity issues to be resolved before they disrupt students and faculty. Juniper's Marvis Virtual Network Assistant (VNA) complements this by providing real-time insights and proactive remediation.

Proactive issue resolution with AI tools keeps the university network running smoothly, reduces complaints, and lets IT teams focus on important projects instead of firefighting.

31,000+

Queen Mary partnered with Block to deliver a wireless network upgrade across six campuses and residences, ensuring seamless connectivity for 31,000+ students and staff.

BLOCK | JUNIPER NETWORKS

“Block’s commitment to understanding and addressing our unique challenges turned a daunting project into a seamless operation. This sets a benchmark for how external partnerships should function.”

Melissa-Jane Olivier, IT Programme Manager, Queen Mary

Transforming campus connectivity at Queen Mary

In **8 weeks** of critical work and **28 weeks** of specialist work, Wi-Fi 6E was delivered through **2,300 access** points across **65 buildings** in **two countries**.

What a FutureNow Network means for...

STUDENTS

- **99% compatibility** with personal devices, including gaming consoles and smart TVs.
- **2000+ student dorms** with seamless 'home-from-home' connectivity.
- **30-40% better connection speed** and reliability, ensuring smooth transitions across campuses and residences.

STAFF AND RESEARCHERS

- **Reliable, high-speed** Wi-Fi for teaching, research and administration.
- AI-driven tools, like Marvis, cutting troubleshooting time by **2x**.
- Secure connectivity in **10+ labs** for sensitive work.

DIGITAL TEAMS

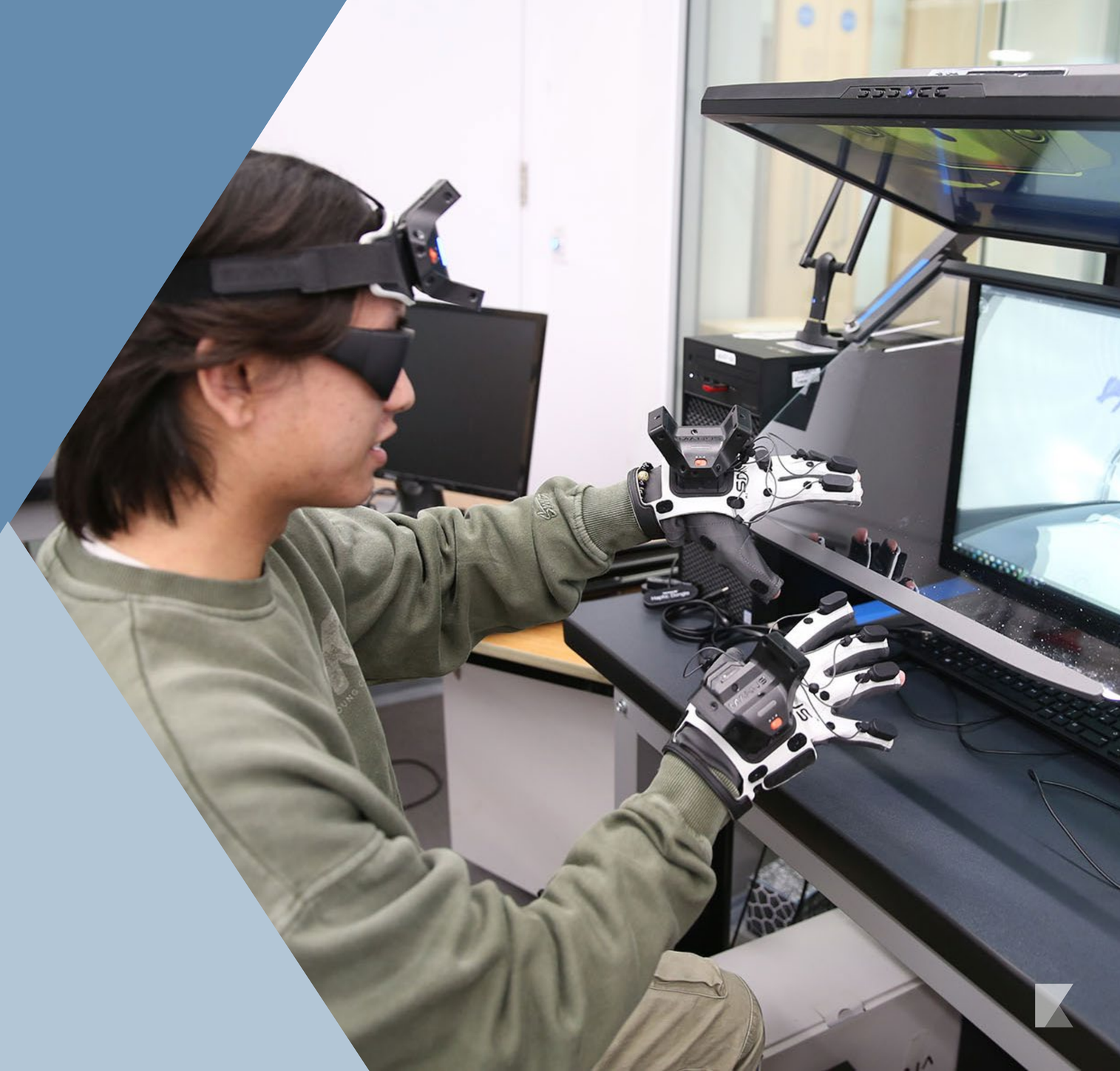
- **A vast reduction in** help desk complaints, with proactive AI tools reducing workload.
- **1000+ devices** supported across high-density lecture halls.
- **A reduction** in the need for heatmap surveys, paving the way for smart campus initiatives.

Making change possible

Deploying advanced infrastructure is just one part of the equation; a robust support system must be in place too. Effective leadership, strong security, strategic operations, and an adaptable organisational culture drive long-term success.

Hear from those within the university who helped lead the charge for change, and discover the four critical pillars that underpinned successful digital transformation at Queen Mary:

- FutureNow infrastructure through strategic leadership
- Secure and scalable digital environments
- Smart deployment strategies for seamless upgrades
- Digitally inclusive and future-proof campuses



Future-ready infrastructure through strategic leadership

The key to overcoming outdated networks isn't just new technology – it's strong leadership. By fostering collaboration between departments and with partners, Queen Mary's leadership created a shared vision, ensuring IT teams receive support across the university.

A clear, shared vision

The adoption of a clear, shared vision for digital transformation at Queen Mary's has ensured leadership collaborated across departments – and with external partners – to achieve modernisation.

Central to this vision has been the recognition that digital transformation is not a one-off project but a continuous evolution. As technology evolves, so too must the strategy, adapting to the changing needs of students and staff as well as new opportunities being presented.

"It's definitely been a partnership where we've all got a common goal," says Mike Wearden, Head Of Network and Unified Communications at Queen Mary. *"We've all worked together to achieve it. Obviously, Block has done the vast majority of the work, but we've really worked together to jointly achieve the solution."*

Trust

Collaboration between IT, faculty and students is crucial for securing buy-in for upgrades and managing potential frustrations. When all parties feel confident in the process, they embrace change and remain patient through any disruptions.

Proven expertise builds this confidence. A strong track record of successful projects reassures stakeholders, showing that the team can handle digital transformation effectively. This expertise ensures faculty and students feel supported and confident in the smooth implementation of upgrades, fostering a more positive and collaborative environment.

In the early stages, Melissa-Jane Oliver, IT Programme Manager at Queen Mary was keen to be privy to everything. *"I wanted to see deployment plans. I wanted to be involved in workshops,"* she says. *"I wanted to see this. I wanted to see that. I wanted to see exactly how Block were going to meet this target date."*

Yet, Block's roadmap won assurances. *"I was actually able to take my foot off the pedal, step back and go: I don't need to meddle," says Melissa-Jane. "I don't need to get involved because the Block team has got this covered."*

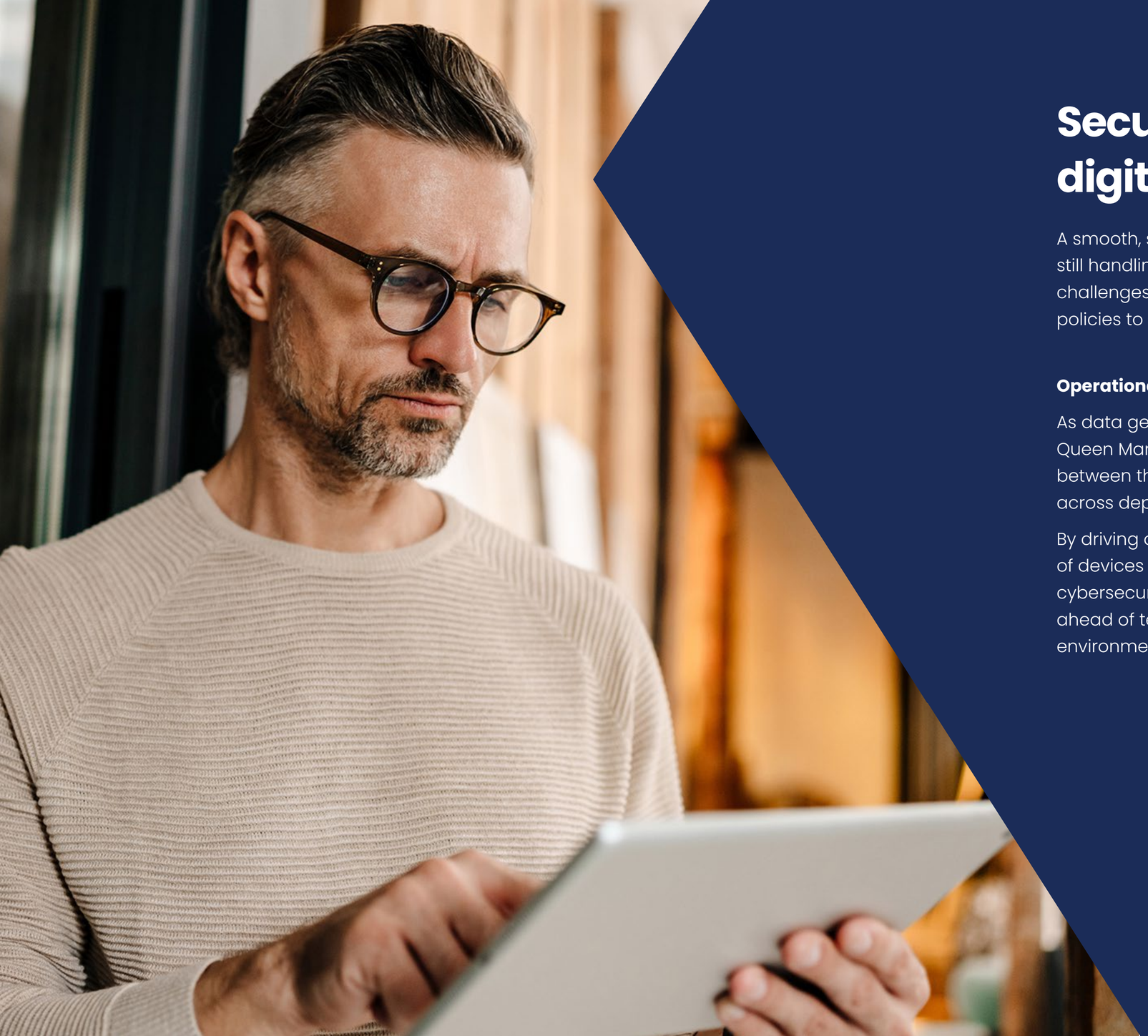
Collective problem-solving

Working together to reach resolutions faster fosters a shared sense of responsibility across teams. By combining diverse perspectives, teams can find more innovative and effective solutions.

When IT teams and partners prioritise trust over resistance, they create an environment that promotes open collaboration. This trust facilitates the free exchange of ideas, breaks down communication barriers, and helps resolve issues more efficiently.

This kind of close partnership is crucial when undertaking transformational projects. As Melissa-Jane points out, *"It's incredibly important that when you take on transformation pieces of work like this, the supplier and the customer walk hand in hand. I think it's a journey that has to be walked together."*

Such collaboration ensures that both parties are aligned, working in tandem towards the same goals, and driving the project forward with mutual understanding and support.



Secure and scalable digital environments

A smooth, secure learning experience must be able to adapt to new threats while still handling daily demands. Queen Mary's IT team has resolved one of its key challenges by integrating smart security measures and continuously refining policies to optimise network performance.

Operational excellence

As data generation and access on local devices, or through hosted services, Queen Mary increase rapidly, the university must prioritise faster data transfer between these points to improve efficiency and support seamless workflows across departments and services.

By driving operational excellence, Queen Mary manages the growing use of devices and digital tools while ensuring smooth performance, robust cybersecurity, and data privacy. This approach enables the university to stay ahead of technological demands, providing a secure and high-performing digital environment for staff, students, and researchers.

Efficiency

Queen Mary has ensured that critical educational tools are always available when needed, by optimising network performance and reducing system bottlenecks.

This balance between efficiency and security enables a more productive learning and research environment, something that Queen Mary is proud to be world famous for.

Tom King, Research Assistant Director within IT Services at Queen Mary, points out that students' satisfaction with Queen Mary's IT facilities is assessed by the NSS National Student Survey. *"There is a section around research culture that basically says, is the institution providing the right things to allow you to get your job done? Can we provide you with the appropriate equipment? Is there enough infrastructure to enable you to actually get the research done?"*

Implementing feedback

Listening to the needs of students and faculty ensures digital tools enhance learning rather than disrupt it. So far, the feedback has been extremely positive. *"No one's really reported any issues, so therefore to me, that's a success in itself,"* says Ian Webster, Project Manager at Queen Mary. *"That is the benefit of the project, because it's been done so well. People have not realised the huge change that the university has actually done."*

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Ian Webster, Project Manager at Queen Mary

Digitally inclusive and future-proof campuses

Integrating modern digital infrastructure across diverse spaces requires balancing respect for the past with a commitment to future progress. The university's IT team embraced cultural change and took a long-term approach, ensuring they achieved seamless connectivity without compromising Queen Mary's historic buildings.

Openness

Respect for architectural integrity doesn't have to mean sacrificing innovation.

The rollout across Queen Mary's campuses had to be ready to navigate the mix of Georgian and post-millennium architecture. The team efficiently worked through each site to ensure alignment, avoiding issues such as roaming between networks within eduroam, signal interference and channel overlap.

When it came to choosing a test site, Melissa-Jane Oliver was enthusiastic about Department W, in particular. *"The high ceilings and the range of different furniture. There's a multitude of materials from brick to fabric, to glass,"* she says. *"There's so much going on in Department W in terms of architectural aesthetics."*

Resilience

The infrastructure must be strong, secure, and able to handle the challenges of old buildings, new security threats and fast-changing technology. By focusing on resilience, the university can support advanced research, smooth collaboration and a connected campus, while protecting its heritage and cybersecurity.

As Ian Webster reflects, *"In years to come, students will be on that Wi-Fi and saying we're getting good coverage on these new devices. We've got to do it now to benefit everyone in the future."*

Cultural change

Queen Mary has cultivated an environment where innovation is encouraged and digital transformation is seen as an opportunity rather than an obstacle.

The clear need to move with the times has helped to empower cultural change among staff, creating what Head Of Network and Unified Communications, Mike Wearden describes as "a risk appetite," and an enthusiasm for the rewards campus-wide connectivity can bring.

As institutions across the higher education sector face similar challenges, Queen Mary's experience serves as a compelling case study in balancing tradition with progress, proving that digital infrastructure can be both future-proof and historically respectful.

The digital future for Queen Mary

Queen Mary's cutting-edge wireless network upgrade is a catalyst for further digital ambitions to take shape.

Wi-Fi 6E

The focus now is on continuing to advance Queen Mary's connectivity. New Wi-Fi chipsets, providing the new industry standard - WPA3 security - from devices like laptops, are likely to form part of a wider Wi-Fi 6E upgrade programme. This will mean the university will be able to make the most of 6GHz band for faster speeds, lower latency, and less interference.

Looking ahead, Shahid Rashid, Assistant Director at Queen Mary, emphasised the strategic importance of the upgrade: *"This sets the foundation for smarter campuses, enabling initiatives like asset tracking, energy management, and enhanced security."*

Vendor cloud

While a small number of applications would stay on premises, there are plans for the majority to move into a vendor cloud.

Moving to a vendor cloud means using a third-party provider for computing, storage and services instead of on-site systems. With careful migration and management, this will improve Queen Mary's flexibility and efficiency.

Access layer

Queen Mary is also keen to replace its access layer, the network's first point of entry, managing device connections, enforcing security policies and ensuring reliable communication with the rest of the network.

To replace the access layer will likely mean installing new switches and access points, implementing advanced security features, and enhancing management capabilities. The outcome will be a network that is able to handle the demands of high-density Wi-Fi usage, IoT devices, and hybrid work environments.

Monitoring student engagement

"We can't ignore obligations to keep students safe and secure," says Mike Wearden. To that end, Queen Mary are exploring the potential of applications like SEAtS. SEAtS' integrated platform allows universities to monitor student engagement and progression, with tools that support attendance and timetabling.

A platform like SEAtS can fuel bigger ambitions of a smart campus too, with AI-powered data analytics and location services to enhance safety, efficiency and sustainability.

With these advancements, Queen Mary is becoming a truly connected, FutureNow campus. It's not only enhancing the student and staff experience but also ensuring long-term digital resilience, by embracing cutting-edge wireless technology, strengthening its physical network and leveraging cloud solutions.

As the university continues to innovate, its commitment to smarter, more efficient, and more secure digital infrastructure will be key to shaping the next generation of learning and research.

Digital transformation in higher education with Block

About Block

Block exists to help people embrace the extraordinary potential of digital evolution. Over the years we've transformed the working lives of people in healthcare, education, and enterprise organisations of all sectors and sizes.

How Block helps higher education

Block helps universities create smarter, more connected campuses. From reliable networks to seamless collaboration tools and smart building solutions, digital transformation becomes simple, secure and sustainable.

BLOCK