D2L

Rewiring UK higher education:

Urgent strategies for surviving and thriving in a disrupted sector

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Executive summary

Higher education is undergoing a profound transformation. Faced with economic uncertainty, evolving learner demographics, technological disruption and mounting cybersecurity threats, institutions must reimagine how they offer value, operate sustainably and remain relevant. This white paper explores four critical themes—revenue diversification, learner adaptation, generative AI (GenAI) integration and digital resilience—that together form a roadmap for rewiring for sustainable growth and innovation.

Revenue diversification is no longer optional. Institutions cannot rely solely on tuition and public funding, particularly from international students, which leaves them vulnerable to market fluctuations. Expanding into microcredentials, corporate partnerships, data monetisation and philanthropic innovation is essential for long-term financial health.

Learner adaptation is key to staying relevant. Today's learners expect flexible, accessible and career-aligned education. Institutions must design individual pathways, build industry partnerships and offer modular, hybrid and stackable learning options that reflect the realities of a diverse and mobile learner base.

GenAI integration presents an unprecedented opportunity to enhance teaching, research and operations. From individualised learning experiences to AI-supported academic advising and workflow automation, GenAI can boost institutional efficiency and educational outcomes—if applied thoughtfully and ethically.

Digital resilience underpins trust and continuity in a data-driven age. With cyber threats and regulatory demands increasing, universities must invest in secure infrastructure, adopt modern IT frameworks, and plan proactively for crises and recovery.

Call to action

The time for incremental change is over. University leaders, policymakers and faculty must act with urgency and collaboration to rewire institutions that are financially robust, learner-focused, technologically advanced and digitally secure. Future-proofing higher education starts with strategic, cross-sector action today.

Introduction

Higher education stands at a critical crossroads. Institutions are navigating concentrated financial constraints, shifting learner expectations, and unprecedented technological change. These pressures are not abstract—they are immediate, structural, and deeply consequential for the long-term viability of universities.

The pressures facing higher education

Across the UK and globally, universities are grappling with **financial strain**. Public funding has not kept pace with inflation or demand, and many institutions have become overly reliant on international student tuition to subsidise core teaching and research. This model is now under severe pressure as geopolitical uncertainty, tightening visa policies and increased global competition dampen international student recruitment.

At the same time, **enrollment trends are shifting,** with a growing share of prospective students looking for **flexible, digitally-enabled and career-aligned education.** Traditional degree structures and place-based delivery models are no longer adequate to meet the needs of lifelong learners, career-changers and working professionals.

Technological disruption, particularly through GenAI, is also transforming how education is offered and consumed. Yet many academic institutions have not equipped staff or students with the tools, training or frameworks needed to engage with GenAI confidently, ethically and appropriately. The gap between higher education and the rapidly evolving world of work is widening.

Four themes that matter

This white paper identifies four interconnected themes as essential levers for transformation:

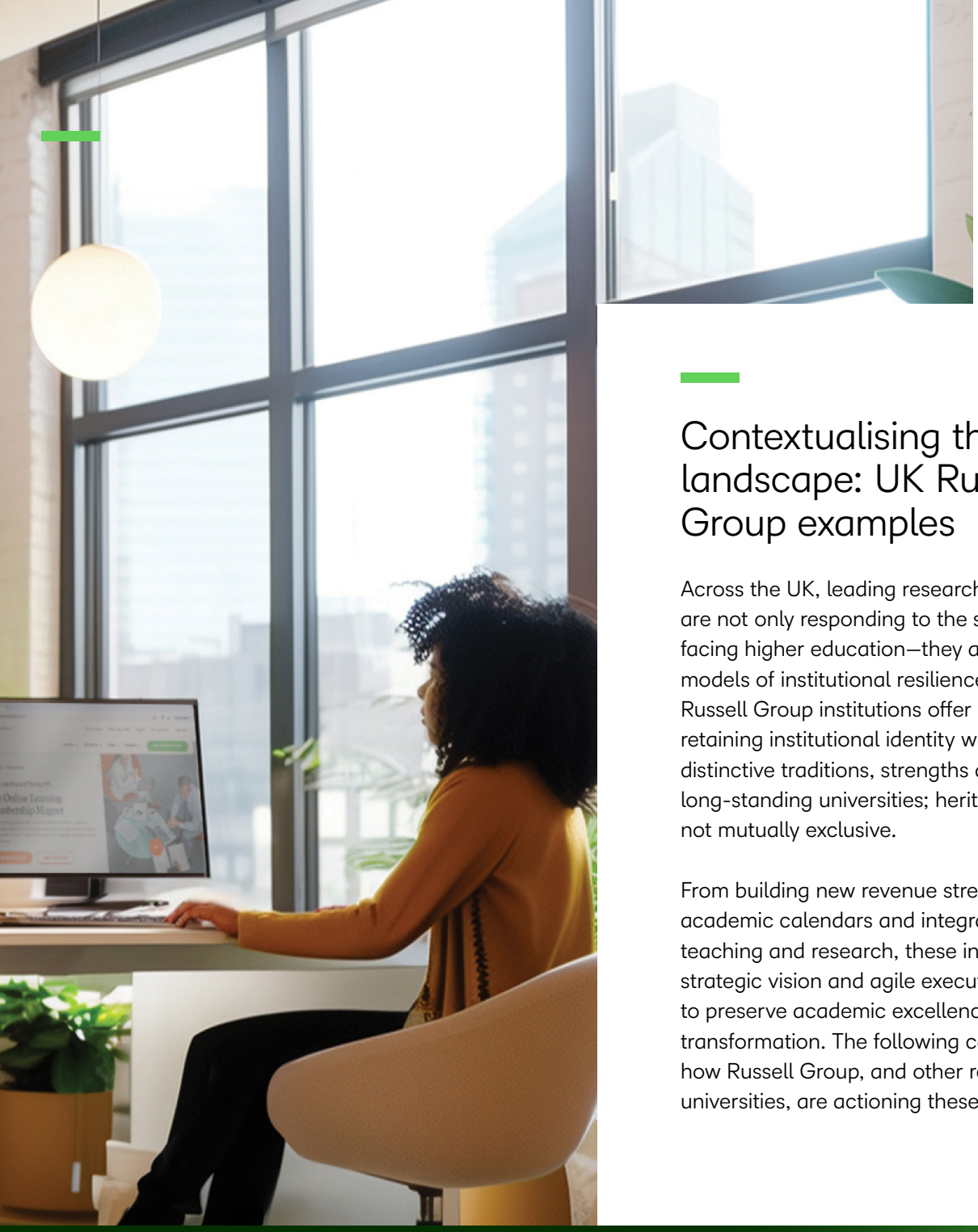
Revenue diversification is vital to reduce risk and create long-term financial resilience.

Learner adaptation enables universities to remain relevant and responsive to contemporary student expectations.

GenAI integration opens new frontiers for pedagogy, research, student experience, and institutional effectiveness.

Digital resilience provides the security and agility needed to operate in a data-driven, risk-laden digital environment.

These themes are not speculative—they reflect current, tangible conversations and strategic shifts already underway within UK Russell Group institutions. Crucially, they must not be addressed in isolation. It is in the integration of these themes—viewed systemically and pursued collectively—that their true value emerges. Only through this holistic lens can institutions unlock and rewire scalable, sustainable and future-ready models of higher education.



Contextualising the changing landscape: UK Russell Group examples

Across the UK, leading research-intensive universities are not only responding to the systemic pressures facing higher education—they are actively shaping new models of institutional resilience and relevance. The Russell Group institutions offer compelling examples of retaining institutional identity while building on the distinctive traditions, strengths and values that define long-standing universities; heritage and innovation are not mutually exclusive.

From building new revenue streams to reimagining academic calendars and integrating GenAI across teaching and research, these institutions illustrate how strategic vision and agile execution can come together to preserve academic excellence and drive sustainable transformation. The following case examples highlight how Russell Group, and other research-intense universities, are actioning these shifts:

KING'S College LONDON

MANCHESTER 1824 The University of Manchester

THE UNIVERSITY of EDINBURGH

UCL

UNIVERSITY OF BIRMINGHAM

IMPERIAL

REVENUE DIVERSIFICATION:

King's College London has launched King's Professional & Executive Development, a unit offering short courses and custom training for professionals and organisations. This represents a shift toward market-responsive education aligned with industry needs.

The University of Manchester is launching Manchester Online, a unit offering market-led online postgraduate programmes and professional learning for employers and individuals, addressing key skills gaps. Manchester is embedding micro-credentials and innovative new partnerships with external providers to address these demands.

LEARNER ADAPTATION:

The University of Birmingham has developed a portfolio of microcredentials and modular learning pathways in partnership with FutureLearn, targeting both domestic and international learners who require flexibility.

UCL has implemented an extended learning opportunities programme called ExtendED Learning enabling hands-on opportunities for self-directed learning, internships or employability programmes in Term 3. This partnership with the Students' Union gives students routes to explore other subjects and have a positive impact on society.

GENAI INTEGRATION:

The University of Edinburgh has been a sector leader in the responsible adoption of AI in education. It has developed policy guidelines and faculty training to support the ethical use of AI tools in assessment, research and administration.

Similarly, **Imperial College London** has incorporated AI literacy into elements of its undergraduate curriculum and research culture, signalling the importance of GenAI competency across disciplines.

DIGITAL RESILIENCE

The University of Manchester has made significant investments in cloud-based infrastructure and cyber incident response planning. It is working to embed a security-by-design ethos across digital operations.

The University of Leeds has progressed a Digital Library Infrastructure Project (DLIP) to secure the digital future of the libraries, including digitisation of the rare and special collections ensuring easier sharing and access for research, learning and teaching.

A case for radical collaboration

While these examples demonstrate momentum, they also highlight a deeper truth: no single institution can go it alone. The scale and complexity of today's challenges require radical collaboration across institutions and with industry, government and technology providers. Whether through shared platforms, co-designed curricula, joint data initiatives or public-private partnerships, the sector must move from competitive isolation to collective innovation. For example, despite increasing investment in microcredentials at institutional levels, there is still no UK-wide agreed framework for their development, delivery or recognition—leaving institutions to navigate fragmented policy landscapes and learner uncertainty alone. Unlocking the full potential of such innovations will require coordinated action, shared standards and sector-wide alignment.

This white paper is a call to action. Despite promising developments, a critical truth remains: isolated efforts will fall short. Today's challenges are too interconnected for any institution to tackle alone. The sector must now embrace radical collaboration—with government, industry and each other—through joint infrastructures, shared frameworks and public-private partnerships that unlock collective capacity and scale.

Diversifying revenue streams

The challenge

The financial model underpinning much of higher education is critically unsustainable. UK universities, especially those in the Russell Group, have relied heavily on a combination of domestic tuition fees, international student income and public funding—all of which are now under strain. Public investment in teaching has not kept pace with inflation, while caps on domestic fees and shifting international enrolment patterns have introduced significant volatility.

Many institutions have attempted to diversify, but too often this has been under-resourced, treated as peripheral activity rather than a strategic pillar. The true costs of diversifying revenue streams—including the need for market insight, marketing, business development, learner support and digital infrastructure—are often underestimated. Crucially, the knowledge and capability required to diversify income are not generally core strengths or capabilities within higher education institutions. This gap underscores the need for effective partnerships and authentic co-design with industry and employers.

Further, outdated internal financial models fail to account for the true cost of degree programmes, especially when considering estate management, digital platforms, commitment to student experience and staff time. The challenge is not simply launching new offerings but operationalising institutional capabilities to reach new markets: professional learners, employers, industry, alumni and lifelong learners.

Finally, the over-reliance on place-based degree programmes and international student fees to subsidise research is a structural vulnerability. The path forward requires a rebalancing of revenue portfolios with a sharper focus on diversification, scalability and learner-centricity.

Strategic opportunities

MICROCREDENTIALS AND LIFELONG LEARNING

Expanding beyond traditional, full degrees is no longer a peripheral initiative—it is central to institutional resilience and relevance. As learner demographics evolve and the shelf-life of skills shortens, there is a growing demand for short-form, stackable and industry-aligned learning experiences that allow individuals to upskill, reskill or explore new fields on their own terms.

Microcredentials and lifelong learning offerings represent an opportunity to diversify revenue while extending institutional reach and strengthening engagement with learners across their entire professional lifecycle.

- Shift from a model of teaching one course, once, to a fixed group of learners to one of modularity and re-use. This approach of place and time-based learning, while familiar, does not meet the flexibility needs of modern learners and limits opportunities for scalability.
- Effective microcredential strategies require a clear segmentation of audiences. Different learner groups have different motivations, needs and constraints. Consider audience and market-led product development to reach alumni, early-career professionals and industry practitioners.
- Position microcredentials as market-driven products, not scaled-down versions of academic courses. This requires clear and accessible branding with courses that are easily found with user-friendly enrolment and payment experiences.

CORPORATE AND EMPLOYER PARTNERSHIPS

Collaborations with businesses can drive revenue through executive education, bespoke training and applied research.

- Build and maintain relationships with industry and businesses with dedicated business development teams to nurture partnerships to grow business-to-business (B2B) opportunities.

- Align course offerings with employer demand, especially in emerging sectors like AI, cybersecurity, sustainability and healthcare.

OPEN, ONLINE AND HYBRID MODELS

Digital delivery is critical for scale, but institutions must address tension between open education principles and commercial models.

- While many Massive Online Open Courses (MOOCs) began as free resources, shifts toward subscription models have limited their potential for outreach and lead generation. Investment in building a core open portfolio on external platforms is now a risk to institutions as well as a mismatch in principles.
- Hybrid learning—blending online flexibility with on-campus experience—offers a path to scale while maintaining quality and learner connection.
- Embed pedagogic design principles into digital learning environments, moving beyond content delivery to build community and engagement.

ENDOWMENT AND PHILANTHROPY INNOVATIONS

Universities can expand philanthropic income by activating their alumni base and aligning fundraising with strategic priorities.

- Leverage alumni networks not only for donations but as brand ambassadors, mentors, and strategic connectors supporting or sponsoring learners in their industry.
- Bridge local and global narratives, positioning the institution as a driver of both community uplift and global innovation.

TECH AND DATA MONETISATION

The use of institutional data—for benchmarking, insight and collaboration—offers untapped potential.

- Work with consortia of universities to pool anonymised data, enabling evidence-based metrics for learner engagement, outcomes and ROI.
- Explore responsible partnerships with educational technology and analytics providers to deliver insights or services at scale.

CASE STUDIES

RUSSELL GROUP EXAMPLES

King's College London Professional & Executive Development drives revenue through **microcredentials** and **custom** corporate training serving as a partner with industry and reaching new audiences.

The University of Birmingham expanded its FutureLearn offerings, integrating microcredentials into a modular postgraduate framework.

The University of Manchester has invested in its flexible learning strategy, allowing learners to study flexibly at a place, pace and in a pathway that meets individual learner needs. The University has also supported the city to become a UNESCO Learning City, illustrating the initial commitment to the region and the pursuit of lifelong learning.

The University of Leeds has continued its long-standing commitment to open, online, and professional education through a suite of over 100 online short courses, targeting professional learners in healthcare, climate, and digital skills. These are clearly aligned with workforce needs and integrated into a long-term portfolio strategy.

UCL's Online Microcredential Platform supports self-paced and hybrid formats while enabling integration into longer programmes. Its courses in data science, global health and education attract a global audience and create pipelines into advanced degrees.

The Alan Turing Institute, with several Russell Group universities as founding partners, is exploring data collaboratives focused on education, using AI and machine learning to address systemic challenges while preserving ethical standards.

The University of Liverpool is a pioneer in fully online postgraduate education and deliver innovative programmes such as Healthcare Leadership, a collaboration between the Management School and School of Medicine, to meet growing employer demand for cross-disciplinary courses.

OTHER UK HIGHER EDUCATION EXAMPLES

Imperial College London's Executive Education unit collaborates with global corporations to offer custom leadership and innovation programmes. These efforts are supported by professional business development teams with targets for growth and impact.

The University of Oxford's Development Office has pioneered global alumni engagement strategies and captured impact stories, combining traditional endowment fundraising with targeted campaigns around entrepreneurship, sustainability and access to education.

The Alan Turing Institute

UNIVERSITY OF LEEDS

UNIVERSITY OF LIVERPOOL

Summary

Diversifying revenue is not a matter of convenience—it is an institutional imperative. As financial volatility and market competition grow, universities that invest strategically in new markets, platforms, capabilities and partnerships will be best positioned to lead. However, the challenges must not be underestimated. It is not only identifying new income streams, but in building the internal academic and professional services capability to respond in a timely manner while sustaining and scaling the growth.

To realise these opportunities, universities must invest in strategic capabilities—not just programmes. Key success factors include:

Set clear and achievable aspirations for diversification, with alignment to mission and institutional strategy.

Establish a clear academic workload model that formally recognises and compensates work undertaken beyond teaching, research and scholarship.

Develop a discoverable and accessible web presence, including an e-commerce solution for short courses and professional learning.

Ensure a **mobile-friendly, fit-for-purpose learner interface** for course access and engagement.

Invest in business development, marketing and market insight functions with clear performance metrics.

Embed diversification into the **core institutional strategy,** not as a side initiative but as a key institutional priority.

The next generation of higher education leaders must approach diversification as a core strategic function—one that demands as much attention as research, teaching or estates planning. Its return on investment is not only financial, but also reputational, pedagogic and societal. Critically, employer partnerships should not be confined to professional or commercial offerings; they should actively inform undergraduate and postgraduate curricula, ensuring that campus-based programmes are aligned with real-world skills and emerging industry needs. This integration enhances student employability, strengthens academic relevance and reinforces the university's role as a partner in economic growth.

Adapting to shifting learner demands

The challenge

The profile of the modern learner is rapidly evolving. While traditional 18–21-year-old undergraduates continue to enrol in full-time degree programmes, they no longer represent the majority of the market's future growth. Instead, non-traditional students, career-switchers, working professionals and lifelong learners are increasingly seeking flexible, skills-focused and digitally enabled learning experiences.

This shift is not just about convenience—it's about necessity. Many learners today must balance education with full-time employment, caregiving responsibilities or other life commitments. They require independence of time, pace and place, and expect education to be individualised, modular and immediately relevant and applicable.

Simultaneously, employers are re-evaluating the role of traditional degrees. In a world where technology is reshaping job roles and industries, there is growing demand for short-form, stackable and competency-based learning that aligns directly with workplace needs. Corporations such as Google, Microsoft, and Amazon are now delivering their own skills credentials—often in partnership with online platforms—creating direct competition for universities.

Despite these changes, many Russell Group universities have been slow to adapt. While they continue to offer world-leading research and academic excellence, they have not systematically addressed employability, nor built the agile, learner-first models required by today's learners. This lag creates risk—not only to enrolment numbers but to institutional reputation and relevance.

Strategic opportunities

To remain competitive and serve learners effectively, universities must respond decisively. Five core strategies are essential to adapt to shifting learner expectations:

INDIVIDUAL LEARNING PATHWAYS

Traditional, linear education is no longer sufficient. Learners now expect individualised, modular learning journeys that enable them to build skills over time, return to learning at different life stages and demonstrate capabilities to employers in real-time.

Key interventions include:

- **Competency-based education:** Allowing learners to progress based on mastery of skills rather than seat time.
- **Authentic assessment:** Shifting assessment focus from standardised testing toward real-world, meaningful tasks that reflect how knowledge and skills are applied outside of academic settings.
- **Stackable credentials:** Designing short courses that are recognised towards certificates, diplomas or full degrees.
- **Skills-first course design:** Framing learning outcomes in terms of demonstrable, workplace-relevant skills.

FLEXIBLE COURSE MODELS

Flexibility must be embedded not only in content delivery but also in staffing and academic structures.

Key design features:

- **Self-paced and facilitated options:** Offering both guided and autonomous learning paths within the same programme portfolio.
- **Asynchronous delivery:** Enabling learners to access materials and complete work at times that fit their schedule.
- **Accelerated routes:** offering part-time routes as well as accelerated routes provides choice and accountability.

- **Flexible staffing models:** Supplementing academic teaching with industry experts who bring up-to-date professional practice, especially in high-demand fields such as data science, sustainability, healthcare and AI.

DESIGN COURSES WITH INDUSTRY

Learners want qualifications that signal value to employers. This requires working directly with industry to co-create and validate content.

Key practices:

- **Industry-informed curriculum design:** Embedding real-world case studies, problems and tools into course materials.
- **Partner endorsements:** Gaining visibility and trust through official backing from recognised employers or industry bodies.
- **Joint credentials:** Offering co-branded certificates with industry partners for added impact and market appeal

LEARNER-CENTRIC SUPPORT SYSTEMS

Modern learners expect on-demand support, especially in online or hybrid formats. AI and data can be leveraged to enhance the personalisation and responsiveness of support services.

Priorities include:

- **AI-driven advising:** Using intelligent systems to guide learners through course choices, pacing and assessment support.
- **Mental health and wellbeing resources:** Providing accessible, destigmatised support for student mental health, particularly for remote learners.
- **Just-in-time academic and financial aid support:** Proactive outreach to students at risk of disengagement or dropout, informed by learning analytics.

INVEST IN MARKETING AND BRAND

In a competitive and crowded education market, a strong brand and clear learner value proposition are critical. Russell Group institutions have often relied on institutional prestige, but in the digital age, this is not enough.

Key strategies:

- **Modernise marketing and recruitment** to include performance-based digital campaigns, learner personas and brand storytelling.
- **Create accessible, discoverable course portfolios** that are clearly priced, navigable and aligned with learner goals.
- **Showcase success stories and alumni outcomes** as social proof of value.

CASE STUDIES

UCL: ACADEMIC CALENDAR REFORM

UCL has implemented an extended learning opportunities programme called ExtendED Learning enabling hands-on opportunities for self-directed learning, internships or employability programmes in Term 3. This partnership with the Students' Union gives students routes to explore other subjects and have a positive impact on society.

OXFORD PROFESSIONAL LEARNING: MULTI-FORMAT LEARNING

Oxford's pilot programme in professional learning combined open access content, online delivery and campus-based engagement. Academics were provided with dedicated time to ensure high-quality delivery and responsiveness to learner feedback. This model is scalable and backed by data-driven decision-making, improving quality and efficiency over time.

SOUTHERN NEW HAMPSHIRE UNIVERSITY: LEARNER-CENTRED FLEXIBILITY

SNHU's model provides learners with flexible entry points, modular progression and dedicated support. Its system is built on robust back-end data infrastructure and a proactive approach to learner success—elements that Russell Group institutions can learn from and localise within their own contexts.

IMPERIAL COLLEGE LONDON: INDUSTRY COLLABORATION

Imperial College London has collaborated with tech companies and healthcare providers to embed industry-specific use cases and toolkits into executive education programmes, enhancing relevance and employability outcomes.

THE UNIVERSITY OF MANCHESTER: ONLINE FLEXIBLE LEARNING

The University of Manchester is launching Manchester Online, a new internal agency dedicated to supporting the development of demand-driven online postgraduate and professional learning programmes that address market needs. Working innovatively with an external flex partner, it can ensure it is responsive to learner needs and can tailor learning in a personalised manner.

THE UNIVERSITY OF LEEDS: ALTERNATIVE ENTRY CRITERIA

The University of Leeds introduced performance-based admissions and recognition of prior learning through industry certification for its online postgraduate degrees. This gives prospective students who do not meet the standard entry criteria an opportunity to join, thereby widening participation and acknowledging work-based skills.

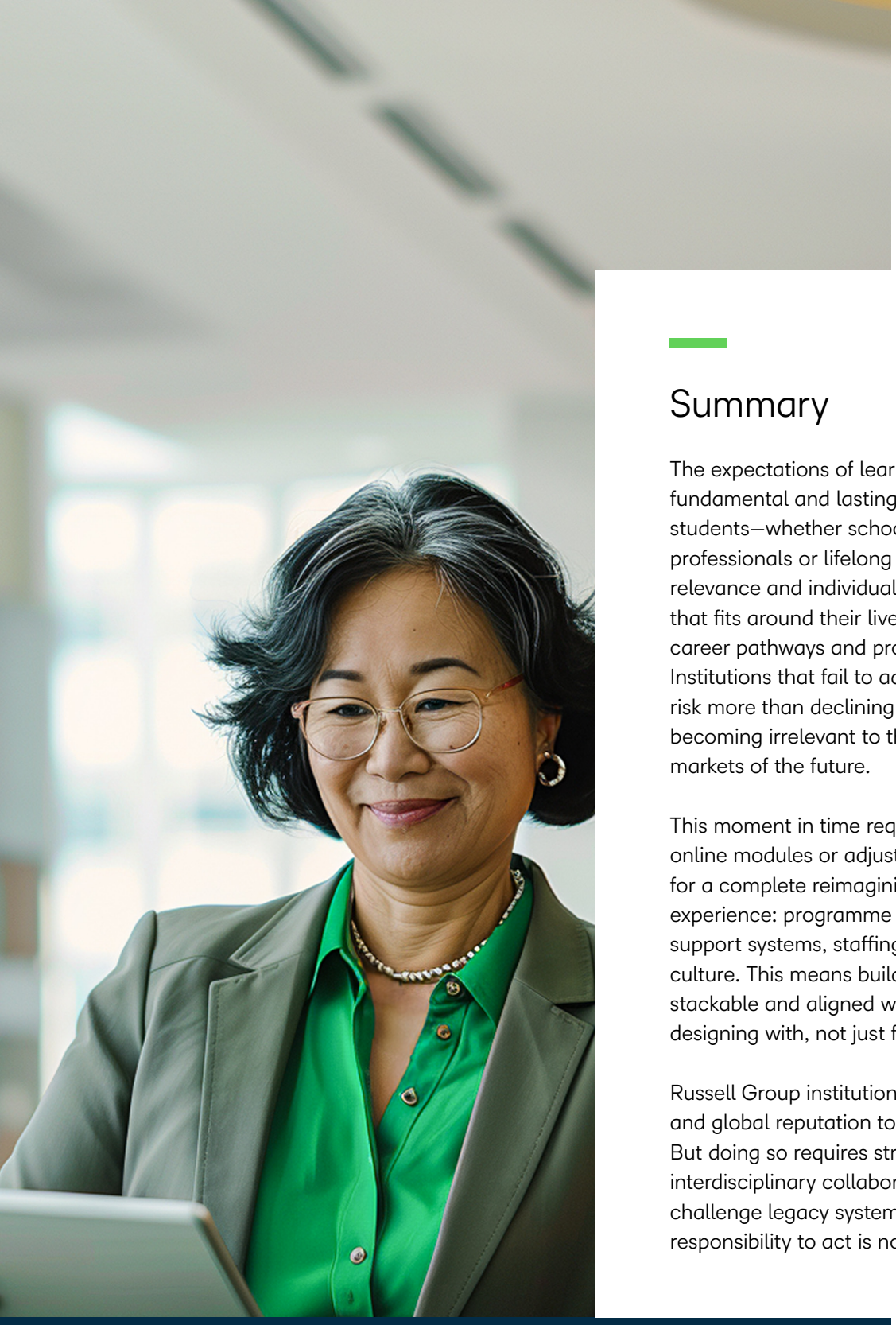
THE UNIVERSITY OF EDINBURGH: INVESTED IN CAPACITY

The University of Edinburgh has invested in a dedicated digital learning team to curate and market its online short courses, making them easily accessible to global learners and explicitly linking them to career pathways and further study.

THE UNIVERSITY OF LIVERPOOL: INNOVATING THROUGH PARTNERSHIP

The University of Liverpool developed a partnership with Kaplan Open Learning to future-proof its online education portfolio and meet the needs of the next generation of students. Together, they create globally relevant postgraduate programmes that reflect the workplace and foster career advancement.

Southern New Hampshire University



Summary

The expectations of learners have undergone a fundamental and lasting transformation. Today's students—whether school-leavers, working professionals or lifelong learners—demand flexibility, relevance and individualisation. They seek education that fits around their lives, aligns with evolving career pathways and provides demonstrable value. Institutions that fail to adapt to these expectations risk more than declining enrollment—they risk becoming irrelevant to the learners and labour markets of the future.

This moment in time requires more than adding a few online modules or adjusting modes of learning. It calls for a complete reimagining of the end-to-end learner experience: programme design, assessment models, support systems, staffing structures and institutional culture. This means building pathways that are flexible, stackable and aligned with real-world skills. It means designing with, not just for, learners and employers.

Russell Group institutions have the academic credibility and global reputation to lead this transformation. But doing so requires strategic and bold investment, interdisciplinary collaboration and a willingness to challenge legacy systems. The opportunity and the responsibility to act is now.

UNIVERSITY OF
OXFORD

Harnessing GenAI in higher education

The challenge

GenAI represents a profound inflection point for higher education. Its potential to transform teaching, learning, research and operations is undeniable—yet most institutions are still in the early stages of grappling with its implications. While students increasingly engage with AI tools independently, many academics are not conversant in GenAI technologies, leading to a growing mismatch between institutional practice and learner expectations.

This disconnect is compounded by several systemic issues:

- **Lack of coordinated institutional strategy,** with much AI innovation driven by individual "lone wolves" rather than institution-wide initiatives.
- **GenAI remains peripheral** to the core learning, teaching and assessment frameworks of many universities, which limits its impact on student employability and skills development.
- **Policy frameworks have not kept pace** with technological change, leaving institutions without clear guidance or consistent principles around academic integrity, AI ethics and use in assessment.

AI Governance is integral for AI implementation which should include AI readiness assessments, data quality assessments, potential AI use cases, and secure access service edge (SASE) networks. Without a proactive, institution-wide approach, higher education risks falling behind the pace of innovation—and failing to equip graduates with the AI fluency and critical discernment increasingly required by employers and society.

Strategic opportunities

To harness the transformative potential of GenAI, universities must move beyond tactical exploration to **strategic integration**, with a focus on both **institutional enablement** and **individual learning experiences**. The following strategic responses provide a framework for action:

REIMAGINE TEACHING, LEARNING, AND ASSESSMENT WITH AI

AI can enhance the educational experience in ways previously unimaginable—but only if institutions **embed it meaningfully into pedagogy.**

- Begin with ideas, not with tools. Embed a collaborative culture that is people and not technology-led by encouraging academic staff and students to think about how AI can support creativity, analysis and learning—not just efficiency.
- Develop new models of assessment focused on **intellectual process,** not just product. Questions such as "How was this done?", "Why choose this path?", and "What alternatives were considered?" shift the focus to critical thinking, reflection, and process-tracking.
- Emphasise **experiential learning with AI,** where students actively engage with GenAI tools as part of course delivery, projects and feedback.
- **Democratise AI** by giving students access to different AI tools through a University partnership, enabling equitable access and avoiding an emerging digital divide.

BUILD INSTITUTIONAL CAPACITY FOR RESPONSIBLE AI USE

To ensure sustainable and ethical AI integration, institutions must adopt an intentional and strategic approach grounded in values.

- Develop **principle-based governance frameworks** for AI use in learning, teaching, research and administration.
- Establish **AI taskforces or steering groups** with representation from academic, professional and student bodies.
- Align institutional AI policy with broader academic integrity frameworks, focusing on transparency, fairness and human oversight.
- Build **in-house training and professional development** programmes to upskill staff across disciplines—not just in computer science or data fields.

ENABLE AI ACROSS THE STUDENT EXPERIENCE

GenAI has the potential to dramatically improve the student experience, from academic support to career planning and wellbeing.

- Integrate **AI-powered tutors, chatbots, and feedback systems** into VLEs to provide responsive, scalable support.
- Deploy **AI-driven advising tools** to help students navigate course choices, degree pathways and employability opportunities.
- Leverage predictive analytics to identify **students at risk of disengagement** and intervene proactively with tailored support.

ADVANCE RESEARCH AND KNOWLEDGE PRODUCTION WITH GENAI

Beyond the classroom, GenAI can play a major role in accelerating research and interdisciplinary collaboration.

- Use GenAI to automate **literature reviews, proposal development** and **hypothesis generation.**
- Embed AI tools into **digital humanities, social sciences and arts** research where data curation and content generation are increasingly relevant.
- Provide centralised infrastructure and support for ethical, reproducible and transparent GenAI-enhanced research.

COLLABORATE ACROSS THE SECTOR AND WITH GOVERNMENT, EMPLOYERS AND INDUSTRY

The potential of GenAI in education extends beyond the campus. Universities must collaborate to share resources, data and ethical approaches.

- Engage with **national-level efforts,** such as Australia's CRADLE (Centre for Research in Assessment and Digital Learning), which supports evidence-based policy and practice for GenAI in higher education.
- Engage and expand existing **AI literacy frameworks** across institutions and disciplines, promoting consistency and quality in learner preparation.
- Advocate for **national policies** that reflect the realities of GenAI usage in education and bridge the gap between principle and practice.

CASE STUDIES

UNIVERSITY OF EDINBURGH: REIMAGINE ASSESSMENT

Some departments at the University of Edinburgh are experimenting with reflective AI-based assignments where students must document their interaction with GenAI tools, critically evaluate their outputs, and explain how they used (or rejected) those outputs in their final submission.

IMPERIAL COLLEGE LONDON: ADVANCE RESEARCH

Imperial College London has introduced workshops and training for researchers on how to use GenAI tools responsibly in the research process, especially in drafting protocols, generating synthetic data or simulating modelling outcomes.

THE UNIVERSITY OF LIVERPOOL: GENAI NETWORKING

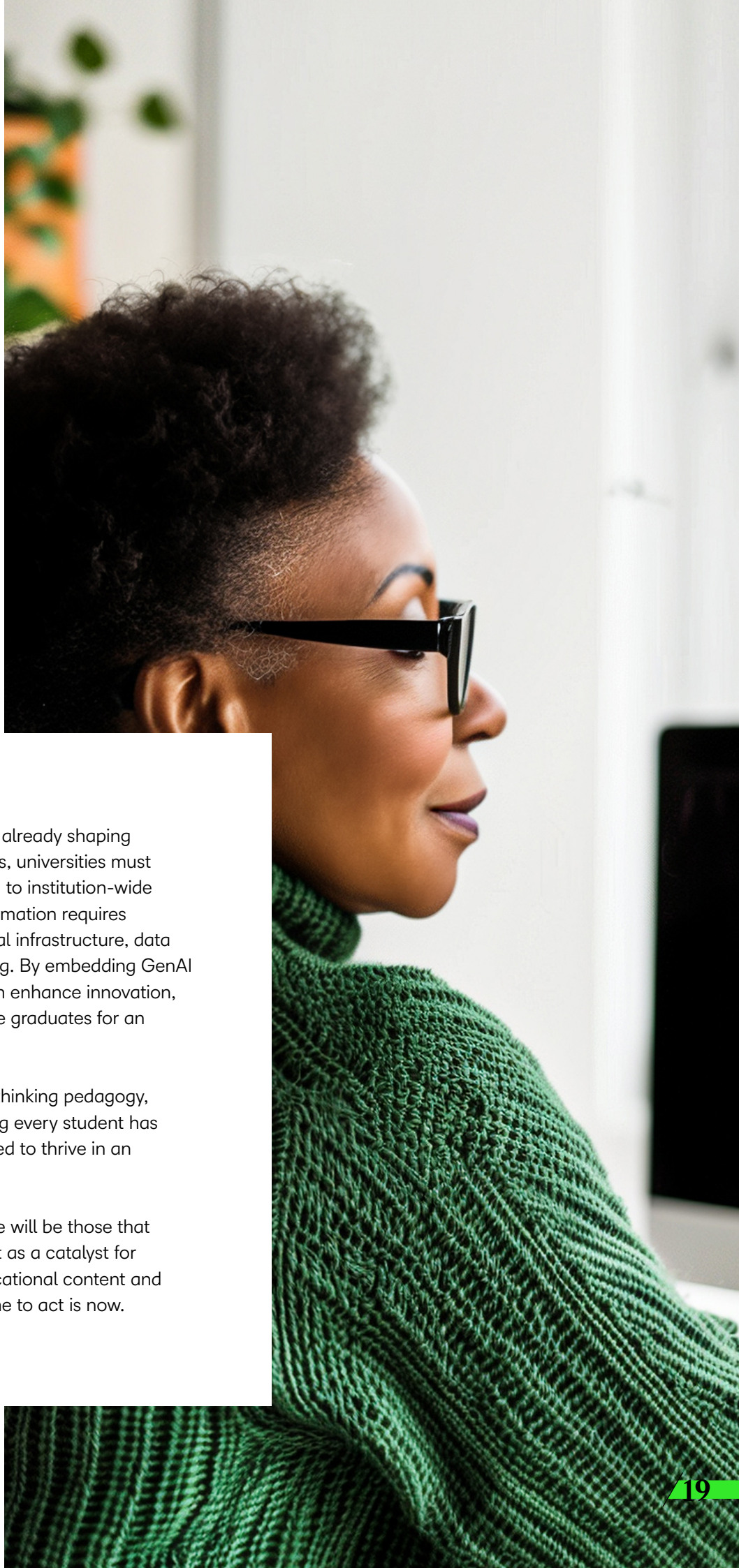
The University of Liverpool's Centre for Innovation in Education (CIE) currently convenes the Generative AI Network (GAIN) for educational institutions and academics to share policy, ideas, resources and good practice on GenAI in education.

UNIVERSITY OF MANCHESTER: CO-CREATE COURSE WITH INDUSTRY

The University of Manchester has co-created a course with an industry partner on GenAI for complex organisations, thereby bringing together academic insight applicable to current challenges in industry.

RUSSELL GROUP: COLLABORATE ACROSS THE SECTOR

The Russell Group's collective efforts to develop guidelines on GenAI and academic integrity have laid important groundwork for a sector-wide approach. However, more needs to be done to ensure policy is translated into day-to-day practice.



Summary

GenAI is not a distant possibility—it is already shaping the present. To fully realise its benefits, universities must go beyond individual experimentation to institution-wide digital transformation. Digital transformation requires clear governance, investment in digital infrastructure, data readiness, and comprehensive training. By embedding GenAI into long-term strategic plans, we can enhance innovation, improve efficiency, and better prepare graduates for an AI-driven world.

This transformation also at means rethinking pedagogy, redesigning assessments and ensuring every student has access to the tools and skills they need to thrive in an AI-shaped world.

The universities that lead in this space will be those that embrace GenAI not just as a tool, but as a catalyst for rethinking education itself—from educational content and teaching to ethics and equity. The time to act is now.

Building digital resilience

The challenge

As higher education becomes increasingly digital, the resilience of its infrastructure is no longer a technical concern—it is a **strategic imperative.** Institutions today operate in an environment of escalating **cyber threats, heightened data privacy requirements** and complex digital ecosystems that extend across learning, administration, research and community engagement.

The threats are not hypothetical. From ransomware to phishing, from cloud vulnerabilities to insider risk, the education sector is now one of the most frequently targeted by cybercriminals. According to Jisc, 91% of UK universities experienced phishing attacks in 2022. A shift to zero-trust is essential to reduce institutional exposure and safeguard critical data. Yet many universities still operate with **fragmented or outdated systems,** the result of years of **piecemeal investment** and incremental upgrades.

91%

Phishing attacks experienced in UK universities.

According to Jisc.

SECTOR INSIGHT:

Further complicating the challenge is a lingering attachment to **place-based learning models,** which too often dominate digital planning and investment. Instead of designing digital infrastructure around a **"digital-first" vision**, many institutions retrofit technology onto old pedagogical and administrative paradigms. This leaves them vulnerable—not just to attack or failure, but to strategic obsolescence.

And while there is increasing awareness of the risks, **there is also a cultural challenge**: a tendency to see cyber resilience as someone else's responsibility. In reality, building digital resilience is everyone's job—from IT leaders and procurement managers to academic staff and students.

Strategic opportunities

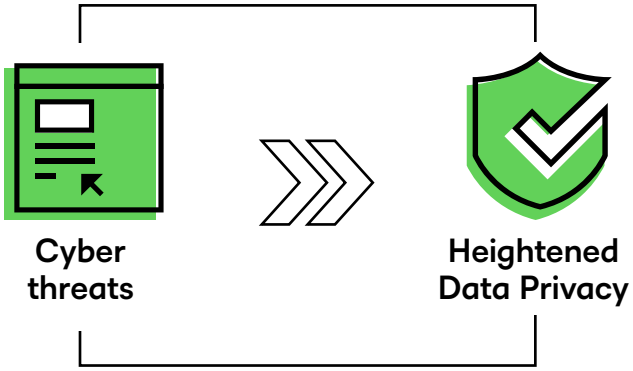
To address these evolving challenges, universities must move from reactive cybersecurity practices to a **comprehensive digital resilience strategy.** This involves anticipating threats, embedding resilience into every layer of infrastructure and fostering a culture of shared accountability. The following strategic responses provide a roadmap for action:

CYBERSECURITY FRAMEWORKS: ZERO TRUST AS STANDARD

Cybersecurity must be embedded at the architectural level. In today's threat landscape, **zero-trust security models**—where no user or device is trusted by default—are rapidly becoming best practice.

Actions:

- Implement identity and access management (IAM) systems with **multi-factor authentication** and conditional access policies.
- Conduct regular **penetration testing** and threat modelling across all systems.
- Adopt l**east-privilege principles** to limit access rights and reduce risk exposure.



CLOUD AND EDGE COMPUTING: BUILD FOR SCALABILITY AND SPEED

To remain agile and resilient, universities must move beyond on-premise systems and embrace **cloud-first strategies** complemented by **edge computing** for speed and decentralisation.

- Migrate legacy systems to **secure, scalable cloud environments** with built-in redundancy.
- Use edge computing to reduce latency for critical services (e.g., labs, learning analytics, research applications).
- Ensure **cloud governance policies** include compliance, encryption, and performance monitoring.

DATA PRIVACY AND COMPLIANCE

Resilience is also about **trust and compliance.** Universities manage vast amounts of personal and sensitive data—often more than they realise.

- Map all data assets and conduct **data protection impact assessments (DPIAs)** on all projects that have a data element. Ensure the inception of all new projects includes a compulsory requirement setting out DPIA considerations.
- Ensure alignment with **GDPR** and emerging digital governance regulations.
- Train staff on **data ethics, sharing and breach response protocols.**

DISASTER RECOVERY AND BUSINESS CONTINUITY PLANNING

Prevention is essential—but so is recovery. The most resilient institutions not only protect systems but also plan for swift, structured recovery when disruptions occur.

- Develop and regularly test **disaster recovery (DR) protocols** for critical systems.
- Define and rehearse **business continuity plans** with academic and operational leaders.
- Utilise industry leading AI Cybersecurity tools such as 'Darktrace'. This gives institutions an extra layer of protection which will help support innovation.

AI-POWERED CYBERSECURITY SOLUTIONS

With threat actors evolving rapidly, universities must also embrace intelligent security tools.

- Invest in AI-powered **intrusion detection systems (IDS)** and security information and event management (SIEM) platforms.
- Use machine learning to analyse traffic patterns, detect anomalies and predict future vulnerabilities.
- Ensure human oversight at the heart of all AI developments.

ADOPT INTEROPERABILITY STANDARDS

Digital resilience requires **systems that talk to each other.** Fragmentation across VLEs, student records, HR and research platforms creates risk and inefficiency.

- Adopt **sector-wide interoperability standards** such as IMS Global or SCORM.
- Prioritise integration in procurement and digital development projects.
- Encourage vendors to align with standards and penalise those who don't.

ETHICAL PROCUREMENT AND SUPPLIER ACCOUNTABILITY

Suppliers play a key role in digital resilience. Institutions must hold vendors accountable for the quality, security and sustainability of their products.

- Include **security, accessibility and interoperability requirements** in RFPs and contracts.
- Establish **vendor performance benchmarks** and audit regularly.
- Require vendors to disclose s**ub-processor relationships,** update cycles and incident response plans.

CASE STUDIES

THE UNIVERSITY OF MANCHESTER: MULTI-LEVEL RESILIENCE IN ACTION

The University of Manchester recently undertook a complete **digital infrastructure review,** identifying multiple single points of failure across learning systems, research infrastructure and HR platforms. The institution responded by:

- Shifting to a zero-trust security model, replacing VPN-based access with conditional authentication.
- Migrating its VLE and email systems to cloud platforms with global support.
- Developing a **cross-departmental business continuity plan,** coordinated through its central risk office and embedded in academic calendars.
- Running an institution-wide **cyber scenario exercise,** simulating a data breach during exams and aligning decision-making protocols across IT, communications, academic leadership and legal teams.

The result led to improved preparedness, faster response capabilities and greater trust from staff and students alike.

THE UNIVERSITY OF LEEDS: DIGITAL TRANSFORMATION

The University of Leeds has positioned digital transformation as a central pillar of its institutional strategy, recognising it as foundational to long-term resilience and innovation. The digital transformation vision focuses on building capabilities using technology, data and digital practices to enhance operational efficiency, academic excellence and the student experience.

BIRKBECK, UNIVERSITY OF LONDON: MAJOR INCIDENT PROMPTED SHIFT

Birkbeck, University of London was forced to completely rebuild its digital infrastructure following a major cyber-attack. This incident catalysed a full-scale shift to modern, cloud-native architecture with a focus on modular design and real-time monitoring.

Summary

Resilience begins with the understanding that we all have a role to play, from procurement teams to academic leaders from systems architects to lecturers and tutors. A Data Governance Framework is integral to supporting the focus on data ownership and improving the culture around data in higher education institutions; there is an opportunity to shift data governance being a burden to an asset.

- Digital resilience isn't outsourced. While suppliers can and should play a role, universities must **own the relationship and the outcomes,** ensuring partners share in the responsibility of safeguarding infrastructure and data.

Russell Group institutions have the opportunity—and the obligation—to lead by example. By embedding resilience into every layer of their digital ecosystems, they can protect their missions, empower their communities and shape a sector that is not just digitally enabled, but **digitally secure, responsive and future-ready.**

Conclusion and call to action

Higher education is standing at a pivotal moment—where inertia is no longer an option and transformation is a strategic necessity. Across the globe, institutions are contending with intersecting forces: financial instability, shifting learner expectations, rapid technological change and rising digital threats. The question is no longer if higher education must adapt—but *how, how quickly* and *how sustainably.*

This white paper has explored four critical and interrelated themes:

Diversifying Revenue Streams: Institutions must reduce dependency on tuition and public funding by unlocking new markets, leveraging digital delivery and activating their alumni and corporate ecosystems.

Adapting to Shifting Learner Demands: Flexibility, personalisation and career alignment are now baseline expectations. Universities must move decisively toward modular, stackable and industry-informed learning.

Harnessing GenAI: GenAI has transformative potential for pedagogy, research, and administration—but only if institutions integrate it intentionally, ethically and equitably.

Building Digital Resilience: In an era of constant threat, digital resilience is foundational to institutional trust, operational continuity and future readiness.

These themes are not discrete—they are deeply interconnected. A university cannot modernise its revenue model without rethinking its offer to learners. It cannot respond to learners' needs without embracing digital delivery. It cannot deliver digitally without ensuring infrastructure is resilient and secure. And it cannot prepare students for a GenAI world without embracing it internally. The future belongs to institutions that approach these challenges systemically, not sequentially.

Actionable recommendations

To translate strategy into impact, we offer the following targeted recommendations:

FOR POLICYMAKERS

- Support funding models that incentivise innovation, particularly in modular learning, stackable credentials and cross-sector partnerships.
- Create national frameworks for GenAI governance, ensuring alignment across education, industry and research.
- Invest in sector-wide digital infrastructure and cybersecurity, enabling shared resilience across institutions.

FOR UNIVERSITY LEADERS

- Align diversification, digital innovation, and learner needs with core institutional strategy—not as separate initiatives but as pillars of sustainability.
- Build capacity in areas such as business development, marketing, AI literacy, learner experience, and cyber resilience.
- Encourage radical collaboration with other universities, tech companies, and employers to co-design offerings and share infrastructure.

FOR FACULTY AND ACADEMIC TEAMS

- Embrace flexible pedagogies and experiment with new modes of delivery and assessment.
- Actively engage in upskilling for AI and digital tools, enabling confident use in both teaching and research.
- Partner with industry and learners to ensure that curricula are relevant, inclusive and skills oriented.

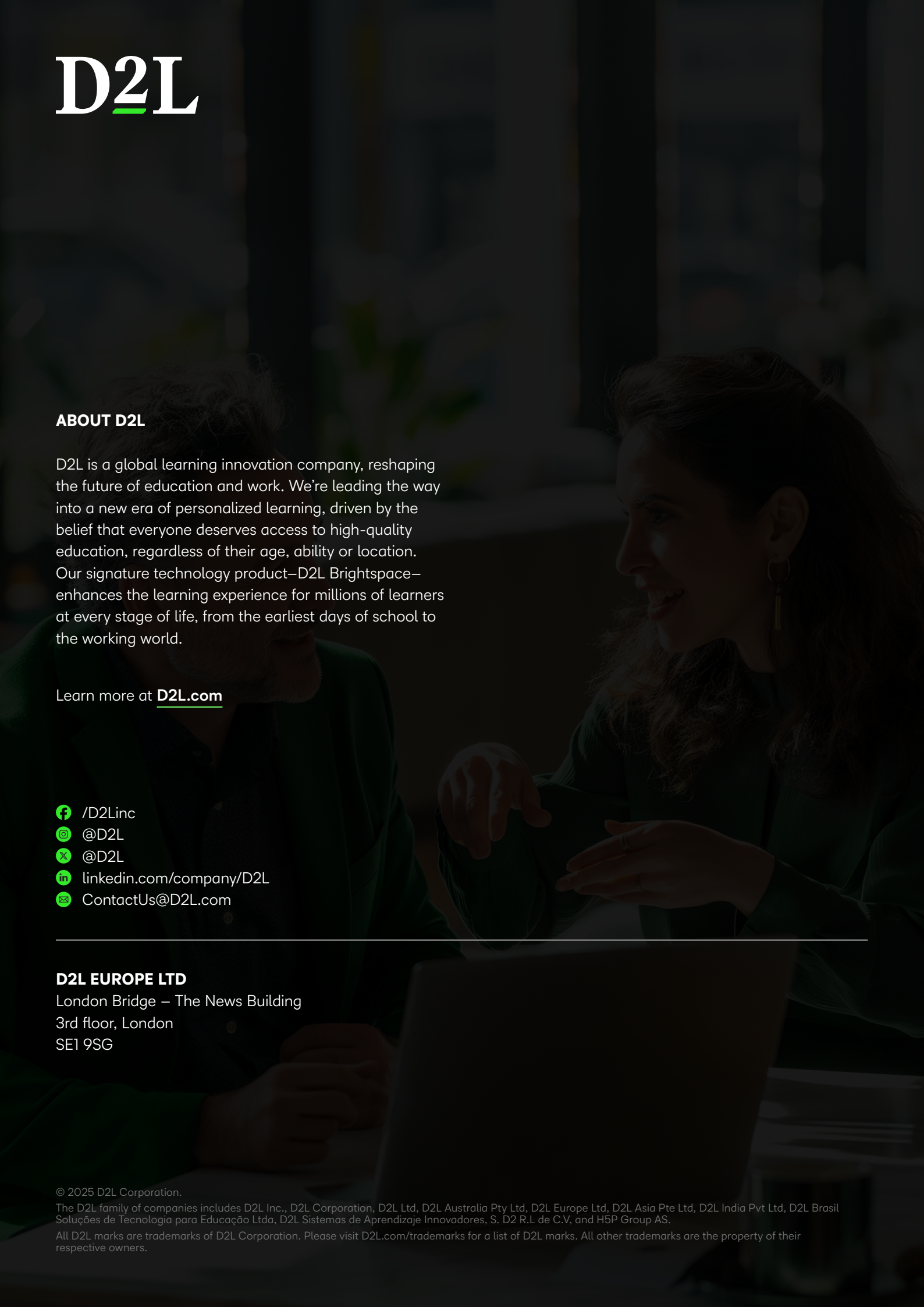
A call to action

The pace of change will not slow down. The institutions that thrive in the years ahead will be those that act boldly today. This is a moment not for marginal reform but for courageous transformation.

We call on university leaders, academic staff, policymakers and partners to:

- Commit to a digital-first mindset, not as a temporary pivot but as a long-term strategic orientation.
- Invest in the capabilities and culture needed to support innovation at scale.
- Collaborate across sectors to ensure the benefits of transformation are shared—locally, nationally and globally.

Future-proofing higher education is not a project with an endpoint. It is a continuous process of learning, adapting and leading. Let this white paper serve as both a map and a mandate for that journey.



ABOUT D2L

D2L is a global learning innovation company, reshaping the future of education and work. We're leading the way into a new era of personalized learning, driven by the belief that everyone deserves access to high-quality education, regardless of their age, ability or location. Our signature technology product–D2L Brightspace–enhances the learning experience for millions of learners at every stage of life, from the earliest days of school to the working world.

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