

Co-Creating Digital Capability - A University / Industry Model



A word cloud of cybersecurity and digital technology terms. The words are arranged in a dense, overlapping cluster. The most prominent words, shown in larger fonts, include: CYBER, SECURITY, DEVICE, PUBLIC, LOGS, BREACH, STRATEGY, ATTACKS, RESPONSE, PRIVACY, SOFTWARE, INFRASTRUCTURE, ACCESS, TECHNOLOGY, AUDIT, SECURE, MALWARE, INTERNET, NETWORK, VULNERABLE, APPS, INSIDER, TRAILS, GOVERNMENT, SHARING, LEGAL, BUSINESS, PASSWORDS, ISSUES, DETECTION, PROVIDERS, STRATEGY, TRAILS, PROMOTIONS, HACKERS, MODEL, PROTECTION, BROWSER, COMPUTING, and DENISE COATES. The words are in various shades of blue and white, set against a dark background.

Executive Summary

Small and medium-sized enterprises (SMEs) represent the backbone of the global economy yet remain disproportionately vulnerable to cyber-security threats. In Staffordshire (UK) the disparity between cyber-risk and organisational readiness had reached a critical tipping point. SMEs faced sophisticated threats without the financial resources or technical literacy to defend themselves.

In response, a unique "triple-helix" partnership was formed between Keele Business School (KBS), the North Staffordshire Chamber of Commerce, and Hixon Group, a specialist IT firm co-located within the Business School. This proximity allowed for a rapid, evidence-based response to a live economic threat.

The resulting intervention, the Staffordshire Cyber Resilience Programme, was not a traditional training course but a dynamic ecosystemic intervention built on a unique student-led development pathway. It integrated:

1. Immediate Capability Building: A free, scalable online training platform and diagnostic suite launched to over 5,000 users in just 6 months.
2. Operational Embedding: Integrating the training into core Chamber services and University curriculum to ensure sustainability.
3. Future Technological Innovation: The development of a funded Large Language Model (LLM) Natural-Language Reporting System to democratise access to technical risk data.

The programme has delivered measurable impact, reaching 2,000 individuals in its first quarter, driving a 73% increase in multi-factor authentication usage among participants, reducing reported cyber risk incidents by nearly 60%, and securing £5,000 in dedicated innovation funding. It offers a transferable blueprint for university–industry–chamber collaboration in regional economic development.



Jonathan Lawton interacting with a Keele University MSc Group

The Challenge - The "Wicked Problem" of SME Cyber Resilience

The operational context for this intervention was characterised by high risk and low readiness. Global data indicates that while 43% of cyber-attacks target small businesses, only 14% are prepared to defend themselves. In Staffordshire, this global trend was exacerbated by local factors:

- The Resource Gap: Most regional SMEs are micro-entities lacking dedicated IT staff.
- The Language Barrier: Business owners consistently reported that cyber-security guidance was "unintelligible," laden with technical jargon that paralyzed decision-making.
- The Embarrassment Barrier: Perhaps the most insidious challenge identified was psychological. Business leaders faced a profound "embarrassment barrier" a fear of admitting ignorance about basic digital concepts. This fear prevented them from asking for help, leading to silence and inaction. They preferred to risk a breach rather than expose their lack of knowledge to IT providers.

The Impact

The programme's success is evidenced not just by the volume of engagement, but by the tangible behavioural shifts observed within the regional economy, focusing on measuring concrete risk reduction.

Quantitative Outcomes

- Rapid Reach: The programme reached over 5,000 individuals within just 6 months of launch, demonstrating exceptional regional demand. This far exceeded the initial pilot cohort of 80 businesses, validating the scalability of the triple-helix model.
- Risk Reduction: Participating SMEs reported a 60% reduction in security-related incidents (such as successful phishing or malware incursions) in the 12 months following the programme launch.
- Active Defence Adoption: Moving beyond passive "awareness," the programme drove concrete action. Evaluation data confirms that 100% of participating SMEs implemented at least three new security controls post-training. This included a massive

uplift in the adoption of Multi-Factor Authentication (MFA), with enrolment rates reaching 100% in some monitored cohorts.

- Economic Value: Economic modelling, based on the average cost of cyber-incidents for UK small businesses, estimates that the intervention delivered over £300,000 in avoided losses across the participating cohort within the first year.

Qualitative & Strategic Outcomes

- Breaking the "Embarrassment Barrier": Post-intervention feedback indicated a profound cultural shift. Staff and business leaders reported feeling "more aware and personally responsible", with a marked increase in the voluntary reporting of "near-miss" incidents. This confirms that the "embarrassment barrier," the fear of looking incompetent, had been successfully breached.
- Institutional Reputation: The "co-located partnership" model has been cited as a unique differentiator. The seamless integration of academic rigour and industry agility has strengthened KBS's standing with global accreditation bodies as a beacon of applied, high-impact practice.
- Policy Influence: The success of the intervention has transitioned the partnership from a service provider to a strategic advisor. The aggregated data from the programme is now being used to inform regional digital strategy, ensuring future resources are targeted effectively.



Denise Coates Foundation Building - Home to Keele Business School and Hixon Group

Testimonials

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Jonathan Lawton

Owner Hixon Group

“Partnering with Keele Business School has been transformative. Co-location allowed us to turn real-time threat intelligence into student-led innovation we’ve helped thousands of SMEs achieve a 60% reduction in cyber-risk. This ‘living lab’ model is a global blueprint for regional resilience.”

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Dr Colin Rigby

Director of Business Engagement, Keele University

“Our model transforms the classroom into a high-stakes R&D lab. By operationalising student intellectual labour to address SME vulnerabilities, we fulfil our civic mission of impactful scholarship. This isn’t just training—it’s a sustainable virtuous cycle between academia and regional economic development.”

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Geoff Beadle

Economic Development officer, Newcastle Under Lyme Borough Council

“Investing the Shared Prosperity Fund into this partnership delivered an incredible return for our local economy. Beyond the obvious avoided losses, the project’s regional “heat-map” data is now actively shaping our borough’s Digital Strategy. This is high-impact, data-driven regional development.”

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Chris Plant

Deputy CEO, North Staffordshire Chamber of Commerce

“For our business community , this initiative turned an unintelligible threat into a manageable task. By embedding the "Digital Fortress" into our core services , we leveraged institutional trust to dismantle the ‘embarrassment barrier’. It is a gold-standard membership benefit delivering real-world protection.”