

CASE STUDY

Building Wales' Cybersecurity Ecosystem

Empowering the Future Cyber Workforce with Cyberbit



Forging Cyber Champions: Wales' Commitment to a World-Class Cybersecurity Workforce

Wales is leading the charge in developing a world-class cybersecurity workforce, driven by a shared vision to equip young people with the skills and opportunities they deserve. Cyber College Cymru (CCC), which includes Merthyr Tydfil, Coleg Gwent, Bridgend, Cardiff, and Vale, is at the forefront of this effort.

Backed by the transformative work of TechEd Programmes, a service provider that works with industry to engage effectively with education, and Cyberbit, the world's leading solution for developing real-world experience and building elite cyber talent, the CCC is changing the lives of young people and opening doors to the future that they deserve. With the fastestgrowing digital industry outside London and a decade of exponential growth in the tech sector¹, Wales has become a cybersecurity business hub, creating an unprecedented demand for skilled talent and young professionals.

This vibrant ecosystem demands students that are not only prepared for academic and vocational progression but are also positioned to seize entry-level jobs and apprenticeships. To that end, CCC and its partners are preparing learners to meet industry cybersecurity demands and contribute to the nation's economic growth.



Impact and Outcomes

Enriching Wales' Talent Pipeline:

By leveraging the globally recognized Cyberbit platform, the CCC cybersecurity program immerses students in extremely realistic Security Operations Center (SOC) environments. Training over 160 students per year across Southeast Wales, this hands-on approach accelerates skill acquisition, ensuring students are job-ready and reducing the time to productivity for cybersecurity hires in Wales.

Seamless Transition to Industry Roles:

Through the Cyberbit-powered LiveFire challenges, students gain real-world experience in tackling cyber threats, with 80% of all students progressing to Higher Education undertaking specialist degrees in computing, cyber security, or digital forensics. The program prepares students to seamlessly transition into industry roles, equipped with the tools and knowledge demanded by leading organizations such as Marks & Spencer, Admiral, and other industry partners.

Strengthening Wales' Cybersecurity Ecosystem:

By integrating Cyberbit's advanced simulations into the program's curriculum, CCC plays a pivotal role in meeting the growing demand for cybersecurity professionals. Students have been recruited by Thales, Admiral, Dwr Cymru, and Bridewell, with more identified as firm recruits ahead of graduation. This initiative not only addresses the skills gap but also supports the growth of Wales' cybersecurity ecosystem, contributing to its thriving digital economy.

¹ BBC News. (2016, August 8). Wales' "fastest growing" digital economy outside London.

Bridging the Cyber Skills Gap: Shaping Wales' Next Generation of Cybersecurity Leaders

The urgent demand for a new generation of cybersecurity professionals has never been clearer, as industries grapple with a global skills gap in critical roles. CCC is addressing this need by equipping students with practical, industry-relevant skills through a groundbreaking program co-created with industry leaders. Leveraging the award-winning Cyberbit platform, the College delivers a rigorous two-year curriculum, featuring hands-on challenges and live-fire exercises designed to endow students with practical skills and real-world readiness for careers in cybersecurity. With the pathways to higher education and entry-level roles it creates, this program is not only meeting industry needs but also galvanizing students to drive economic growth and secure Wales' position as a global leader in cybersecurity.



CORE CURRICULUM TOPICS

- Windows
- Linux
- Networking
- Incident response



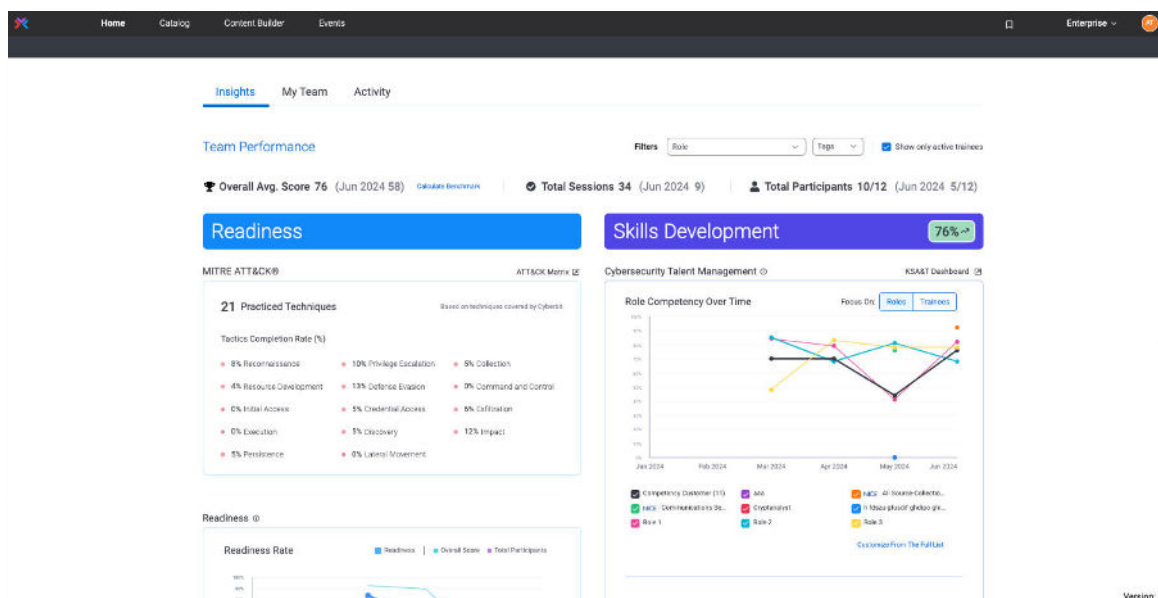
DYNAMO CHALLENGER SERIES

- Microsoft Azure & Sentinel
- Kali Linux & BurpSuite

Cyberbit: Transforming Cybersecurity Education Through Immersive Training

Cyberbit provides hands-on cybersecurity education and active learning and addresses the global cybersecurity skills gap with its world-leading cyber range. Colleges and universities use the Cyberbit platform to increase student enrollment and retention, train industry organizations, and position their institution as regional cybersecurity hubs by providing simulation-based learning and hands-on experience. The Cyberbit range delivers an ultra-realistic experience that immerses learners in a virtual security operations center (SOC), where they use real-world security tools to respond to real-world, simulated cyberattacks and hone crucial soft skills such as communication, teamwork, and critical thinking. It also integrates industry standards such as the MITRE ATT&CK and NICE frameworks. As a result, it prepares students for their careers in cybersecurity from day-one after their graduation and reduces the need to learn on the job.

Every year, Cyberbit delivers more than one million hours of exercises to a global clientele. This includes Fortune 500 companies, leading financial and insurance institutions, systems integrators, governments, and universities.



The Challenge

Wales is home to a flourishing tech ecosystem, with its digital economy contributing an estimated £8.5bn to the Welsh economy and employing nearly 45,000 people.² Despite this growth, the United Kingdom, including Wales, faces a significant cybersecurity skills gap, with 50% of businesses reporting basic skills deficiencies and 47% of vacancies difficult to fill due to a lack of qualified candidates. This shortage presents a challenge to safeguarding the nation's thriving digital ecosystem and supporting its continued growth.³

CCC recognized the pressing need to accelerate workforce readiness among its cybersecurity students while ensuring the delivery of high-quality education. Acknowledging the challenges posed by limited real-world exposure for students pursuing cybersecurity careers, the college sought innovative solutions to bridge the gap between classroom learning and practical industry demands. By focusing on immersive, hands-on experiences that simulate real-world scenarios, CCC aimed to equip its students with the skills and expertise necessary to thrive in the fastpaced and evolving cybersecurity landscape.

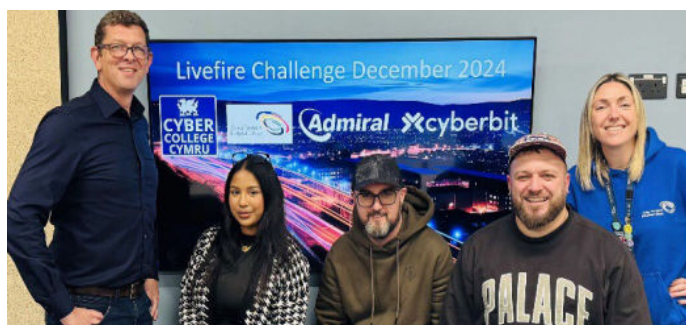
The Solution

To address the UK's cybersecurity skills gap, CCC offers an innovative, industry-led program designed to prepare students for in-demand cyber careers. Seamlessly integrated with the Level 3 BTEC Extended Diploma in IT or Computing, this structured program furnishes students with foundational knowledge and hands-on skills, helping to address the shortfall of 11,200 professionals needed in the UK's cyber workforce.

In collaboration with CCC and TechEd Programmes, the program leverages the Cyberbit platform to offer hands-on workshops and challenges, in addition to expert insights from industry leaders such as Marks & Spencer, Bridewell and Admiral. It provides invaluable exposure through structured skill-building sessions and events like the Cyberbit-powered LiveFire Challenge.

During the Livefire Challenge, students tackle simulated cyberattacks using industry-standard tools such as Splunk and Palo Alto Networks, mirroring the tools they will utilize in real-world Security Operations Center (SOC) teams. The ultra-realistic environment enables students to practice their response under pressure and experience working in a SOC, both of which are essential to preparing for real-world cybersecurity jobs.

This comprehensive approach positions CCC as a leader in closing the cybersecurity skills gap, helps it empower the next generation of cyber professionals, and demonstrates its commitment to delivering high-quality, career-focused cybersecurity education.



² THIS IS TECH | Fintech industry. (n.d.).

³ Cyber security skills in the UK labour market 2024. (2024b, September 15). GOV.UK.

⁴ "THE DEMAND FOR SKILLED CYBERSECURITY PROFESSIONALS HAS NEVER BEEN HIGHER" | The College Merthyr. (2023, December 12). The College Merthyr.

Voices of Impact: Success Stories and Insights

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I have done some CTF events with Cyberbit and Cyber College and I find it really enjoyable because it shows me all the different aspects from the attacker's side to the defender's side and I really like the aspect of trying to stop people from getting access to the systems and networks.

Lucius McCarthy,
BTec ICT
Level 3 Student

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It's an incredibly exciting partnership for a number of reasons and I think the key to it is that we're providing that real-life experience so there is a real sense that we are co-creating a curriculum here between industry experts and our educators to really provide a meaningful experience.

Chris Ford,
College Merthyr Tidfil,
Deputy Principal

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We needed a platform that was going to enable our education partners to give young people the ability to progress their skills towards roles needed by industry. Cyberbit was that partner for us. They've given us incredible tools that make it very easy for teachers and partners to help the next generation.

Cyberbit has proven to us that it's the training platform that we want to use to help young people. It provides details of progression, it provides leaderboards, it helps students to navigate their way through a very sophisticated landscape of skills.

Mike Haliday
Director TechEd
Programmes Ltd,
Co-founder Cyber College
CYMRU

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I do believe there is a massive skills shortage in cybersecurity roles out there at the moment and a lot of businesses are looking for young, newly skilled students ready to go into those roles. And the Cyberbit platform just lends itself well in education for that purpose so we can upskill our students in those areas and because of the practicality of it, the students really love it.

Charlotte Grose,
IT Lecturer and Cyber
Security Coordinator

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The thing I like about the Cyberbit platform is that it does have real job roles so the students can start doing challenges and labs that would focus on a particular job role that do exist in the real world. That's kind of where the uniqueness comes from.

James John,
Response Manager,
Bridewell

Conclusion: Building the Future of Wales' Cybersecurity Talent

The Cyberbit platform has proven to be a cornerstone of preparing Wales' future cybersecurity workforce. By integrating real-world scenarios into the educational framework, Cyberbit equips students with the hands-on experience and technical expertise necessary to thrive in the fast-paced cybersecurity industry. As part of the Cyber College CYMRU cybersecurity program, which complements the Level 3 BTEC Extended Diploma in IT or Computing, students gain critical skills using globally leading tools like Splunk and Palo Alto Networks, simulating the challenges of a real-world SOC environment.

This industry-aligned approach not only accelerates the development of technical capabilities but also bridges the skills gap by reducing the time to productivity for entry-level professionals. Whether progressing to HNC or degree studies or stepping directly into the workforce, students emerge as well-prepared contributors to the cybersecurity field. Tournaments like the Livefire Challenge, powered by the Cyberbit platform, exemplify the impact of experiential learning in shaping the next generation of cyber defenders, reaffirming Cyberbit's pivotal role in building Wales' resilient and skilled digital workforce.

Partnering for Success: Cultivating the Next Generation of Cyber Talent with Cyberbit

Experiential Learning:

- The Cyberbit platform provides access to realistic cybersecurity simulations and challenges, allowing students to gain practical experience in areas like threat hunting, incident response, and vulnerability assessment as well as essential soft skills such as critical thinking, communication, and performing under pressure.

Teamwork and Collaboration:

- Students learn to work effectively in teams through practical exercises using the Cyberbit platform. They learn to collaborate in real-world, live-fire scenarios to defend against cyberattacks and work collaboratively under pressure.

Enhancing Workforce Skills:

- By leveraging the Cyberbit platform, the College accelerates the development of essential cybersecurity knowledge and skills through hands-on experience. This practical learning approach equips graduates with the skills and confidence needed to be productive in the cybersecurity workforce immediately upon graduation.

Career Pathways:

- Career Preparation: High achievers are well-positioned for entry-level jobs and apprenticeships.
- Program Delivery: Program runs at FE colleges alongside the Level 3 BTEC Extended Diploma in IT or Computing.
- Pathways to Further Education and Employment: Upon completion, students can progress to HNC or degree studies or seek entry-level roles in industry.

Industry Expertise:

- Receive training from industry experts.
- Gain valuable insights into career opportunities available in Wales.

About Cyberbit

Cyberbit is the leading cybersecurity skill development platform and cyber range for higher education, used by leading institutions of higher learning as well as governments and municipalities around the world. It provides an extremely realistic environment integrating corporate-grade networks, a virtual Security Operations Center (SOC), and leading security tools for effective learning, testing, and technology assessment. Live-fire exercises and active learning experiences maximize SOC performance, improving incident response metrics. The platform integrates the MITRE ATT&CK Framework and aligns exercises with NICE work roles. Headquartered in Newburyport, Massachusetts, Cyberbit serves Fortune 500 companies, financial institutions, governments, and higher education worldwide, delivering over one million hours of exercises annually.