Lab Cyd-gynhyrchu Cymru | Co-production Lab Wales

Final Report

Date: 12 June 2026

CyberFirst Wales programme: Stakeholder engagement

Introduction

CyberFirst Wales, a partnership between the National Cyber Security Centre, University of South Wales, Swansea University, and Coleg Cambria, has successfully delivered cyber and tech education programmes to schools and FE colleges across Wales. The programme currently includes cyber awards, industry partnerships, and ambassador role modelling. From September 2026, the Department for Science, Innovation and Technology (DSIT) will implement significant changes to the programme's funding and objectives. With a new tender expected in May 2026, there is a need to engage stakeholders in co-designing the new approach. Key concerns include maintaining stakeholder motivation through the transition, expanding reach to underserved groups (young carers, care-experienced young people, NEETs), and continuing strong progress on gender equality in tech careers.

The Co-production Lab Wales is pleased to offer stakeholder engagement and co-design session facilitation to support Cyberfirst Wales with the following objectives:

- Map current and potential stakeholders to broaden engagement beyond existing networks
- Facilitate meaningful co-design sessions with teachers, industry partners, young people, and third sector organisations
- Build team capacity in co-production methodologies
- Gather stakeholder input to inform a collaborative tender response
- Maintain trust and motivation during the programme transition

N.B. During project delivery, there were some minor changes agreed to the objectives and

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

methods including:
- decision not to devote time to a formal stakeholder mapping process
- decision to increase stakeholder engagement events from two to three (2 in person and 1 online)

Methodology

Full details of session plans and rationales have already been shared, and are available on request. The text below provides an overview only.

ICC in-person event 23/03/26: 10 hr drop-in session
A Body Mapping approach was used as it enabled comparison between groups (pupils / teachers / industry) and enabled large numbers to be engaged in the co-production activities at the same time. Categories were:
Head - knowledge gained by pupils / needed by industry
Hand - skills gained by pupils / needed by industry
Back - what might hold pupils back / what barriers are there
Feet - what would help pupils move forward / what opportunities are there

Year 8 pupils also had an option to produce a storyboard with the following categories:
- Your experience of learning with Cyberfirst
- Where you see yourself in 10 years time
- How you imagine the world in 10 years time
Throughout the Body Mapping and optional Storyboarding activities pupils were set a task by the facilitator, but then encouraged to discuss together rather than with the facilitator directly for greater interaction and participation than would have been possible with an unknown adult.

Teachers and Industry representatives were asked to complete the Body Mapping activity individually, although there was some discussion among those in the room at the same time, either with each other or with the facilitator directly. They were then invited to complete an online survey, which provided an opportunity for more in depth answers.

Online surveys March-April 2026
A survey was completed by some of the teacher representatives at the ICC event, and by some of the industry representatives at both the ICC event and the in-person Sbarc event. The surveys had slightly different wording for each group.

Sbarc in-person event 29/04/26: 2 hr session
This event was open to Industry and Education representatives (not to pupils). A warm up activity was used to get people talking, then the facilitator shared the main themes that came up at the ICC event from all three groups.

Attendees were grouped according to sector and asked to discuss the themes from the ICC event including their ideas for expansion. There was a note-taker in each discussion group.

There was a final full group activity where each attendee was asked ‘What one thing do you want Cyberfirst Wales to keep in mind / act on?’ After the end of the session, there was an opportunity for anyone who wanted to have individual conversations with the facilitator or member of the Cyberfirst Wales team.

Zoom online event 21/05/26: 90 min session
This event had the same attendee profile and same format as the Sbarc event, adapted slightly for online.

Participation numbers & data collected

Notes
- Due to facilitator oversight, precise numbers of participants were not recorded for the in-person events. The numbers given below are based on the number of responses combined with facilitator recollection.
- Full data is in the appendices.
- Informal conversations that participants had with the facilitator have also been taken into account in the analysis but were not formally recorded.

ICC event participation
20-25 Year 8 pupils (5-6 different school groups)
20-25 teachers
15-20 industry

All participants contributed to the Body Mapping activity. Additionally, 3 of the school groups completed a Storyboard, and 16 of the adults completed a survey.

Sbarc event & Online event
Approximately 15 people participated in the Sbarc event, with 3 surveys completed

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

afterwards.
23 people participated in the online event.
Anecdotally, across these two events participation was approximately 70% industry / 30% education (education sector attendance was weighted more towards education policy / FE / HE than schools).

Total numbers of participants
This gives a total figure for participants as 95-100 people, made up as follows:
20-25 pupils
30-35 teachers / education sector
40-45 industry

Survey
Survey respondents haven't been included in the participant numbers above as it's assumed they were all participants at either the ICC event or the Sbarc event. (Attendees at both in-person events were told they could share the survey links with colleagues unable to attend, so it's possible that one or more of those responses may have been additional respondents not counted above.)

The surveys were completed by:
7 teachers at the ICC event
9 industry representatives at the ICC event
3 industry representatives following the Sbarc event

Evaluation (of engagement methods) & recommendation

The evaluation completed by participants in the Sbarc event and the online event (which echoed informal feedback at the ICC event) was that having such discussions together is useful, that people enjoyed the opportunity to contribute and to network, that people benefited from being with a group of informed and like-minded individuals, that people felt listened to, and that they wanted to support this work.

The only significant negative point, made especially about the Sbarc event, was that people would have liked more time. From a facilitator perspective the session length seemed about right - a longer session would have resulted in fewer attendees and therefore a narrower range of views, and there were systems in place for those with more to say including the optional 1:1s after the meeting and the survey, both options being taken up by some

attendees.

It is recommended that some form of update / results is shared with all participants (directly or via teachers for the pupils). This was explicitly requested by some of the adult participants.

Analysis

Notes
- This analysis has concentrated on the broad topics raised by multiple participants.
- Review of the full data in the appendices is recommended for specific details, e.g. suggestions of named organisations or programmes whose expertise or resources could be useful.

Strengths of the Cyberfirst Wales programme
There was widespread enthusiasm and 'celebration' by pupils and schools about the opportunities provided especially concerning: industry partners and role models, real world concepts beyond the current curriculum, increasing interest in Computer Science especially with girls, the competition / Cyber Explorers / the qualification. There were similar levels of enthusiasm for the programme amongst industry participants, who also noted the passion and enthusiasm of the Cyberfirst Wales team.

Teachers noted how it had helped in raising the profile of Cyber within schools, increased the numbers (especially of girls) at GCSE, and helped with passing knowledge to other staff. All groups talked of the specific technical skills gained (pupils and teachers) and those needed (industry), with clear common ground between the skills gained and those needed.

Pupils focused very much on the technical skills / knowledge. Teachers and industry participants gave as much input on the non technical 'soft' skills as they did on the specific technical skills and knowledge, especially in the informal conversations.

Technical skills & knowledge
Pupils and teachers talked of gaining skills and knowledge relating to: Cyber, security, malware, phishing, coding / decoding, cyphers and encryption, cryptography, forensics testing, cyberchef, understanding & recognising fake news / clickbait / suspicious emails, valid / invalid IP addresses, viruses, (how easy it is to) find information from a photo, AI, parts of a computer.

Industry talked of needing skills and knowledge relating to: Cyber, understanding how computing / network / cyber systems work to a deeper level, cloud vs hybrid vs on-premises, AI, AI governance and ethical use, hardware, crypto, practical application of tech skills, ethical hacking, basic IT and digital skills.

AI was mentioned by almost every respondent. Some spoke of it as a threat, others as an opportunity, but mostly it was spoken of as something that has and is continuing to rapidly change the environment. Anxieties (among both adults and especially pupils) were generally non-specific, but at the same time raised as a topic of great concern.

Non-technical skills & knowledge
Pupils focused very much on the technical skills / knowledge. The one general skill that was mentioned by many of the girls was problem-solving.

Teacher respondents noted pupils gaining: increased confidence, increased sense of 'belonging' in these subjects, improved problem-solving / teamwork / resilience / patience, greater understanding of opportunities available to them, life skills & work skills.

Industry respondents noted non-tech skills / knowledge / attitudes that are needed include: customer service, communication and presentation skills, professionalism, understanding of real world workplace settings, creative skills, willingness to travel for work or placements (one UK wide organisation suggesting it was significantly more difficult to get young people in Wales to consider even temporary relocation compared to their counterparts in England).

Changes that would be helpful to the existing programme
The most frequently expressed concern for the future was that the programme and opportunities should continue.

There were other specific suggestions including:
- pupils being able to track their own progress towards the qualification
- securing recognition for the qualification
- materials being fully available in Welsh
- opening up beyond Yr 8, especially Yr 7 and Yr 9 (when pupils are choosing options)
- one teacher and several industry comments talked about the importance of involving primary schools too
- continuing to have girls-only elements, but more for boys too
- having a year plan of activities to help with planning and avoiding exam periods
- gamifying / linking with nature / prizes

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

Curriculum and teacher knowledge
There was a widespread concern that the curriculum is not up-to-date and doesn't adequately reflect what's happening in 'the real world' and industry needs.

This same point was made about teachers' skills and knowledge, both those involved in teaching Computer Science and especially those teaching other subjects, including STEM subjects.

It was argued that schools / qualification bodies need to be open and flexible to utilising industry specialists to develop their resources / curriculum / qualifications. It was also suggested that these subjects need to be reviewed and updated more frequently than other more 'stable' subjects, matching what is happening in industry.

It was acknowledged that this is difficult to address - how do you map qualifications and curriculum fast enough or well enough when the landscape is changing so quickly? One solution suggested was to further increase the links between schools / FEIs / HEIs / Industry.

A suggestion from one of the breakout groups was that student-run societies can help bridge some of the gaps regarding what is out there, creating connections with industry, and learning about job opportunities. It seems likely this was about FE / HE rather than schools, but that wasn't specified in the response.

Making Cyber more appealing
Respondents reported a continuing widespread view that Cyber is only for certain 'techy' people. This is being addressed very effectively for any pupils involved in the Cyberfirst programme but remains widespread in general, both in schools and wider society.

Suggestions of what would help included: a wider range of industry role models including those in non-technical roles, practical demonstrations of the world of Cyber, showing how Cyber / STEM link to actual jobs in the local area. There were also comments that there's a gap in teachers' and careers advisors' understanding about existing career pathways, highlighting the need for investment in their continuing professional development and training, again needing updating more often than other subjects / industries.

There were also concerns that there isn't adequate recognition within schools that all pupils need knowledge of Cyber / AI even if they are not studying Computer Science or related subjects. Therefore there are two offerings needed: general level knowledge that everyone needs vs. more detailed technical knowledge needed by those interested in working in related industries.

Resources
There was widespread concern about resource limitations for schools - budgets, equipment, staff training, teacher time.

There was the same concern for individual pupils - lack of equipment at home, lack of funds to travel to access non-school facilities, lack of funds for further study, etc. This was expressed by some as a concern about lack of social mobility with Cyber being more accessible for those from more privileged backgrounds.

Cross-subject
Many respondents talked about the importance of Cyber across STEM subjects and beyond, but concerned that currently it may be too limited to those aiming towards / studying GCSE Computer Science. There were significant concerns about the lack of sufficient Cyber knowledge amongst those teaching other subjects, and recognition for ongoing training for all teachers in such a rapidly developing area.

It was noted that it's important to delineate between AI / Cyber use (everyone needs this even if they are not taking Computer Science GCSE) vs. AI / Cyber careers (not everyone needs this). One respondent noted that engaging pupils with Cyber could provide a route to bring more young people into STEM more generally.

Post-16 education opportunities
There was some concern that there isn't sufficient attention nor sufficient opportunities for those not following a university route, which could limit entry into industry for those with more limited financial resources as well as those for whom university isn't the most suitable learning path. Options talked about included work experience, technical / vocational courses, and apprenticeships.

Entry level opportunities & progression
There was concern that there exist insufficient entry level opportunities and pathways into industry, with a concern that pressure was being put on pupils to improve their employability rather than industry / government improving the employability landscape. Some commented that there were more opportunities for those already more advanced in their careers to switch into Cyber from other areas, e.g. the civil service scheme.

The entry level opportunities that do exist are more focused for those able to afford to go to university, and there need to be more vocational / technical routes including apprenticeships. There was one suggestion of graduate schemes into public and large private sector companies certified by Cyberfirst / TechFirst.

Raised less frequently, some talked of concerns regarding barriers / opportunities for progression once people had gained entry level roles. One discussion group raised that skills shortages are actually at mid-senior level.

Expansion into the 7 frontier technologies

The principle of this expansion was widely welcomed, but there were significant concerns regarding diluting the programme and a concern that the focus on Cyber would be lost. Several respondents were concerned about the capacity of schools to be able to cope with an expanded remit: 'there isn't currently time to cover Cyber sufficiently, let alone increasing to all 7 areas'.

There were suggestions for more taster days, and for working with school governors and management teams.

It was acknowledged that some schools / some localities are good at Cyber, but questions about how realistic it is to expect that every school / every relevant teacher would be able to cover all 7 frontier technologies (with Quantum as the most frequently mentioned example as to what may be unrealistic). One option suggested was that the 7 technologies could be prioritised for different regions within Wales, linked to likely workforce opportunities within the region.

Geographic expansion

There was a mixed view of where Wales is at currently in terms of Cyber across the nation - some expressing pride that Wales is very good at Cyber, someone else saying that Wales is not supportive of Cyber when compared to the England infrastructure.

Geographic expansion beyond Cardiff / Newport was widely welcomed, with in-person visits and role models for schools outside of the SE / in rural areas being seen as important.

It was noted that industries cluster. There was mention of the existing Cheltenham / Cardiff / Bristol Cyber triangle (and how this does or will involve Newport), and a suggestion that a similar cross-border triangle could be leveraged / encouraged to develop around Manchester / NW England / N Wales. Other existing or potential cluster areas were also discussed.

It was noted that expanding the reach means adapting learning experiences to reflect the backgrounds and interests of pupils, especially for those from under-represented groups, including linking with activities in everyday contexts and local realities.

Concurrent with this project, the facilitator has been working alongside a contact involved in VR, both as a PhD and in a VR company. During the period of this research the company

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

had attempted to take their work out to areas of west and north Wales, on both occasions being unable to show their work due to insufficient internet connection / bandwidth issues. This was hardly referenced as an issue by participants taking part in these engagement activities, mentioned occasionally in the informal interactions.

Cross-sector & cross-institution working
It was suggested that there should be a mapping of the capability offerings available across schools, FEIs, HEIs, and Industry, which could be offered to TechFirst.

Participants' view of the future
There were some concerns around maintaining momentum, with one respondent noting that schools and industry may hesitate to fully invest if the programme's future appears uncertain.

The pupils' storyboards showed a range of views of the future in 10 years time. Most of the individual futures ('where do you see yourself in 10 years time') were positive, but there was wide variation in how they saw the world in 10 years time. One school's storyboard showed a 'happy' future where everyone had a computer of their own, another showed a future where there were lots of poor people because 'AI has taken all the jobs'.

Summary of main expansion suggestions

- More dynamic linking of curriculum to developments in industry which is needed to stay current, more than in other school subjects.

- More dynamic training of all teachers in Cyber / frontier technologies to keep adequately up-to-date as awareness is needed by all pupils, not just the more in-depth learning required for those intending to study Computer Science or work in the industries. More dynamic training to a higher level for those teaching Computer Science or related subjects.

- Develop a tiered approach: Cyber / AI basics that every pupil needs to know regardless of subjects studied vs. more in-depth for those studying related subjects and/or interested in working in the industries.

- More resources that teachers can use off-the-shelf. (All teachers reported time pressures, and many that they were relatively isolated or 'one-person departments'.)

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

- Develop greater links for schools to take advantage of expertise and facilities available in Industry / FE / HE, for the benefit of both teachers and pupils.

- Expand to Yr 9 (especially to coincide with making GCSE choices), Yr 7, and primary schools.

- Increase role models coming into schools, especially female role models.

- Expand remit to other frontier technologies, but be careful not to lose strong focus on Cyber.

- Concern regarding how realistic it is for all schools / all areas to be able to cover all 7 frontier technologies. One possible option is that different regions prioritise different technologies, linked to potential local jobs.

- Measures should develop existing geographic industry clusters and encourage new cluster areas in Wales.

- More routes into industry, including more vocational non-university routes, and highlighting the range of roles available including non-technical roles.

- In all measures, ensure equity of access including: strategies to ensure pathways are open to pupils with more limited funds in relation to equipment at home / travel costs / study costs, all materials available in Welsh, materials / examples reflecting a wider range of cultural backgrounds and interests, support / options for different learning styles including for those who are neuro-diverse.

- Suggestions of various types for networks / forums for industry, regional hub and spoke model (for communities / pupils / parents), STEM networks linked to investment.

Appendices

The following have been included as appendices, sent as separate attachments.

- Themes from ICC co-production drop-in space
- Themes from the Sbarc event
- Themes from the online Zoom event

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.

- Survey responses

- Photos of the Storyboards completed by pupils from 3 schools

N.B. Photos of the Body Mapping technique were taken by the event photographer at the ICC on the day.

About the Co-production Lab Wales

Our role is to help public services improve outcomes for people through co-production and citizen involvement. We work across sectors with the public services that support people's lives: government, local government, public sector, voluntary / third sector, and education. We offer capability building through training, advice and consultancy, in both strategic and delivery organisations - covering co-production and citizen involvement as well as related areas such as co-developmental evaluation, and digital facilitation and engagement.

The Co-production Lab brings together a wealth of experience and skillsets across a multidisciplinary team, to support your organisation to grow good practice and deliver a genuine co-productive approach to your engagement. We are a not-for-profit organisation, and our surplus contributes to funding the community of practice at the Co-production Network for Wales. https://coproduction.wales

The Co-production and Involvement Network for Wales Ltd (trading as Co-production Lab Wales)
International House, 10 Churchill Way, Cardiff CF10 2HE | coprolab.wales | contactus@copronet.wales
A not-for-profit private company limited by guarantee, registered in Wales and England. Company number 12009551.