DIGITAL SKILLS ACTION PLAN
2024-2034

Ministerial Foreword

In February 2024, I set out my vision for the economy, focussing on four key objectives: **good jobs, promoting regional balance, raising productivity** and **reducing carbon emissions.**

In line with my priorities, the Digital Skills Action Plan has been developed, setting out the challenges and actions that my Department, the Department of Education, and Industry will carry out. In turn, this will create alternative pathways into the digital sector.

We live in an age of rapid technological change and development, with digital advancements increasingly affecting how we live and work. Technology is key to successfully navigating our way in society and the workplace. It has never been more important that all our citizens have opportunities to develop their digital skills.

The plan will raise awareness of the breadth of career opportunities within the digital sector. It will seek to support those without basic digital skills and those who are under-represented or who need additional support, whilst creating alternative pathways into digital.

By creating alternative pathways, we will give more people the opportunity to access the training and skills needed, via the route that best suits their individual needs. The development of initiatives to promote education and training in digital technologies will foster digital entrepreneurship, and attract investment by ensuring we have a skilled workforce capable of driving digital innovation.

Our ultimate ambition is to transform our region into a world-leading digital hub. Focussing on digital skills will boost our economy and result in more and better job opportunities and greater earning potential, alongside improved individual wellbeing and social inclusion.

In particular, I want to thank those industry representatives whose insights and contributions have been invaluable to the development of this plan. As we embark on this ambitious journey, there will undoubtedly be challenges. However, I firmly believe that by continuing to work together we can achieve our goals and ensure our society and economy are equipped to thrive in this ever-evolving digital age.

Conor Murphy MLA
Minister for the Economy

Introduction

The Northern Ireland Skills Strategy[1] was launched by the Department for the Economy (DfE) in March 2022, with three main objectives, one of which was *"Enhancing digital skills, Developing a Digital Spine"*. On this point, the Strategy is relatively simple - we need to develop a digital action plan for Northern Ireland (NI) to deliver the digital capability our society needs. This Action Plan takes a two-strand approach to delivering the advanced skills our globally competitive knowledge-based sectors need to thrive, and to supporting individuals to gain the skills necessary for social and economic inclusion. Eventually, the Action Plan will take in all aspects of our education system, be embedded within our approach to lifelong learning, and be an essential component of addressing skills imbalances, regardless of an individual's starting point.

Technological change is a major strategic issue which is having a significant influence across our society and labour market. Advanced digital skills are essential for the innovation potential, and continued competitiveness, of the businesses in our key strategic clusters, and for the development of the knowledge-economy more broadly. Meeting this challenge is vital to the realisation of our economic potential. Working in tandem with this theme and running throughout the Skills Strategy, the focus is as much on improving social equality, as it is about economic growth.

In developing a Digital Skills Action Plan for NI, the Department has established a Technologies and Cluster workstream, with the following seven priority sectors identified[2]:

- Agri-Tech;
- Life and Health Sciences;
- Advanced Manufacturing, Materials and Engineering;
- Fintech/Financial Services;
- Software;
- Screen Industries; and
- Low Carbon (Including Green Hydrogen).

It should be noted that this Action Plan will evolve during its lifetime as the environment changes. The initial focus of development has been on the skills required to progress economic issues, but as the Action Plan evolves a greater focus will be put upon the skills to improve social equality.

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1   Skills Strategy for Northern Ireland
2   Consultation on Approach to 10X Technologies and Clusters (economy-ni.gov.uk)

Background

The Council for the Curriculum, Examinations and Assessment (CCEA) has developed a Digital Skills and Curriculum Framework, drawing from a report produced by the House of Lords Select Committee on Digital Skills[3]. It identifies three levels of digital skills: Digital Citizen, Digital Worker and Digital Maker. As CCEA's remit extends only to Level 3 qualifications, this report demonstrates that there is a need for a robust educational pathway in digital qualifications, spanning from early years to post-graduate provision.

DIGITAL CITIZENS

CCEA defines Digital Citizens as people with the skills to participate in digital aspects of society safely and without hindrance. The Tech Partnership and Lloyds Banking Group[4] completed an assessment for the Department for Digital, Culture, Media and Sport, creating a framework in which basic digital skills are aligned to five key areas:

- managing information securely;
- communicating with others safely;
- transacting (buying and selling, managing personal finance, accessing services such as a universal credit application);
- problem solving (using the internet to gain advice on solving common problems or queries); and
- creating basic digital content, such as a social media post or a text document.

The development of digital citizens is an essential step in economic development. However, the primary focus at this level is to tackle deepening social inequalities. As defined by CCEA's work, there is a key role for the compulsory education system in the provision of a strong basis of digital education, enabling individuals to use technology safely and effectively. In the post-compulsory sector, there is a need to support adult learning in basic digital education across society. This will not only provide familial support for the development of young people's education but will also ensure we make progress on addressing digital and social exclusion.

BREAKING DOWN BARRIERS

There is little debate that some people may experience one or multiple barriers when trying to access education, training or skills. Ultimately, this is detrimental to their ability to progress into the wider labour market, including the digital sector. The Department aims to reduce, and where possible, remove those challenges, whilst helping address the labour market needs of the sector.

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3   House of Lords Report - UK's Digital Future (parliament.uk)
4   The Basic Digital Skills Framework

This approach has a clear link to three of the four key themes of the Department's Economic Vision, which are:

• to increase the number of working-age people in good jobs;
• to promote regional balance;
• to raise productivity; and
• to reduce carbon emissions.

Under-represented groups such as women, people with disabilities, older and younger people can be left behind and need additional support to access the labour market and the same opportunities as others. Simple strategies such as adopting more accessible recruitment methods and providing more attractive jobs for all employees can achieve a more inclusive workforce.

Recent figures[5] show that there are currently 315,000 people classed as economically inactive (Oct-Dec 2023), equating to 26.8% of the population of NI. Long-term sick is the most common reason at 41.0% (or 130,000), with family and home care reasons making up 15.9% (or 50,000). Almost 16% (or 50,000) of the economically inactive want a job. The reason presented in more than half of the cases (26,000) is long-term sickness, with family and home care cited in 10,000 (20.3%) cases.

Essential Skills programmes are just one of the ways the Department is taking action to improve social inclusion. One such programme focuses on developing basic digital skills, which is delivered by Further Education (FE) colleges for all people over the age of 16. This course helps improve:

• reading, writing, speaking and listening;
• working with numbers; and
• use of computers and technology.

Below are some of the key figures for Information and Communication Technology (ICT) enrolments in Essential Skills[6] from 2017/18 to 2021/22:

• Enrolments: 36,947
• Completed: 34,077
• Retention: 92.2%
• Qualifications: 80,489

5   Labour Market Report December 2023
6   Essential Skills Enrolments and Outcomes in Northern Ireland

DIGITAL WORKERS

The number of job roles requiring digital skills has grown rapidly in recent years. This is a trend which is expected to continue, as automation replaces many of the tasks historically carried out by humans. Over the next decade, the most significant impact will be on jobs filled by individuals with low or no qualifications.

However, this need not be a negative story, as it is forecast that the overall number of jobs will increase considerably, as new technologies support substantial productivity gains. This creates the platform for rapid intervention in the skills of the population and emphasises the need to devote our collaborative resources to supporting individuals with low or no skills to achieve higher qualifications.

Taking advantage of new technologies in our economy will rely on our ability to develop the capability of our workforce to adapt. This is a key driver for investment in mid-level skills, through education and lifelong learning. Workers in all sectors need the professional and technical skills to effectively engage with the technologies that will apply in their chosen careers. As advancement continues apace, there needs to be a willingness to continue to develop knowledge. Business investment in training and the development of modular approaches to learning can make a significant impact in this regard.

DIGITAL MAKERS

Digital Makers will be the creators of digital technology, and individuals who work in digital careers or with new and emerging enabling technologies. NI's tech sector is growing and provides one of the focal points for the Department's Economic Vision. Talented individuals must be supported throughout their education journey to cultivate these skills and must be encouraged to choose appropriate pathways to support the development of NI's key strategic clusters.

The Future Digital Landscape

There are a number of pathways to enter the digital sector and the Department aims to make these as inclusive as possible. These are typically through FE colleges, Apprenticeships, Higher Level Apprenticeships (HLAs) and Higher Education Institutions (HEIs).

The Department will continue to explore opportunities to broaden the appeal and expand the reach of these programmes and remove as many barriers to entry as possible. Equally, employers must do more to ensure they are recruiting the best talent for the job, enabling all people, regardless of their abilities, to be considered equally for work. Tapping into this resource could prove invaluable for employers and society. Employers implementing pre-employment/in-employment training would be of great benefit to both younger and older people, and flexible working patterns would likely have a positive impact on women and carers.

Below, we explore in a little more detail the numbers choosing each pathway, and the level of education they are obtaining.

APPRENTICESHIPSNI

For 2021/2022, 338 participants were enrolled on Digital Apprenticeships[7] over Levels 2 and 3, accounting for around 3.5% of all participation across both levels. At Level 2, there were 4,643 enrolments, 81 of which were in the digital sector (1.7%) and at Level 3 there were 4,443 enrolments, 257 of which were in the digital sector (5.8%). The frameworks used for this data and their associated participation figures are as follows:

- Three participants on Creative and Digital Media;
- 23 participants on IT User (16 on Level 2, 7 on Level 3); and
- 313 participants on IT and Telecoms Professional (65 on Level 2, 248 on Level 3).

HIGHER LEVEL APPRENTICESHIPS

HLAs[8] are a more recent qualification in NI, offering individuals the opportunity to gain quality training and a recognised higher qualification, while in paid employment. HLAs range in qualification levels, from 4-7, with the majority being at Level 5 (see Appendix A for a definition of education levels). The length will also vary depending on the programme but will be a minimum of two years.

HLAs are beneficial to apprentices as they can gain the skills that employers need and that are relevant to the local economy, improving prospects of higher earnings and sustained employment. HLAs were introduced to NI in 2017 so there is very limited data on them currently. Many HLAs are conducted on a part-time basis.

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7   Apprenticeships in Northern Ireland fact sheet
8   Higher Level Apprenticeships at NI FE colleges and CAFRE

The figures below illustrate the number of participants in digital qualifications in the last number of years.

- In the academic year 2021/22, 207 participants were enrolled on an HLA in ICT at NI's FE colleges (the vast majority at level 5).
- In the academic year 2021/22, 170 participants were enrolled on an HLA in Computing at NI's HEIs (the vast majority at level 6).
- In the academic year 2021/22, 40 participants successfully completed an HLA in Computing at NI's HEIs.

HIGHER EDUCATION INSTITUTIONS

In our HEIs[9] there continue to be steady numbers of students studying computing, as per the figures below:

- 1,765 first-year students, 480 of whom are part-time.
- 5,045 students in total, 1,425 of whom are part-time.
- 1,215 female students studying computing part-time or full-time (approx. 24% of all students)

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9   Higher Level Apprenticeship at Higher Education Institutions 21/22

The Digital Skills Reference Group

The Digital Skills Action Plan is derived from recommendation 38 of the Skills Strategy, which states:

> *"An expert panel of individuals from business and education will be appointed to develop a specific Digital Skills Action Plan for Northern Ireland, to be jointly implemented by DfE and DE, recognising two distinct digital education pathways of ICT and Computer Science/Software Engineering.''*

In January 2023 the Department established the Digital Skills Reference Group, which includes representation from a wide range of companies from across NI, along with key educational stakeholders.

The Group agreed that the Confederation of British Industry (CBI) paper[10], *"Software-Skills-for-a-10x-economy"*, should be used as the initial basis to move forward the Digital Skills Action Plan. The Group also needed to fully understand the skills gaps within the digital and software sectors and requested that the Department conduct an audit to determine what is required from educators, government and business in the short, medium and long term.

(A copy of the Group's Terms of Reference can be found at Appendix B.)

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10   software-skills-for-a-10x-economy.pdf (cbi.org.uk)

Digital Skills Survey

The digital sector in NI has grown substantially over the years and is forecast to continue to grow. It is anticipated that there will be an annual supply gap of roughly 125 workers qualified to Foundation Degree/Higher National Diplomas or equivalent level in ICT from 2020-2030.

The Northern Ireland Skills Barometer[11] 2021 tells us there is expected to be 3.1% job growth in the Information Technology (IT) sector from 2020 until 2030 in NI, with roughly an additional 1,500 workers required each year from education and immigration collectively.

In addition, evidence from a range of sources highlights how poor digital skills can contribute to social and economic exclusion, particularly across the older workforce and in areas of deprivation.

The Digital Skills Survey was developed to establish where the skills gaps are, where they will be and to determine the biggest issues facing the sector. The survey ran between January and February 2023. It must be noted that there were only 31 respondents, and this information gives a snapshot of the environment at that time. However, the data collected did not show any surprises or any information out of the ordinary.

The largest demand for Tech Talent in the software sector was in the following areas:
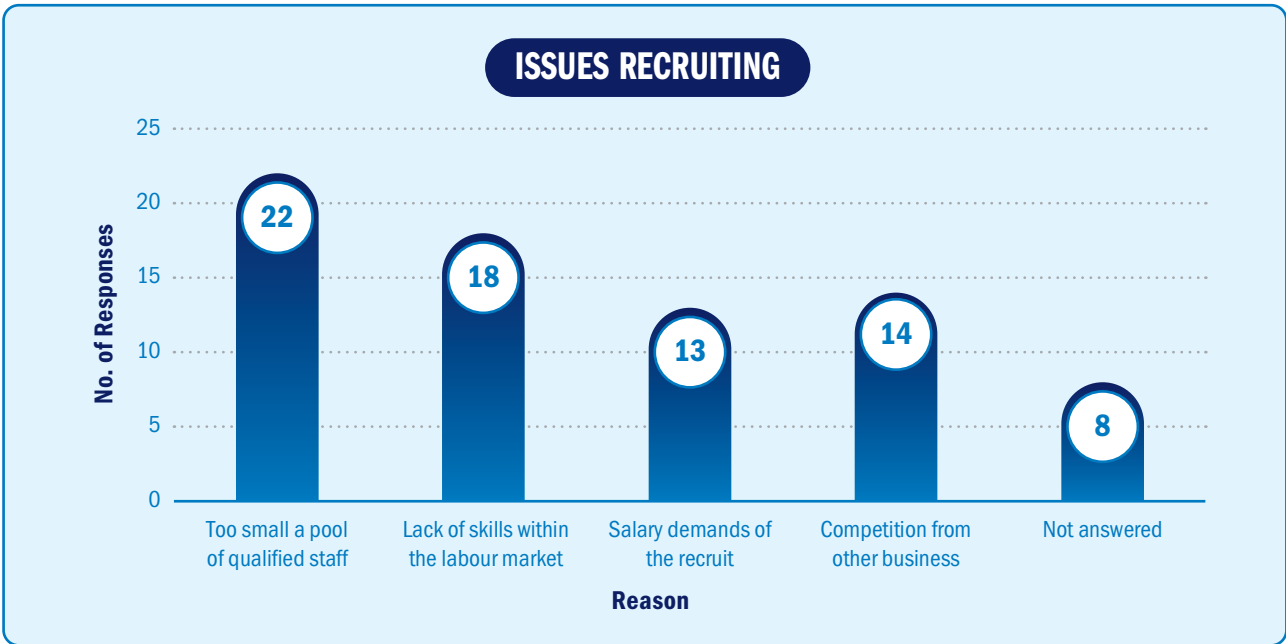
- Software Development – 430 jobs
- Software Testing – 321 jobs
- Software Architecture & Design – 285 jobs

The results of the survey showed the largest demand for programming languages were:

- Java – 210 jobs
- Java Script – 149 jobs
- C++ - 146 jobs

The issues employers cited in trying to recruit suitably skilled individuals are detailed in the chart overleaf.

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11   Northern Ireland Skills Barometer 2021: Overview Report (ulster.ac.uk)

ISSUES RECRUITING

No. of Responses

Reason	Value
Too small a pool of qualified staff	22
Lack of skills within the labour market	18
Salary demands of the recruit	13
Competition from other business	14
Not answered	8

Reason

The chart below sets out the reasons employers gave for being unable to retain staff.

REASONS FOR LOSING TALENT

Reason	Value
Higher salaries within NI	19
Higher salaries on offer in GB/RoI	18
International organisations	16
Lack of flexible working	3
Improved work-life balance	4
Improved job Satisfaction	5
More meaningful work	1
Opportunities in decision making	2
Lack of career progression	4
Workforce exits	7
Lack of training/self-development	5

From the Digital Skills Survey and other quantitative and anecdotal evidence, we understand that there is a demand for skilled digital staff and according to industry there is a shortfall of people coming through with the correct skills. The Digital Skills Action Plan for NI aims to tackle the current challenges and obstacles that lie ahead for government, education and industry.

The Department of Education

The software sector in NI relies heavily on the education system to provide the majority of its new entrants each year. ICT is a cross-curricular skill and will remain so but to meet the future demands of the economy, and to meet the strategic ambitions of the Skills Strategy's *"Digital Spine"*, there needs to be a digital pathway for all pupils in post-primary schools.

The Department of Education (DE) has prioritised digital skills as an area of focus within the Northern Ireland curriculum. To facilitate this work and provide a focus, DE has established its Digital Skills Strategic Oversight Group. The Group includes representatives from CCEA, DfE, the Education Authority, the Education and Training Inspectorate, Software NI representing industry, and relevant DE business areas.

DE has commissioned CCEA to bring forward proposals on the changes that would be required to strengthen and enhance digital skills within the curriculum across Foundation Stage (FS) to Key Stage (KS) 3, and across KS4 and post-16 (including through qualifications). Consideration is being given to Software NI working with CCEA to provide resources to support these proposals.

Other objectives are to:

- establish a baseline, including identifying what is working well, areas where improvement is needed and standards that our children and young people currently attain in the area of digital skills;
- improve the delivery of digital skills in the curriculum;
- systematically and incrementally increase the uptake of digital skills related subjects at GCSE and GCE;
- support DfE's Skills Strategy with regard to enhancing the Digital Spine; and
- enhance, support and improve information and communications, including Careers, Education, Information, Advice and Guidance (CEIAG), relating to progression pathways into the digital skills sector/careers.

DE will also work with industry to:

- detail the gateway skills which are required to progress to careers within the digital skills industry; and
- detail the gateway qualifications, including digital skills qualifications, required to progress to Further and Higher Education, training and employment in the software and digital skills industry.

Northern Ireland Screen

Northern Ireland Screen (NI Screen) is committed to maximising the educational value of the screen industries, to create a sustainable model of screen and digital technologies education provision for NI. NI Screen aims to target the marginalised and most disadvantaged schools and communities, by increasing access to and participation in training and skills development across the screen industries.

NI Screen finances three Creative Learning Centres (CLCs) (Nerve Belfast, AmmA Centre Armagh and Nerve Centre Derry/Londonderry), which support schools to innovate with digital technologies, creative learning techniques and new approaches to learning.

The CLC partnership programmes aim to:

- empower teachers and pupils to use digital technologies in a cross-curricular and creative way in conjunction with the statutory requirement set out for the use of ICT in the NI curriculum; and
- support staff Continuing Professional Development training sessions, shared resources, and co-teaching/in-class support.

NI Screen works with Into Film and Cinemagic to ensure that the screen industries have an important role to play in delivering a broad and balanced curriculum and are used by educators to bring subjects alive, develop key skills and broaden pupils' access to culture.

NI Screen also delivers year-round industry work experience through ScreenWorks and Screen Academies for young people aged 14-19. This provides visibility and understanding of better jobs available in screen industries.

Digital Spine

The Northern Ireland Statistics and Research Agency (NISRA) recently analysed the level of digital skills of people aged 16 and over in NI[12]. The results presented a stark reminder of the differences across the province.

A total 18% (276,000) of people in NI have no digital skills, stating they did not have access to or did not use the internet for any function in the past 12 months. This graphic shows the gaps that exist:
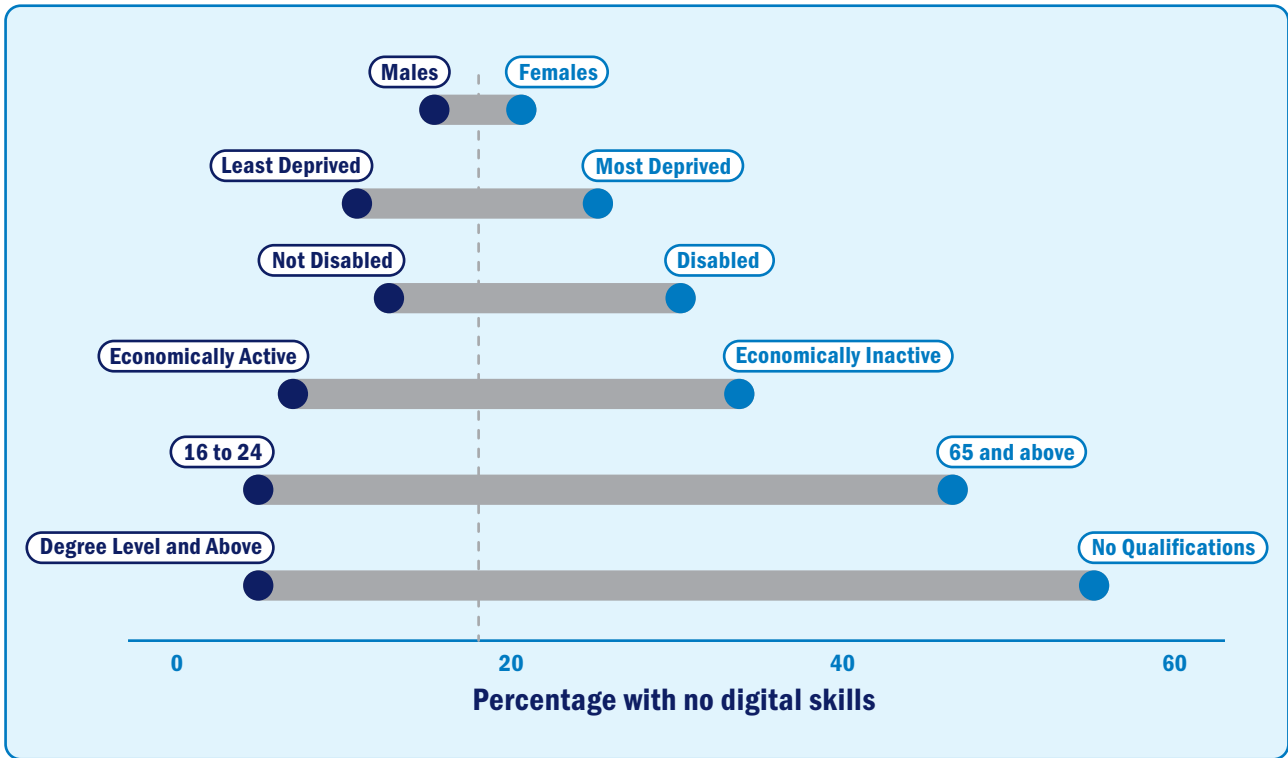
A total of 38% (583,000 people) have basic digital skills, meaning they used the internet for one function.

A total of 44% (663,000 people) have above basic skills, using the internet for more than one function.

This snapshot of NI society highlights the distance we still must travel. Digital skills can no longer be considered optional: they are a necessity. Shopping, banking and even reading the news were tasks that once could only be completed physically and at pre-determined times, whereas now these tasks are often (and in some cases exclusively) performed online.

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12   Digital Skills in Northern Ireland 2022/23 | Northern Ireland Statistics and Research Agency (nisra.gov.uk)

As society steadily becomes more reliant on digital resources it is imperative that not only is our education system teaching the skills required to navigate daily life, but also exploring utilising the new technologies available. A digital spine developed from primary school right through to university is essential. Even after formalised education has finished, opportunities within lifelong learning can allow some individuals to better themselves, their education, and their prospects.

However, the Labour Force Survey[13] shows that only 16% of people aged 25-64 participated in education or training in 2022. This means in NI we have a lot of work to encourage many more of our population to take on and participate in training and education after formal education has ceased.

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13   Labour Force Survey | Northern Ireland Statistics and Research Agency (nisra.gov.uk)

Digital Skills Plan

The Digital Skills Reference Group agreed that the challenges and actions highlighted within the CBI paper *"Software Skills for a 10x Economy''*[14] which was developed by industry, education and government would be the best way forward, to address the software industry issues and act as a solid foundation to create a Digital Skills Action Plan for NI. However, these actions must remain fluid and effective for the times in which they are being used, so that all challenges can be updated and modified to reflect the ever-changing digital sector.

The Digital Skills Group used the initial 22 recommendations and actions from the software paper. Each action and responsibility were assigned to either DfE, DE or industry to take forward. The following tables set out the challenges and actions that each are responsible for.

It should be acknowledged that since the paper was published, the budgetary and policy landscape in NI has changed, and the digital industry continues to move forward at pace. Accordingly, the actions from the original paper have been adapted to reflect the evolving environment.

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14   software-skills-for-a-10x-economy.pdf (cbi.org.uk)

DEPARTMENT FOR THE ECONOMY RESPONSIBILITIES

The first set of challenges listed below are the responsibility of DfE, however it is important to add that some challenges will require the input of various members of the Group. It should be noted that work on a number of actions was initiated during the life of the Group and where those have been completed/mainstreamed they have been included to show progress.

Action Number	Challenges	Actions	Current Status	Completion Target
1	Future digital skills demands are difficult to predict.	Develop a skills forecasting mechanism to identify future trends.	Ulster University has developed the Skills Barometer, which will be updated regularly, to assess skills needs across NI. DfE provides economic commentary three times a year, and publishes a monthly economic update with trends of online job adverts.	The latest Barometer information due by the end of 2024.
2	Perceptions of inflexible training and/or working conditions within the sector may deter potential participants/ recruits.	Implement flexibility, support opportunities and ensure adequate care and information are available for training participants and recruits.	DfE launched the Press Return programme – now renamed Women Returners – which has resulted in 69 women working in digital roles to date. DfE offers a variety of short-term and longer-term training and skills opportunities at all levels, and there is a range of childcare support available for participants. DfE is considering whether there are ways to enhance the provision, and to increase the childcare labour supply, which may further benefit those wishing to avail of childcare to study for digital or other skills. This links to the potential for enhanced childcare provision through the Executive's proposed Early Learning and Childcare Strategy.	March 2025 September 2024 September 2024
3	The digital skills sector is ever-changing, and there is a lack of a sectoral approach to developing training.	Work with FE colleges to develop and deliver skills training for specific sectors.	Discussions are ongoing with FE colleges.	March 2025
4	Careers information, advice and guidance – which forms a critical communications channel to advise young people and parents – is not always up to date and relevant.	In partnership with industry, develop and deliver a new NI-wide campaign to promote the software sector, and create testimonials on new job roles. Develop a new Careers Portal to enable access to up-to-date careers information and tools, ensuring people of all ages are fully informed about available opportunities.	NI Screen regularly provides up-to-date information to DfE Careers Service and signposts young people to industry-led work experience across the academic year. The research, engagement and insight gathering phase to identify priority needs for the Careers Portal is nearing completion. A discovery exercise is due to commence in autumn 2024 to find the best technical solutions.	Phased delivery approach for Careers Portal – completion of discovery exercise 2024, early prototype 2025, final completion March 2027
5	More needs to be done to attract qualified professionals from outside NI to work in the NI software sector.	Establish a software-sector-specific campaign targeting software professionals working in GB and Ireland. Explore the possibility of recruiting international remote workers for key 'difficult to fill' roles in the software sector.	Invest NI are running an Attract In/Attract Back programme. There is acknowledgement within the digital sector that recruitment is a global market.	Ongoing programme with Invest NI – scheduled until March 2028

DEPARTMENT OF EDUCATION RESPONSIBILITIES

Action Number	Challenges	Actions	Current Status	Completion Target
6	GCSEs, A levels and undergraduate applications in Computer Science have decreased. If this decline continues it will reduce the number of young people available to work in this sector.	DE will work with industry to detail the gateway skills which are required to progress to careers within the digital skills industry and further and detail the gateway qualifications (including digital skills qualifications), required to progress to FE, HE, training and employment in the digital skills industry. DE will also work to identify alternative progression pathways into employment in the digital skills sector. DE will work to enhance, support and improve information and communications, including CEIAG, relating to progression pathways into the digital skills sector/careers. This will be done in collaboration with DfE.	DE are working through the Digital Skills Strategic Oversight Group to examine the barriers to teaching computer science within the education system.	Ongoing
7	There is low availability of Computer Science and Software Systems Development A levels and GCSEs in post-primary schools. This limits pupil choice and inclusive economic growth, and is contrary to the Entitlement Framework.	DE will establish a baseline around the uptake of relevant digital skills qualifications and will take actions to systematically and incrementally increase the uptake of digital skills related subjects at GCSE and A level. As referenced above and linked to KS4 and KS5 of the CCEA Digital Skills Progression Framework, DE will work with industry to detail the gateway skills which are required to progress to careers within the digital skills industry, and detail the gateway qualifications (including digital skills qualifications) required to progress to FE, HE, training and employment in the digital skills industry.	DE have established the Digital Skills Strategic Oversight Group which is currently examining barriers to young people up taking qualifications at GCSE and A level. Industry professionals are advising the Group, and Software NI have recently recruited 49 teachers to do Tech Teach sessions for schools, followed up by mentoring. NI Screen's Creative Learning Centre Partnerships Programmes are delivered across a minimum of 45 primary and post-primary schools annually. These are based on a whole-school ICT partnership with measurable impacts on teaching and learning that is built around progression, capacity building and professional learning.	Ongoing
8	The current curriculum at KS3 does not provide a clear progression framework for digital skills for all children and young people.	The use of ICT needs to be reviewed and a clear progression framework developed which will strengthen and enhance digital skills within the curriculum. Digital skills across the curriculum (developed through specifications at KS4 and KS5) need to be clarified and strengthened in the progression framework.	CCEA has been commissioned to bring forward proposals to DE on the changes that would be required to strengthen and enhance digital skills within the curriculum across FS to KS3; and across KS4 and post-16 (including through qualifications). This is due with DE in 2024. Consideration is also being given to industry working with CCEA to provide resources to support this.	CCEA proposals will be delivered in 2024. Work will continue in developing and embedding framework in schools on a long-term basis.

INDUSTRY RESPONSIBILITIES

The industry members on the Group have eight challenges and associated actions to take forward. A number of the challenges are similar and have now been linked together.

Action Number	Challenges	Action	Current Status	Completion Target
9	There is no single representative body for the software sector.	Establish a single body that can fully represent the interests of the NI software sector, following consultation to determine its purpose, remit and constitution. Convene a twice-yearly meeting of existing employer advisory groups to improve coordination and communication between the various groups.	Software NI has been created by industry to be the voice of the software sector, but DfE recognises that it must continue to take cognisance of those who have not joined Software NI. Concurrent work within DfE regarding possible rationalisation of groups, and how the groups will feed into the NI Skills Council.	Software NI has now taken the lead on this aspect. December 2024
10	Industry is keen to utilise HLAs, but there is insufficient flexibility within the delivery model.	Explore introducing more flexibility into the balance between on-the-job and off-the-job training during the first year of the IT Apprenticeship.	DfE has introduced additional flexibility – employers and training providers are now free to apply any ratio of on-the-job to off-the-job training that suits their needs.	Completed
11	Compared to other engineering sectors, the software sector is under-represented in terms of apprenticeships and HLAs, which is limiting the growth of the sector.	Engage with DfE and organisations to understand the changes to the apprenticeship system and reassess its value to employers within the sector.	A case study is being developed, and this will be issued to industry to show the costs and benefits of apprenticeships.	March 2025
12	There is a lack of alignment between the skills provided by the education system and those required by industry.	Work with education institutions to increase understanding of the skill sets required by industry and to improve alignment with what is taught at primary, post-primary and National Qualifications Frameworks Levels 5 and 6.	Software NI Teacher Engagement was launched in July 2023. As of January 2024, 49 teachers have registered and been paired with a mentor. NI Screen is one of the British Film Institute National Lottery Skills Clusters which work with local industry, education and training providers, and other screen organisations across the UK, to coordinate skills and training in their area. NI Screen has been asked to join the FE Digital IT Hub from March 2024 to support Creative and Digital Industries.	October 2024
13	There may be an over-reliance on computer science graduates when other graduates may be suited to work in the sector, and on graduates in general when other qualifications may suffice.	Work with universities and FE colleges to investigate and better understand other pathways to employment from subject areas such as mathematics, statistics, natural sciences and finance, and the role that pre-employment training may play.	Employers within the digital sector are exploring alternative routes like postgraduates. DfE have recently opened up an alternative pathway via HLAs.	This model will continually evolve to current industry needs.
14	More attention needs to be paid to the transitions between school, college and university, as well as work shadowing opportunities and placements, to prevent drop out.	Via the FE IT Curriculum Hub, work with universities and schools to better align qualifications, facilitating greater integration and progression through the education system. Work with DfE and Invest NI to explore the establishment of a professionally managed work placement service for schools and colleges.	The Software NI plan to work with CCEA to develop a programme to assist with developing resources to support the education framework. NI Screen have developed a partnership with NextGen Skills Academy, aimed at bolstering games, animation, and visual effects expertise in three FE colleges NI Screen delivers industry-led work experience covering the screen industries across the academic year annually to over 650 young people aged 14-19.	December 2024 September 2030
15	Lack of public awareness of the variety and range of job roles in the software sector is limiting career choices and limiting entrant numbers.	Undertake a public campaign to raise awareness of the range and variety of job roles in the software sector, providing information on career pathways including subject choices, courses and qualifications, using formats used by the general public and young people (social media, apps, etc.).	CCEA are conducting an awareness campaign to highlight careers within the digital sector, including via a promo video – Digital Technology | CCEA CCEA have approached NI Screen for a similar campaign.	Completed – integrated within 'business as usual' June 2025

Measure of Success

The Digital Skills Action Plan's success will be measured firstly against whether the actions and achievements meet the target dates. A number of actions are currently ongoing, some have been completed, and some are awaiting action to be taken. Success will also be measured by government, education and industry's ability to meet the completion targets listed in the tables in the previous section, and by the impact the completed actions have on skills shortages within the sector. Fundamentally, however, the Action Plan has been designed to remain fluid and changeable. Nothing is set in stone, and plans must be flexible and change alongside society, business, education and of course advancements in digital technologies themselves. Therefore, completion or finalisation of certain actions may never materialise, as the development and evolution of specific action points will create and move targets.

The ultimate measure of success will be when supply meets demand within the digital sector, year in and year out. This will only be achieved through the collective actions of all stakeholders. Improved collaborative actions from stakeholders will also represent the level of success the Action Plan has had. Working together and communication between all stakeholders in this field is a fundamental challenge, but it is ultimately necessary if success is to be achieved. Working in silos will not yield the desired results, therefore the Digital Skills Reference Group will be the ideal vehicle to move forward the Digital Skills Project for NI.

Glossary of Terms

CBI	Confederation of British Industry
CCEA	Council for the Curriculum, Examinations and Assessment
CEIAG	Careers, Education, Information, Advice and Guidance
CLC	Creative Learning Centre
DE	Department of Education
DfE	Department for the Economy
ETI	Education and Training Inspectorate
FE	Further Education
FS	Foundation Stage
HEI	Higher Education Institution
HLA	Higher Level Apprenticeship
HND	Higher National Diploma
ICT	Information and Communication Technology
IT	Information Technology
KS	Key Stage
NI	Northern Ireland
NI Screen	Northern Ireland Screen
NISRA	Northern Ireland Statistics and Research Agency

Appendix A

Link to levels of education and what they mean:

Qualification level	Examples of qualifications	What they give you
Entry	• Entry Level awards, certificates and diplomas • Essential Skills at Entry Level	• basic knowledge and skills • ability to apply learning in everyday situations • not geared towards specific occupations
One	• GCSE grades D-G (and grades 3 to 1 in England) • Level 1 awards, diplomas and certificates • Key Skills level 1 • NVQs • Essential Skills • Music grades 1 to 3	• basic knowledge and skills • ability to apply learning with guidance or supervision • may be linked to job competence
Two	• GCSE grades A*- C (and grades 4-9 in England) • Intermediate apprenticeships • Level 2 awards, diplomas and certificates • OCR Nationals • NVQs • Essential Skills • Music grades 4 and 5 • O level - grades A-C	• good knowledge and understanding of a subject • ability to do a variety of tasks with some guidance or supervision • suitable for many job roles
Three	• AS and A levels • Access to Higher Education diploma • advanced apprenticeship • International Baccalaureate • NVQs • BTEC diplomas, certificates and awards • BTEC Nationals • OCR Nationals • Music grades 6 to 8	• ability to gain or apply a range of knowledge, skills and understanding at a detailed level • appropriate if you plan to go to university, work independently or (in some cases) supervise and train others in their field of work

Qualification level	Examples of qualifications	What they give you
Four	• NVQs • BTEC Professional diplomas, certificates and awards • HNCs • Certificate of Higher Education (CertHE) • Higher apprenticeship	• specialist learning, involving detailed analysis of a high level of information and knowledge in an area of work or study • suitable for people working in technical and professional jobs, and/or managing and developing others
Five	• HNDs • NVQs • BTEC Professional diplomas, certificates and awards • Foundation degrees • Diploma of Higher Education (DipHE)	• ability to increase the depth of knowledge and understanding of an area of work or study, so you can respond to complex problems and situations • involves high level of work expertise and competence in managing and training others • suitable for people working as higher grade technicians, professionals or managers
Six	• Bachelor's degrees • Professional Graduate Certificate in Education • Graduate diplomas • BTEC Advanced Professional diplomas, certificates and awards • degree apprenticeship	• a specialist, high-level knowledge of an area of work or study, to allow you to use your own ideas and research in response to complex problems and situations • suitable for people working as knowledge-based professionals or in professional management positions
Seven	• Master's degrees • Postgraduate Certificate in Education • BTEC Advanced Professional diplomas, certificates and awards	• highly developed and complex levels of knowledge, enabling you to develop original responses to complicated and unpredictable problems and situations • suitable for senior professionals and managers
Eight	• Doctoral degrees • specialist awards, certificates and diplomas	• opportunity to develop new and creative approaches that extend or redefine existing knowledge or professional practice • suitable for leading experts or practitioners in a particular field

Appendix B

TERMS OF REFERENCE

Background and Purpose

1. The Digital Skills Project is aligned to the implementation of the Skills Strategy 'Skills for a 10x Economy'.

2. The Digital Skills Project has been initiated to implement recommendation 38 of 'Skills for a 10x Economy' which is:

   > *An expert panel of individuals from business and education will be appointed to develop a specific Digital Skills Action Plan for Northern Ireland, to be jointly implemented by DfE and DE, recognising all educational pathways of ICT and Computer Science/Software Engineering.*

3. There will be two main strands to this project. The first will focus on advanced/specialist digital skills which will support the development of Northern Ireland's key strategic clusters.

4. The second strand will focus on the development of digital skills required for economic and social inclusion.

5. To fully understand the Skills Gaps within the Digital Sector, an audit should be conducted to determine what is required from, educators, Government and business in the short, medium and long term. This will cover:

   i. Short Term – Identify the skills gap, promotion of Digital skills courses, from short term upskilling to apprenticeships and university degrees. Department of Education to provide a baseline report, with the digital related activities, currently within NI schools.
   ii. Medium Term - Increase the flow of educators and support for teaching digital from primary school through to university.
   iii. Long Term – focus on digital skills within the community, to ensure young to old have access to digital technologies, internet and have the skills necessary to use the technology.

6. The sub-committee will be made up of a combination of business, educators and Government, however the process would take a number of stages.

    i.   Stage 1: Research piece and identify needs of Industry.
    ii. Stage 2: Analysis the information and formulate an effective plan that works for business, educators, government and the whole of society for the two strands of the plan.
    iii. Stage 3: Implementation and delivery of the programme

MEMBERSHIP

The Digital group will be made up of a group of 12 people initially. In stage 1 there will mainly be the digital sector present with minimal presence from education and government. The 2nd stage will require involvement from the whole group in order to take forward the skills gap analysis. In the 3rd and final stage this group will mainly contain educators and government in order to take forward the analysis and implement changes.

Additional representation may need to be sought throughout the process at all stages as and when necessary, these attendees will not be formal members of the group. Stage 1 and 2 aim to be completed by May 2023.

John Healy is the chair of the Group, Skills Strategy will act as Secretariat to the Group (Michael. Douthart@economy-ni.gov.uk). An agenda will be circulated in advance of meetings and minutes will be kept.

The Group will provide regular updates to the NI Skills Council.

FREQUENCY OF MEETINGS

The meetings will take place quarterly/bi-monthly starting in January 2023 and lasting for a 12-month period (which may be extended).