Skills Development Scotland

Scottish Expert Advisory Panel on the Collaborative Economy

Of the questions indicated SDS is best placed to to respond Question 11 How can we ensure that Scotland's current and future workforce have access courses to gain or update skills for the digital workplace?

There is a significant amount of work already under way in digital technologies across a range of industry sectors and these are split between the more technical IT roles and the enabling roles which exist across a wider range of industry sectors.

The aspiration is to ensure that there is a clear pathway of digital skills provision from primary school to college and university and within industry, at a level which is designed to meet expansion and replacement demand across sectors with a digital footprint.

Areas of challenges and opportunity have been identified such as infrastructure, best practice, curriculum content keeping pace to the fast changing needs of digital roles, promotion and awareness of jobs for the future and business awareness of their potential skills needs.

The following outlines the strategy, evidence and projects areas completed or under way:-

Digital Strategy for Scotland

Scotland's refreshed Digital Strategy sets out our vision for Scotland as a vibrant, inclusive, open and outward looking digital nation click link to refreshed Digital Strategy

SDS Skills Digital Technologies Skills Investment Plan (SIP)

The SIP for the Digital Technologies sector was launched in March 2014 has been supported by £9.5m from Scottish Government Digital Skills Business Excellence Partnership funding. The SIP provides a framework for the private sector, education and public sector to work together to collectively address the sector skills issues through a jointly agreed action plan. .

The vision of the SIP is for Scotland to be viewed as a world-class location for ambitious digital technology businesses to be able to develop, invest and grow by having access to a talent pool with exceptional digital technology skills. To achieve this it is structured around 4 key themes:

- Responding to the immediate need for digital technology skills
- Broadening the future talent pipeline for digital technology skills
- Working together to make the education system more responsive to the needs of employers
- Raising the profile of the digital technology sector and careers

To access–click link to Digital Technologies Skills Investment Plan

Labour Market Intelligence and Research

The SIP outlines key statistics across the sector. These statistics were recently updated and note that there are currently 90,000 employed in technology roles across all sectors, within tech businesses there are 60,000 employed of which 60% of which working in tech roles across 8,800 enterprises. Recent research shows that there will be around 12,800 digital job opportunities in Scotland each year. To access click link to summary report

Digital Skills Survey

This study had 5 key aims:

- Detail the size and scale of the sector and its economic importance to Scotland

- Articulate the current composition and forecast changes in the sector's business base
- Map the education supply pipeline for the sector
- Identify the key drivers for change in the sector
- Articulate the current and future recruitment, workforce and skills needs of employers

To access click link to survey results

Pathways into careers in Digital Technologies

There are many pathways to roles in Digital Technologies the main initiatives have begun or are in the process of development and implementation**:**

- **Digital Schools** is a partnership project which is being led by Skills Development Scotland and Education Scotland, with support from the Scottish Government and other public sector and industry partners. It is in development as a project plan pending review around funding. However, this project will ensure that schools are fully equipped to support young people with the computing science and wider digital skills experiences which they need to take advantage of the 12,800 job opportunities each year. Digital Schools will take a holistic approach and address issues related to connectivity, infrastructure and kit, teacher CPD and leadership. This will be achieved through 4 inter-related elements of work;
    - **Information Gathering/Baseline Research:** Undertake research to understand the baseline position of computing science and digital education delivery across schools.
    - **Pathfinder Digital Schools Development:** Developing a plan of regional and national pathfinder projects which will support schools in making changes and improvements, and test the framework.
    - **Digital Schools Framework:** Utilise the research and pathfinders to make recommendations about a Digital Schools framework which will provide guidance on what is required for effective development of digital skills in schools.
    - **Pathfinder Digital Schools Delivery:** Implementation of regional and national activities

  The intention is that Digital Schools develops an ambitious, coherent and robust programme of work through regional and national pathfinders, which has the capacity to deliver transformational change, and which generates the evidence base to lever future support from public sector and industry partners in a coordinated and consistent way.
- **Computing Science in Schools**

  The number of pupils study and passing computing science increased by 8% to 14,212 between 2014 and 2016. Computing science teaching provision at school is insufficient and inconsistent across local authorities. Head Teachers and school management teams often lack understanding of the importance of computing science and may conflate it with ICT. Consequently some schools and local authorities have no computing science provision, and overall computing teacher numbers have declined. This lack of talent pipeline from school will affect the supply of young people entering computing related provision at colleges, universities and on Modern Apprenticeships.

  Computing science at school is not considered a 'science' and students making subject choices at school must decide between the 'sciences', and computing science. The most academic young people tend to be guided towards the former by their influencers. Computer science needs to be viewed more prominently in the school curriculum. In the school planning process technologies rarely features as immediate or short term priorities in improvement plans.

- **Support for teachers**
  Education Scotland recruited two Digital Skills Development Officers in April 2015 to June 2017 to support teachers and schools. Their work included digital learning and teaching through curriculum enrichment, career awareness and relationship building. They worked in partnership with key agencies to build links between education and enterprise, to promote best practice and to formulate future policy.
  Curriculum Es and Os have been updated and launched. Together with teacher toolkits now launched on GLOW

Taking computing out of the classroom

Digital Xtra

The Digital Xtra Fund was launched in May 2016, and has to date distributed £400,000 to organisations delivering extracurricular activities. The 22 projects funded so far are expected to reach 15,000 school pupils across every local authority area in Scotland. Funded initiatives include the training of over 140 librarians to deliver Code Clubs, the expansion of Apps for Good across Scotland and initiatives that use the design of lighthouses to introduce 'little engineers' to STEM concepts. The Digital Xtra Fund was awarded charitable status in March 2017. Find out more at digitalxtrafund.scot

Scottish Funding Council – Digital Skills Partnership

The Digital Skills Partnership (DSP) is a new collaboration of universities and colleges working together with industry partners to ensure the education system is more responsive to the needs of an ever changing industry. It aims to increase Scotland's capacity to deliver skills in computing science and informatics, and prevent duplication of effort and investment in teaching and curriculum development by ensuring capacity, quality and affordability."

Apprenticeships

Apprenticeship levy

Following the publication of the Scottish Government Draft Budget 2017/18 on Thursday 15 December, the Scottish Government has now published its response to the UK Government Apprenticeship Levy. This outlines that they will use levy funding to further support skills, training and employment in Scotland. This includes commitments to expand the Modern Apprenticeship programme as growth continues towards 30,000 new starts each year by 2020, increasing the number of Graduate Level and Foundation Apprenticeships during 2017-18 and continuing with the implementation of the Youth Employment Strategy: 'Developing the Young Workforce'. In autumn 2017, the Scottish Government will also establish a new £10 million Workforce Development Fund to help employers up-skill and re-skill their workforce. The fund will be developed with the input of employers through the Scottish Apprenticeship Advisory Board

The latest information updates on the levy are available on apprenticeship.scot.

Digital Technologies Apprenticeship opportunities

SDS has worked with industry and education partners to widen apprenticeship routes into the sector. Digital technology now has three Modern Apprenticeship frameworks: Information Technology Professional, Information Security, and Data Analytics. In addition, senior school pupils can choose a Foundation Apprenticeship in Creative and Digital Media, Hardware and Systems Support and Software Development. And new Graduate Level Apprenticeships are now available in IT Software Development and IT Management for Business and Cyber Security.

Digital Skills Academy - CodeClan

Launched in October 2015, Codeclan is an industry and public sector partnership and Scotland's first digital skills academy. The aim is to 'fast track' individuals into software developer roles through a 16-week immersive training programme. The CodeClan model demonstrates an innovative approach to responding to the immediate needs for technology individuals by creating an additional pathway into the sector. CodeClan has earned a reputation of producing quality graduates and an ability to respond to a specific employer demand. Visit www.codeclan.com for more information.

Promotion of Digital technologies careers

- **Digital World** is a SDS/industry partnership to promote the range of exciting careers available in Scotland's digital sector. Key audiences include school pupils, students, recent graduates, potential career changers, under-represented groups and career influencers such as parents and teachers (www.digitalworld.net)
- **Discover Digital World**
  MyWorld of Work and Young Scot delivered *Discover the Digital World* which was interactive events for young people and their influencers. Events ran in 10 locations and with 2 interactive online events the reach was to 2,100 young people in 75 schools and with support from 50 organisations and industry partners. Discover the Digital World parent events also in 6 locations, to 374 attendees with support from 38 organisations/industry.
- **Digital World Champions**
  A key audience for Digital World is career influencers who include careers advisers and guidance professionals so to support the reach and sustainability of the Digital World campaign SDS has established a network of 32 Digital World Careers Champions within their Careers Information Advice and Guidance (CIAG) team.

Gender

Tackling the Gender Gap

SDS commissioned research to better understand the reasons behind the gender imbalance in the technology sector, and in particular used these findings to develop a partnership action plan. The research, which looked at all parts of the pipeline, was launched as *Tackling the Technology Gender Gap Together* at a showcase event in November 2016, with 100 partners and industry representatives in attendance. This thematic approach to digital skills has resulted in collaborative efforts being taken forward – supporting role models and mentoring in schools (Girl Geek Scotland), with employers (Equate) and with teachers (Education Scotland).

Tackling the Technology Gender Gap Together research report can be downloaded here

Upskilling and Reskilling

Research has been completed to further examine the workforces resilience to the effects of digital disruption, and to understand where we need to be targeting our efforts to up-skill and re-skill existing staff. The final result of this work will include a set of recommendation about next steps.