

Sheffield Digital Skills Action Group

Terms of Reference

Third draft, updated 26 July 2019

Background

Sheffield submitted a bid to develop a Local Digital Skills Partnership (LDS) as part of a funding call by the Department for Culture, Media and Sport. While this bid was unsuccessful, it became apparent that there is a genuine appetite to develop a partnership that is local to Sheffield and provides focus to this broad and complex issue. In particular, there is a desire to build on existing collaborative but fragmented activity across the city in order to set this in the context of an overarching vision and plan.

The dotSHF Economy Group, which is part of the [dotSHF Digital Coalition](#) led by Sheffield City Council, has therefore requested set up of a sub-group focused on digital skills.

Members of the dotSHF Economy Group identified four categories of digital skills that could be covered by the group:

1. Basic digital skills for life
2. Digital skills for work and business in general
3. Higher level and specialist skills for technology-based businesses and organisations with substantial IT operations
4. Digital leadership skills for leaders of both public and private sector organisations to meet the challenges and reap the benefits of digitisation and digital ways of working

These incorporate the categories identified in the [Local Digital Skills Partnerships Playbook](#) developed by The Good Things Foundation for DCMS:

- Essential skills
- General skills
- Specialist skills

As recommended by the LDSP Playbook, the digital skills action group will initially focus on one category of activity in order to maximise resource:

- Higher level and specialist skills for technology-based businesses and organisations with substantial IT operations (specialist skills)

This area has been chosen as there is strong evidence of a skills shortage in the local tech sector and much of the existing successful activity is focused on the tech talent pipeline.

Activity in this area can also incorporate elements of digital skills for work and digital leadership.

The group will focus primarily on Sheffield but will also be interested in and seek to support wider Sheffield City Region initiatives.

Aims and Objectives

The overall aim is to develop a collaborative, coordinated and targeted approach to digital skills development so that the city has a clear vision and set of priorities. Specific objectives are to:

- **Help diversify entrants into the sector** to build a wider talent pool:
 - Younger entrants direct from school via apprenticeships
 - Re-trainers wanting to change career
 - Women
 - Those from ethnic backgrounds
 - Those from disadvantaged backgrounds
- **Inform and inspire young people and adults**, especially those not currently well represented in the sector, about:
 - What kind of opportunities there are in the industry
 - What are the (expanding) routes into the sector
 - What kind of skills you need
- **Build sustainable education/business connections** between schools and colleges, as well as universities, and the local digital tech sector taking into account:
 - The difficulty for schools of allowing students and staff off timetable
 - The difficulty for digital sector employers of hosting visits by large numbers of students and taking young people on work placement for any length of time

Membership

Membership of the group will span the public and private sectors, academia and the voluntary sector, with representatives of:

- Sheffield City Council
- Digital sector
- Corporates/public sector bodies with large IT departments
- Education:
 - Schools
 - Colleges
 - Universities
 - Private training providers
 - Adult/community learning
- Community groups representing target demographics

Governance

It is proposed that this group sits within the dotSHF family, given its fundamental importance to the People and Economy domains. The group should feedback to both groups on its discussions and progress, to share information and seek the view of critical friends at key points in its development.

Mapping Existing Activities

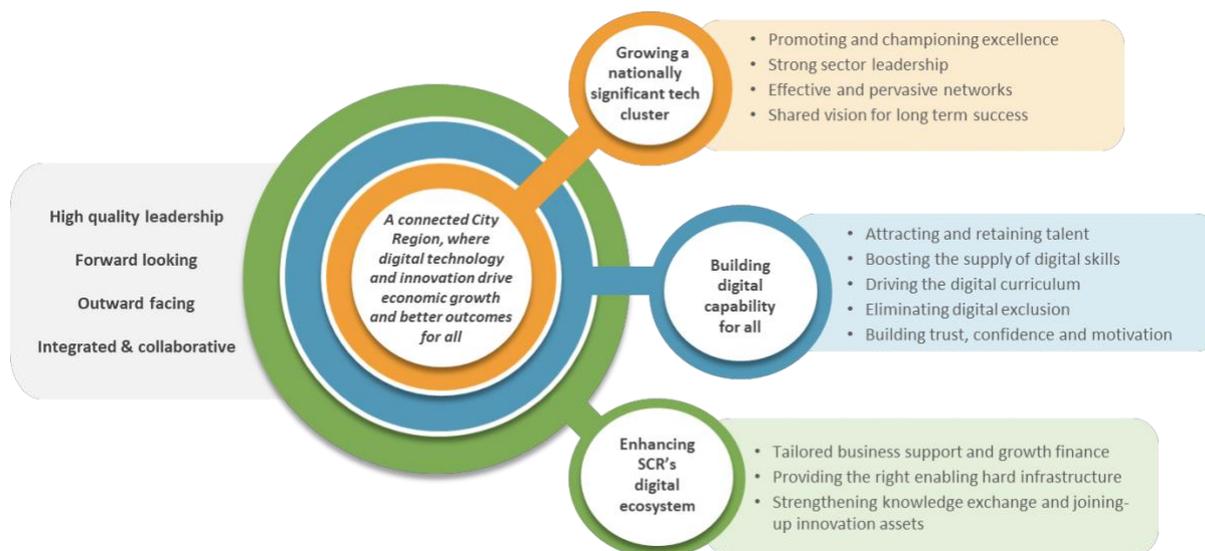
We have several sources of evidence for what is happening already and where the needs lie:

- [SCR Digital Action Evidence Base](#) (SCR LEP, published January 2018) which states:

Summary

- 70% of people working in the digital sector are in managerial and professional jobs – a much higher proportion than in the economy overall
- This is reflected in workforce qualifications, with over **40% qualified to degree level or higher**
- Looking to the future, it is estimated that **about 10,000 new employees will be required in the digital sector by 2024** – equivalent to 50% of the current workforce. Most of this will be replacing existing employees who retire/leave the workforce and will be in higher level occupations
- The universities are an important source of talent, with around **700 computer science and related graduates from the University of Sheffield and Sheffield Hallam per year**. Generally, graduate employment outcomes are good, with well-established employment programmes in place
- Digital apprenticeship numbers are relatively low, and are quite dependent on one or two larger employers
- Further education provision is larger – around 9,700 enrolments per year – and oriented towards general digital skills for the wider economy
- Beyond formal learning provision, **there has been an explosion of informal digital learning opportunities**, particularly geared to young people. These offer new models of delivery, although availability is patchy across the City Region
- The local digital labour market is (at present) relatively small. **As the digital sector matures, this presents challenges**, with smaller businesses finding it hard to compete with larger players in a relatively small talent pool...
- ... but **there are barriers to expanding the pool**: digital exclusion is high, few women engage in IT-related learning at higher technical level and learner pathways are unclear
- However, consultation with businesses and providers demonstrated a **strong enthusiasm for greater collaboration** and partnership working going forward.

- [The SCR Digital Action Plan](#) (SCR LEP) which suggests the following strategic framework for growing the SCR Digital Economy:



- [Tech Nation 2018 report on the Sheffield tech sector](#) which states the top three challenges facing digital start-ups in Sheffield City Region are:
 1. *Access to talent*
 2. *Access to funding*
 3. *Lack of awareness of the local tech community*
- [SCR Combined Authority report on skills shortages and hard to fill vacancies](#), Benchmark (published October 2017), *which identifies the need for better education/employer engagement amongst other aspects*
- [Sheffield Digital Skills website](#) which collates information on the current range of activity happening in the city around specialist digital skills development, showing what is already happening (see also Appendix of this document)
- Evidence from [Sheffield Digital](#) on the needs of local tech sector employers, *which indicates an ongoing skills shortage and new USPs identified for inward investors:*

EdTech – NB new EdTech for the North Hub in Sheffield led by Twinkl

Creative tech – games, films, media, creative industries

Mobility tech – where digital touches movement: health, transport, robotics

Industry 4.0 – digital manufacturing, automation, AMRC

- Evidence from the [Sheffield eLearning Service](#) of the state of delivery of the national computing curriculum in primary and secondary schools across the city in relation to the Royal Society report '[After the reboot: computing education in UK schools](#)' and the [Roehampton Annual Computing Education Report 2018](#). As elsewhere, it looks as though there are issues around GCSE Computer Science, girls are still greatly under-represented, broader digital literacy teaching is patchy, and the take-up of National Centre for Computing Education courses is low for secondary school teachers

Funding and Resources

There is no specific funding currently in place to support the proposed actions of this group. Instead, the group will focus on developing agreed priorities for action and then looking for appropriate means of funding. It is anticipated that this will include a mix of bids for public sector funding and appeals for private sector sponsorship.

The Council is investing some of Policy & Improvement Officer Chris Lowry's time to support the group and Liz Wallis, Sero, and Mel Kanarek, Sheffield Digital, have agreed to co-chair the group pro bono.

Priorities

On the basis of existing evidence, the following priorities for development are proposed:

1. Digital sector showcase for both young people and adults to understand about digital roles, careers and study paths
2. Profile 6 jobs in 6 local companies (video and other formats) with associated teaching resources to use in schools and with adults
3. A brokerage service to co-ordinate tech sector/education engagement:
 - a. Deliver a programme of locally informed digital careers awareness and industry-related experience for students, teachers, parents
 - b. Secure business challenge projects from employers for enrichment activities
 - c. Broker industry masterclasses, visits and mentoring opportunities
 - d. Set up tailored work experience to match young people's interests
 - e. Harness the involvement of big players like NHS, HSBC etc
4. Innovative and exciting activities to inspire a more diverse range of young people about digital opportunities, particularly aged 11-13 ahead of GCSE choices
5. Support for activities to engage, inspire and upskill a diverse range of adults to take up opportunities in the digital sector, especially women, those who are neurodiverse, and those from disadvantaged backgrounds
6. City-wide advertising campaign to raise the profile of jobs and skills in the digital sector targeting adult re-trainers, **parents** and young people, as well as targeted engagement of key groups
7. Maintenance of the www.sheffielddigitalskills.org.uk website and social media as a central point of information and co-ordination of activity

Role of the group

The role of this group will be to:

- Act as a sounding board for ideas
- Help to join up people, policy and initiatives
- Enable promotional and practical support for initiatives that reflect the group's priorities
- Define what the financial and practical "ask" is of employers, funders, policy makers
- Contribute to funding bids or sponsorship proposals
- Find out about best practice initiatives elsewhere that might be relevant for Sheffield
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Outcomes

The range of benefits that could be achieved from developing this partnership could include:

- Ensuring that there is a single group that takes ownership of the digital skills pipeline for the city
- Creating a 'single source of truth' evidence base on what the pipeline looks like, what the gaps and leaks are
- An authoritative voice on what the key challenges are across the digital skills landscape
- Leveraging the collective resources of city institutions to work together differently and bid for additional funding to address challenges
- Putting Sheffield on the map as a city addressing its digital skills challenges in innovative ways

Appendix: Existing digital skills activities mapped onto target audience groups

Strand	Current/recent activity	Next/scale-up
1) Employer/education partnerships	<ul style="list-style-type: none"> • Digifest digital festival 2017 and 2018 (SCC supported, Sero delivered) piloted a digital sector showcase for school-age children • The Better Learners Better Workers programme (BLBW), formerly the Cutlers' Ambassadors programme, sponsored by SCC and supported by the Cutlers, has a digital strand aimed at Y9s & Y10s, but numbers are small and it's expensive for schools so take-up is diminishing. The scheme is under review to remodel • Alternative work experience model for managed workspaces being developed and piloted by Sheffield Technology Parks (STP) – centrally managed with short visits to resident employers 	<ul style="list-style-type: none"> • Bigger Digifest focused on digital sector showcase about jobs/careers/study paths – The Star will run 'You Can Do Digital' • Video library with supporting teaching resources showcasing local digital sector roles, to open up the local digital sector to wider audiences and to showcase the variety of digital roles • ShfWIT interested in education, want to develop 'toolkit' to enable members to offer standardised activity • Alternative BLBW-type programme being scoped by SCC to start earlier in Y7 for all schools and whole classes • Look at how to scale up the STP alternative work experience model
2) Adult re-trainers (19+)	<ul style="list-style-type: none"> • Developer Academy is a privately run initiative offering low cost coding courses part-time and online • Tech Set Go! is running June-Dec 2019 in SCR, funded by DCMS through the Digital Skills Innovation Fund, to help under-represented groups (people from disadvantaged areas, women and those who are neurodiverse) to access opportunities in the digital sector by learning web development with the Developer Academy. Pilots are engaging people in Firth Park, Upperthorpe, Lowedges and Stocksbridge 	<ul style="list-style-type: none"> • Take up of Developer Academy • Learning from the Tech Set Go! activity with a view to securing a follow-on project • Anchor the legacy from the Tech Set Go! project in the Red Tape offer • Currently no offer geared up to engage and retrain recent graduates who may not realise they have skills relevant to the digital sector – a gap to address • Discussions with Techmums (https://techmums.co) about bringing this model to Sheffield (£6k investment to train trainers & secure resources)

	<ul style="list-style-type: none"> • The Council's Red Tape training centre is about to offer a similar approach, a fast track web development course followed by work experience, targeting people from the communities, especially women and those who are neurodiverse 	
Strand	Current/recent activity	Next/scale-up
3) School- and college-age students	<ul style="list-style-type: none"> • Delivery of new 2014 computing curriculum in primary and secondary schools is variable. Issues with results in GCSE Computer Science and drop off in uptake. Where secondary schools don't offer CS or few pupils select then may get very little else • The Make Learn Share scheme (2014-18, SCC with funds from Nesta, Raspberry Pi & EU) enabled Y8/Y9 students to teach robotics and apps to primary-age children • The Code Make Win coding competition (2015-2018, SCC funded, run by Sero, supported by industry & SHU) engaged and supported individual young people in games & apps • SCC eLearning Team works with schools & provide schemes of work • National Videogame Museum is developing an education outreach programme • Discovery STEM Education Centre at Kelham Islands is supported by UoS, works with schools & runs World Educational Robotics activity with notable successes • Dave Richards Foundation data science programme at Tapton 	<ul style="list-style-type: none"> • Bid to EC Erasmus+ KA3 programme for extension of Make Learn Share Europe has not succeeded. SCC is developing an alternative offer for schools bundling Make Learn Share in with other digital skills offers • SCC reviewing options for Code Make Win, makes sense to focus on games and join up with SHU's Games Britannia and NVM • NVM is looking to roll out Pixelheads Club pilot across Sheffield with follow-on bid to Arts Council • SCC eLearning Team offer is now part of Learn Sheffield subscription package, which will boost school take up <i>NB need to understand join up across all SCC offers to schools</i> • Discovery STEM Education Centre/WER activities seem to be expanding • DR Foundation is rolling out new data science offer to partner schools across SCR

	<ul style="list-style-type: none"> • A few Code Clubs • A new CoderDojo started by Zak Ahmed @ 108 the Moor 	
Strand	Current/recent activity	Next/scale-up
4) Parents	<ul style="list-style-type: none"> • Family Digital Makers Days (2016-18, SCC supported, run by Sero) are no longer happening but family robotics workshops are being offered in Tech Set Go! to engage parents with tech sector • Bright Box run by Kisha Bradley provides creative play activities with tech for children and parents at new space in Castlegate 	<ul style="list-style-type: none"> • The new 'You Can Do Digital' digital showcase will target parents and young people directly as well as schools • A city-wide advertising campaign about the digital sector would target parents
5) Teachers	<ul style="list-style-type: none"> • New National Centre for Computing Education courses are being run in Sheffield by the SCC eLearning team to upskill computing teachers. Uptake of primary courses is good, but uptake of secondary courses is poor • Consultancy and support by SCC eLearning team through Learn Sheffield subscription and they also run CAS Communities of Practice • Discovery STEM Centre works with teachers • Some funded training is offered to teachers for the World Educational Robotics but does not cover all schools 	<ul style="list-style-type: none"> • Need to engage secondary schools with NCCE courses • Support and promote SCC eLearning team offer • SCC eLearning team will be rejuvenating the CAS Communities of Practice • Review how many schools/teachers in Sheffield are engaged with WER
6) Progression pathways	<ul style="list-style-type: none"> • New Level 3 and 4 apprenticeships • Degree apprenticeships via SHU 	<ul style="list-style-type: none"> • Case studies of existing examples to encourage more employer take-up • Information for school careers officers & those engaged with adult learners