Summary

The UK IT industry and its representative body, CompTIA\(^1\) feel that a stark digital skills gap is affecting STEM provision in the UK at all expertise levels. The creation of a digital pathway as part of a revamped technical education system, as outlined by the Sainsbury Review\(^2\), which is to be delivered by the new Institute for Apprenticeships and Technical Education (IATE) has the potential to rectify this problem. However, this is only if lessons learnt from existing digital skill training initiatives (such as CompTIA’s Cyber Security Digital Pathway\(^3\)) around joined-up, clear and structured upskilling and reskilling pathways are learnt.

**STEM skills in short supply; a digital skills shortage**

The opportunity from digital skills provision is immense. The government predicts that 90% of UK jobs over the next 20 years will require digital skills, with rapidly expanding digital opportunities, such as the projected €415 billion European Single Digital Market\(^4\) also available.

However, major challenges remain to delivering digital skills. For example, overall 12.6 million of the adult UK population lack basic digital skills. An estimated 5.8 million people have never used the internet at all.\(^5\) 92% of UK executives indicate gaps in IT skills at their businesses and there is a stark gender gap with only 17% of the IT workforce being comprised of women\(^6\). Overall, this digital skills gap is already costing the UK economy an estimated £63 billion a year in lost additional GDP.

In specific areas of the growing digital sector, such as cyber security, a lack of needed digital skills is already having large and negative repercussions. Cyber security\(^7\) incidents cost UK firms £34.1bn in the past year. From this figure, managing malware alone cost £7.5bn, while data theft incidents cost £6.2bn, compared with the estimated financial impact of burglary over the same period of £5.8bn.\(^8\)

As such there is a serious gap and shortage of digital skills that needs to be redressed as part of closing the STEM skills gap.

**Addressing the digital skills gap; learning from existing training initiatives**

Tackling the digital skills shortage as part of the wider STEM skills gap will require a large refocusing of digital skills provision to be effective. CompTIA welcomes the fact that the government is aware of this and has started this process through the Sainsbury Review and development of IATE; as well as plans to make training in basic digital skills free for adults lacking relevant qualifications in England (currently an amendment to the Digital Economy Bill\(^9\)).

However, for this response to be truly effective, it must learn from existing measures in digital skill training initiatives to deliver a joined up, clear and structured approach to help learners find the right path to develop their digital skills.

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\(^1\) https://www.comptia.org/


\(^3\) https://certification.comptia.org/it-career-news/post/view/2016/10/11/introducing-the-comptia-cybersecurity-career-pathway


\(^5\) 'Digital Skills Crisis', House of Commons Science and Technology Committee Report, June 7 2016; http://www.publications.parliament.uk/pa/cm201617/cmselect/cmsctech/270/270.pdf

\(^6\) CompTIA 2015 International Technology and Workforce Study.

\(^7\) Cyber Security, the body of technologies, processes and practices designed to protect networks, computers, programs and data from attack, damage or unauthorized access

\(^8\) http://www.computerweekly.com/news/450300330/Cyber-attacks-cost-UK-business-more-than-34bn-a-year-study-shows 2016 Study commissioned by Beaming internet Service Provider. Study polled more than 500 UK business leaders about crimes that have affected their organisations in the year to 31 March 2016,

\(^9\) https://services.parliament.uk/bills/2016-17/digitaleconomy.html
For example, the proposals for a ‘power to specify qualification in information technology’\(^{10}\) which outline plans to make training in basic digital skills free are not currently linked up to the government’s wider proposed digital pathway in IATE. As things stand, the Secretary of State will specify the level for this minimum digital skills standard without the need to consult IATE which will be setting the standards across the rest of the digital pathway. As a result, this basic minimum standard is not currently linked to the government’s wider digital skills provision and standards that IATE will set through the new digital pathway. This could lead to question marks from businesses and learners about its overall value. It is also to only be applied to England, without outlined plans as to how this basic standard will be kept consistent across all parts of the UK.

These new government basic digital skill proposals therefore need to be connected to a clear pathway of digital skills through which learners can progress and see a route to expertise levels, e.g. for those needed to become an IT professional.

IATE’s new digital pathway technical education could also benefit from benchmarking existing clearly linked training provision. This would help businesses more easily understand what levels learners on the digital pathway had achieved, simplifying areas, such as the hiring of newly trained learners or reskilling workforces.

A number of existing training provisions, such as the CompTIA Cyber Security Pathway, give clearly linked progression pathways, so learners of all levels can understand their abilities and needed next steps. For example, CompTIA’s Cyber Security Pathway offers a learning hub\(^ {11} \) to help individuals understand the routes they must take, when looking to undertake cyber security digital training (see below).

This hub enables learners to quickly and easily understand their level of knowledge, the latest trends and information in the area, as well as what level they currently stand at within the pathway.

Following this, the pathway for digital skill development in cyber security is clearly outlined so that learners can see what expertise is needed, how long things will take and what they will achieve at the end of the qualification (see below). Benchmarking of such schemes by government and IATE will help to clearly outline digital skill sector pathways, helping to tackle the wider STEM skills shortage in the process.

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\(^{10}\) Digital Economy Bill, Part 6, Miscellaneous, 87, Qualifications in information: payment of tuition fees

\(^{11}\) http://www.mylanderpages.com/CompTIA/cybersecurityhub
Written evidence submitted by CompTIA (GAP0010)

Evaluation of CompTIA’s digital skill measures

CompTIA has not specifically evaluated these generic and sector specific digital skill measures. But anecdotally, the fact that certifications such as the A+ has been successfully taken by a million new IT learners and IT professionals working across a range of sectors shows their success.

In this way, CompTIA believes that benchmarking of proposed government solutions to existing digital skills measures as outlined above, can help to tackle the wholesale digital skills shortages that the UK faces. This in turn, will help close the STEM skills gap.

About CompTIA

CompTIA is the leading and trusted voice of the world's IT industry. We are a non-profit, international trade association representing over 10,000 members, from large multinationals to small and medium enterprises, across the IT industry. We promote best practices as the world’s leading provider of vendor-neutral certifications to industry, education providers and awarding organisations. This approach provides a consistent, versatile foundation on which a learner can build and is particularly suited to apprenticeships.

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