



# 'Technology & Digital ' Series

## Enhancing Cross-Sector Collaboration: Digital skills in the UK

Autumn 2020



**WIG**

The Whitehall & Industry Group  
connecting the sectors

# Foreword

WIG is a charity, independent and neutral. Established in 1984, our charitable purpose is to build understanding and co-operation between the sectors for the greater public good – better policy, better strategy, and society better served.

In this series of reports we have used our unique convening power to offer perspectives on key challenges through a cross-sector lens; illuminating the opportunities for collaboration which will drive progress through the challenging times we live in, and those to come.

We offer these short, and easily digestible comment pieces to give a snapshot of current thinking on topical issues across business, government, and the not-for-profit sector to support our membership in learning from each other, and moving towards co-created solutions.



Simon Ancona

**WIG CEO**

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## Overview

Digital skills have been high on the government's agenda since the UK Digital Strategy was released in early 2017. Though progress has been made towards developing a workforce equipped with the skills to build a world-leading digital economy for the UK, a significant skills gap remains. Lloyds Bank reported in their UK Consumer Digital Index 2020, that over half of the UK workforce still lack digital skills needed in the workplace (see Fig 1).

In 2020 digital skills remain a key component of government policy, sitting alongside commitments to increase productivity and level up opportunity across the country. Existing skills provision such as the apprenticeships levy have been bolstered by spending announcements in the March 2020 budget, which committed the government to establishing a new £2.5 billion National Skills Fund, to improve adult skills over the next 5 years.

Source: <https://www.gov.uk/government/publications/budget-2020-documents/budget-2020>

The digital skills challenge has many facets, encompassing the reskilling and upskilling of those in work, as well as training our future workforce currently in education. Many argue, interventions need to tackle not just the skills needed by employers to drive successful digital transformation, but also aim to future-proof the UK for job roles that don't yet exist. This need will grow as disruptive technologies such as AI and automation continue to shift the nature of work.

Far from being a topic of importance only to technology companies, all organisations across all sectors have core digital requirements that need to be addressed. Neither are digital skills simply a workplace issue. As the COVID-19 pandemic has shown through the dramatic rise in utilising online tools for work, education and

Fig. 1



Estimates taken from Lloyds Bank UK Consumer Digital Index 2020. Full report available here: [www.lloydsbank.com/assets/media/pdfs/banking\\_with\\_us/whats-happening/lb-consumer-digital-index-2020-report.pdf](http://www.lloydsbank.com/assets/media/pdfs/banking_with_us/whats-happening/lb-consumer-digital-index-2020-report.pdf)

socialising, digital skills are now essential life skills, the absence of which can further disadvantage vulnerable groups. National standards for these essential digital skills have now been developed, and made available for teaching from September 2020, to be followed by digital functional skills qualifications in 2021.

Source: <https://www.gov.uk/government/publications/national-standards-for-essential-digital-skills>

The need to improve the level of digital skills across the UK population touches every aspect of our economy and society; from connecting isolated people, to ensuring we have a pipeline of future cyber security engineers. This is the very definition of a cross-sector challenge, one that WIG believes would benefit greatly from increased understanding and collaboration between the sectors. In this report we have aimed to highlight where this might be possible, by offering a variety of perspectives from across our membership.

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## Dr Mark Kennedy, Imperial College London

### What is your organisation's role in the digital skills ecosystem?

We do research, teaching, and related advisory work for our funders and stakeholders in society. In research, we do basic science that lays foundations for the practical technologies underlying the ecosystem emerging around digital skills, and we also do more applied research in systems and business to explore the practical applications of breakthroughs in science and technology. In teaching, we help talented and hard-working students train for careers in which they will use and develop new ways of working, with most of our students going into careers in engineering, medicine, business, or academic research. In advisory work, we consult with leaders in business and government on how new technologies and capabilities are likely to change business and society, creating new possibilities and accountabilities for us all.

### What challenges and opportunities do you currently see in this space?

We see challenges and opportunities on two fronts. First, there is an essential digital skills challenge. We must lower the cost and scale up the delivery of education that meets the need, and we must educate both leaders and the broader workforce. Second, there is an innovation challenge. Beyond having a workforce that makes full use of digital tools designed elsewhere (often with different values in mind), we believe the UK can grow in offering digital technologies and related institutions as attractive exports. We are more active in the second challenge, but our efforts and partnership at delivering education through digital platforms are relevant to both challenges.



**Imperial College  
London**

Before becoming an academic, Dr. Kennedy was a Principal in the management consulting unit of Computer Sciences Corporation (CSC) and a software engineer and product manager for a startup. As a consultant, Professor Kennedy has served clients in technology and healthcare on issues at the intersection of strategy, leadership, and organisational change.

In terms of specific and skills innovations, we see needs in keeping data secure and appropriately private, separating reliable information from misinformation, and establishing “daylight” markets for data assets—that is, markets that do not rely on keeping the public in the dark.

### What areas would you like to see enhanced cooperation with government?

We are keen to expand our conversations with policy makers on both essential digital skills and indigenous innovation for comparative advantage

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and export. To explain, the digital economy is increasingly powered by infrastructure designed in the US and China, where broad powers are vested in the state and the market, respectively. In the US, so-called big tech companies generally work to appropriate innovations and keep the government out of regulating their offerings. In China, the control equation is roughly reversed. Both are unlike the UK, where there is a more collaborative relationship between government, researchers, businesses, and labour. We believe this is a source of comparative advantage that should be celebrated, protected, and fully leveraged, but that takes dialogue and deliberate cooperation between the parties as just described.

### **Is there a role that large tech companies can play nationally in support of the digital skills agenda?**

To focus narrowly on the twin goals of scaling up and lowering the cost of delivering digital skills training, scale and low cost are both best delivered by larger organisations. That said, large tech companies come with business models and constituents that both enable and constrain their capacity to serve this need. To us, large tech companies include players in data, software and IT services, search and information retrieval, marketing and advertising, and equipment for communication and computation. They all have capabilities that could be applied to this challenge, but none are directly in the business of large-scale transformation of population skills. For this need, we expect to see new players emerge in close partnerships with large tech companies.

### **How could improving digital skills contribute to 'levelling up' the UK?**

The UK has all the ingredients to aspire to being not just savvy users of prevailing technologies (definitely that!), but also to being pioneering suppliers of

cutting-edge services to the world market. The UK is a global power in finance, trade, law, accounting, medicine, and creative industries. As digital skills spread through the population, we expect innovators in these service industries to develop brands and services that supporting scaling UK leadership to compete in markets for services that are still more local than global.

### **How can the private, public and academic sectors better collaborate to upskill the UK?**

To thrive in the coming digital age, making the most of UK comparative advantages will mean being more British than American or Chinese. If this it sounds too simple, it is based on distinctive and complex institutions that foster connections, dialogue, trust, and collective action between leaders in government, business, and academics.

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Vinay Menon, Senior Client Partner, Global Lead, AI Practice, Korn Ferry

### What is your organisation's role in the digital skills ecosystem?

As the world's premier people strategy firm, Korn Ferry works with the leading companies across the globe in understanding their digital challenges. We bring together strategy and talent to drive superior performance for our clients, by identifying the required skill inventories and bridging the gaps.

### What challenges and opportunities do you currently see in this space?

The pace of digital transformation has picked up considerably in recent times, not least due to the Covid-19. Consequently, organisations the world over are preparing for considerable technology driven disruptions and are scrambling to identify the skills and experience required to meet this growth. The rapid rate of transformation often makes it difficult for companies to identify the necessary skills required by the future workforce. The problem is compounded by the fact that until recently several firms were still in the 'proof-of-concept' stage and were focused on conducting pilots to tests to train small batches of employees. Hence, there exists large bubbles of skills inequity, which is both an opportunity as well as a challenge

### What areas would you like to see enhanced cooperation with government?

The challenges in preparedness has the potential to hamper the country's future growth and productivity and requires concerted action by the government – especially when it comes to preparing the next generation of talent for the future of jobs.



Vinay has worked internationally on numerous high profile leadership searches and consulting projects within the Services and Software space. He also leads the firm's Artificial Intelligence practice globally. Vinay specialises in mandates centred on 'building a digital enterprise' with a focus on Cloud, Artificial Intelligence, Data Analytics and the Internet of Things.

### Is there a role that large (tech) companies can play nationally in support of the digital skills agenda?

Tech companies can work with the government to ensure that the pace of re-skilling picks up considerably. Today, a majority of organisations take a reactive approach to reskilling digital talent.

### How could improving digital skills contribute to 'levelling up' the UK?

Governments the world over are focused on transforming their cities into Digital Hubs, by taking bets on technologies – such as AI, Blockchain, 5G etc. By investing in these technologies and

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supporting it with appropriate skills within the local talent pool, UK can gain significant competitive advantage.

### **How can the private, public and academic sectors better collaborate to upskill the UK?**

By creating 'working groups' who share best-practices, regularly and transparently. These working groups (set up in tandem with the government) should be asking questions such as:

- What actions would enable the current educators in Delivering training / development / education to develop necessary skills?
- Has the UK govt mapped out the partners it would need in managing an eco-system which involves government, private; companies, training providers, and civil society?
- Has the UK govt initiated connects/ discussions with the key stakeholders such as students, workforce, companies, entrepreneurs, teachers and training providers?
- What needs to happen over the next six months?

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Jane Dickinson, Digital Skills Lead, Open University

### What is your organisation's role in the digital skills ecosystem?

The Open University (OU) plays a role right across the digital skills ecosystem, supporting people to develop digital skills at all levels. Our provision includes:

- Free introductory digital literacy courses, hosted on [OpenLearn](#).
- More advanced free short courses to support continuous professional development related to digital skills, hosted on [FutureLearn](#).
- Collaboration with the UK Government's [Skills Toolkit](#), as well as similar platforms in Scotland, Wales and Northern Ireland, providing a range of free digital skills courses.
- Involvement in several local partnerships helping underrepresented groups develop the skills to take up entry-level digital jobs, including [CyberSkills](#) in the West Midlands, [DevOpsSkills](#) in Lancashire and [CodingSkills](#) in Scotland.
- Degree apprenticeships developing the higher-level skills required by digital professionals in [England](#), [Wales](#) and [Scotland](#).
- Higher education [modules](#) and [qualifications](#) for digital professionals.
- Our role as a major partner in the [Institute of Coding](#), whose mission is to break down barriers to digital learning and employment.

Given the importance of attracting and enabling more people to develop digital skills to bridge skills gaps, enable access to rewarding tech careers and over the economy, the OU plays a crucial role in growing the talent pool through:

- [Flexibility](#), enabling people to study wherever and whenever they want so they are able to fit their studies around their working and home lives.
- [Focus on disadvantaged adults](#). Our founding mission is to be open to everyone. Our undergraduate courses are designed to be



Jane Dickinson is the Digital Skills Lead at the Open University. Working with various teams across the university, Jane is passionate about creating digital skills solutions to help organisations develop their digital talent. Most recently, Jane has created a number of digital retraining programmes, which aim to bridge skills gaps and enable individuals to access in demand jobs with local employers. Jane previously worked as a Senior Manager for CompTIA, the global IT industry association, and has worked in the IT training field for over twenty five years.

accessible to all with no entry requirements: over one third of our students do not have A-level or equivalent qualifications.

- [Accessibility](#): people can study at the OU if they live anywhere in the UK meaning we can reach 'cold spots' that others cannot. The OU is one of the five biggest universities in 90% of parliamentary constituencies. A recent [study](#) found that the Open University is the third biggest producer of UK graduates for the world's biggest technology companies.

Also, as a specialist distance learning provider, our students mainly study online. This means that all of our courses develop digital literacy skills. Our

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innovative teaching methods allow us to reach disadvantaged people, and communities not served by other universities, and help them achieve their learning goals through high-quality supported open learning

### What challenges and opportunities do you currently see in this space?

As the Secretary of State for Digital, Culture, Media and Sport has observed, the Covid-19 crisis has “turbocharged the digital transformation of almost every part of our days – of our workplaces, our businesses, the way we shop and stay in touch with family and the way we use public services”. He has set an ambition to use digital technology to “power us out of recession to drive productivity and create jobs in all parts of industry, region by region and in all parts of our economy” and the forthcoming digital strategy aims to “build a highly-skilled digital workforce across every region of the UK (and) help workers adjust to a digital-led economy”.

(Source: <https://www.gov.uk/government/speeches/digital-secretarys-closing-speech-to-the-uk-tech-cluster-group>)

There will be a number of challenges in achieving this ambition:

- **Flexibility.** It will require upskilling adults who are already in work and need to fit digital skills development around their jobs and family lives. Programmes need to be able to flex to support particular individuals/groups
- **Funding.** Skills development is perceived as a risky investment as the returns are uncertain and the upfront costs are difficult for individuals to finance.
- **Awareness & Reach.** Digital skills programmes need to reach disadvantaged adults who did not have a good experience of education when younger, adults in disadvantaged communities and adults who are looking to return to the labour market.

- **Engagement.** Adults who are reluctant to study will need to be encouraged to take up digital skills development opportunities. In large part this involves building confidence, helping individuals understand their aptitude and inspiring them by communicating the benefits of developing digital skills.

There's a need to articulate a clear pathway to the outcome they are working towards, whether that be a digital career, a promotion or an ability to access online services for the first time. Articulating pathways is a challenge given the pace of change, but is worthy of focus by the National Careers Service and others.

### What areas would you like to see enhanced cooperation with government?

In order to tackle these challenges to building a highly skilled digital workforce across every region of the UK, action needs to be taken to:

- **Inspire.** Promote confidence and desire to learn new digital skills among working adults
- **Enable.** Make that vision a reality by providing a pathway for the individual to develop their digital skills and see how it benefits their career, including how they can build a career as a digital professional.
- **Deliver.** Ensure that working-age adults can access digital skills courses and qualifications which flex around their existing work and family commitments, meet their learning goals and are both affordable and attractive to the learner.

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We recommend that the UK Government:

- Makes funding available to support more local partnerships between local and sub-regional government, employers and providers aimed at improving digital skills.
- Ensures that funding is available for digital skills training at all levels, not just for low-to-intermediate skills and not just for job-specific skills for digital specialists.
- Takes action to reduce tuition fees for part-time study in digital skills, including at Level 4 and above, to make it more accessible to working adults.
- Supports part-time students with their study costs, including through extending maintenance loans, grants and bursaries for part-time study in digital skills.
- Adopts the Augar recommendations around the Lifelong Learning Loan Allowance, extending financial support to high-quality short courses and relaxing so-called ELQ rules to enable graduates to obtain support to update their knowledge and upskill.
- Promotes the digital skills training programme to both individuals and employers: inspiring people to improve their digital skills, encouraging people to aspire to work in the tech sector and persuasively demonstrating the real-world impact of digital skills training can have in improving career prospects, productivity and wages.
- Supports the development of clear career pathways for digital skills professionals to encourage more people to make a career in this area.
- Develop online diagnostic tools to help individuals understand their aptitude for digital and hence which digital skill set or career they should look to develop.

### Is there a role that large tech companies can play nationally in support of the digital skills agenda?

There is a role for tech companies large and small to play nationally and locally in support, and, in fact, many are already doing it through:

- STEM Ambassador networks; supporting schools and local community groups by putting on or augmenting existing digital skills classes, providing insight into what it's like to work in the tech industry and helping interested individuals pursue a path towards further developing their skills / a digital career
- Instigating knowledge transfer initiatives. Supporting local SMEs to digitise/digitally transform and realise associated benefits
- Supporting national or local tech industry groups. The development of clusters and local partnerships between industry, training providers, charities and local authorities to promote action and collaboration on digital skills is starting to work well
- Many large tech companies already engage in CSR programmes with the aim of developing digital skills and helping individuals access rewarding careers eg [Cisco's Networking Academy Programme](#), [AWS' Restart Scheme](#), [DXC's significant support of the STEM Ambassador Scheme](#), [IBM's Outreach](#)

### How could improving digital skills contribute to 'levelling up' the UK?

- Oliver Dowden, Secretary of State for Digital, Culture, Media and Sport, recently spoke of his vision of the UK as a nation of micro multinationals. Development of digital skills\_for life and business, in combination with an investment in infrastructure, means that it's possible for organisations to access global

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markets or collaborate with colleagues irrespective of whether they are in a rural location or a large conurbation.

- As the focus of 21st century work is increasingly on what you do – not where you do it from – enhanced digital skills and infrastructure will only further serve to allow individuals to access rewarding careers no matter where they are in the UK; a shift that has doubtless been accelerated as a result of the C-19 pandemic. The 'brain drain' effect should become confined to history as digital increasingly democratises opportunity irrespective of location and all regions have the access to the talent they need to power growth and prosperity.

### **How can the private, public and academic sectors better collaborate to upskill the UK?**

There is widespread acknowledgement that collaboration is critical in bridging skills gaps and upskilling the UK.

- Initiatives such as the [Institute of Coding](#) bring academia and industry together to break down barriers to digital skills development and employment.
- The [Digital Skills Partnership](#) initiatives, of which our [CyberSkills](#) and [DevOpsSkills](#) programmes are examples, bring together public, private and charity sector organisations to help increase the digital capability of individuals and organisations in England and are starting to have impact. Six of these partnerships are in operation and extension to other regions should be considered.
- Enhanced collaboration and coordination at both national and local levels would be welcome. National coordination enables all regions to benefit from existing structures and best practice, whilst local implementation allows for the flexibility to adapt to local economic conditions and specific skills priorities.

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Martin Howlett, Vice Chairman, IAAC  
(formerly Partnerships Director, Youth Federation)

### What is your organisation's role in the digital skills ecosystem?

The Youth Federation Digital Skills Programme has two experiential learning centres to develop interest and skills in cyber security. It operates two Security Operation Centre experiences that both engage and capture participants to think about a career in the digital security sector. Working with industry partners the operation offers young people from the ages of 8-29 the opportunity to become a cyber security threat analyst for the day. This both inspires young people and also shows them what the opportunities are within the sector.

### What challenges and opportunities do you currently see in this space?

The biggest challenge in this space is the lack of knowledge about the sector within education. Without exception, teachers who come to the SOC experience leave in awe of the knowledge transfer and opportunity that it gives their young people. It inspires them as educators to do more of this work in the classroom and develop their skills and abilities in the world of cyber security, rather than see it as just an element of computer science.

In relation to the opportunities, these are vast. More education and resources for schools to use need to be developed. Here is the opportunity to support education and also invest in their own skills pipeline. Schools need support in developing this material and also opportunities for teachers to see what life is like on the sharp end of cyber security and data assurance/resilience.

### What areas would you like to see enhanced cooperation with government?

I think that DCMS are doing a good job generally.



Though Martin has recently moved on to a new role with the IAAC, he answers here in relation to insights derived from four years of skill pipeline development with young people through the Youth Federation.

They see the need for government to support the skills agenda. The problem is that the skills agenda in cyber is currently linked to DCMS and the education agenda is DfE. The departments need to be more collaborative to ensure that skills are in the forefront of education thinking. Currently, it seems as if the two departments don't really collaborate on this.

The regional LEPs are also making a difference, especially with the Digital Skills Partnerships. Government (DCMS and DfE) along with the LEPs need to work with local providers to produce a 'road map' of skill development. There needs to be some joined up thinking resulting in a coordinated response to the skills crisis in digital security.

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### **Is there a role that large tech companies can play nationally in support of the digital skills agenda?**

There is a role for large tech companies but this must not be at the expense of the SME community in the field of cyber security. We need regional solutions supported by regional companies. You will only get skills development if learning can be embedded. This will only be achieved with experiential learning opportunities that can embed the learning at schools, colleges and other institutions. Large tech companies can support this by 'pooling' funding and resource to be allocated at a regional level and supported by the businesses that operate within that community.

### **How could improving digital skills contribute to 'levelling up' the UK?**

Digital skills are a 'bolt on' in the UK. We need to realise that digital skills and capability is not a 'fad'. Digital skills must become core learning for all, including 'catch up' learning for people of all ages. The IoT and the rapidly changing world of digitisation needs a response for skill development in the same terms as Maths, English and Science, core subjects that we simply cannot do without. The Covid-19 crisis has shown the real need for this to be the case!

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### Conclusion

In this report our contributors have shown that organisations across the sectors in the UK are developing an approach that recognises digital skills as core life-skills, and embraces life-long learning. From equipping those setting out on their career path for the jobs they may have in 20 years, to working with today's tech leaders on the cutting edge of AI research, or simply keeping families connected.

There is of course no 'one size fits all' approach. For some, targeted, place-based interventions will be most impactful, such as the experiential cyber security youth workshops Martin Howlett discussed in his responses. Through mechanisms such as the LEPs, this type of initiative can connect with projects to address regional inequality more broadly, as part of the levelling-up agenda.

Jane Dickinson shared a seemingly contrasting approach, in which the Open University enables flexibility and accessibility via a remote learning model; focused on upskilling disadvantaged adults to support them into "a digital career, a promotion or an ability to access online services for the first time". However, she still highlighted the crucial role of local partnerships. Jane also shared a number of projects with private sector organisations such as WIG members Lloyds Bank, Cisco, AWS and IBM, which "bring academia and industry together to break down barriers to digital skills development and employment".

Arguably the most impactful way to address the apparent digital skills gap in the UK is through cross-sector collaboration. As Imperial College's Mark Kennedy pointed out, the UK already enjoys a "collaborative relationship between government, researchers, businesses, and labour", which should be harnessed to deliver effective and affordable digital skills training across the population. Mark also stressed the key role of digital skills as an economic

driver, meeting the potential for the UK as an exporter of "cutting-edge services to the world market". This will likely grow in importance as we look towards economic recovery from the COVID-19 pandemic, and build an independent trade policy outside the EU.

Vinay Menon shared his insights into the importance of "preparing the next generation of talent for the future of jobs," offering the idea of building a digital skills eco-system through a series of cross-sector 'working groups' as a potential solution. This sort of structured collaboration might facilitate the joined-up thinking a number of our contributors suggested as lacking across the UK.

A coordinated national response to the digital skills challenge could engender significant productivity increases, and enhance the UK's international standing as a powerhouse of innovation, at this crucial time for our economy. However, to achieve the maximum societal impact of enhancing digital skills in the UK we cannot lose sight of local contexts, and should seek to embed initiatives within communities.

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