world **skills** uk

GO FURTHER, FASTER

Tech Summit 2018
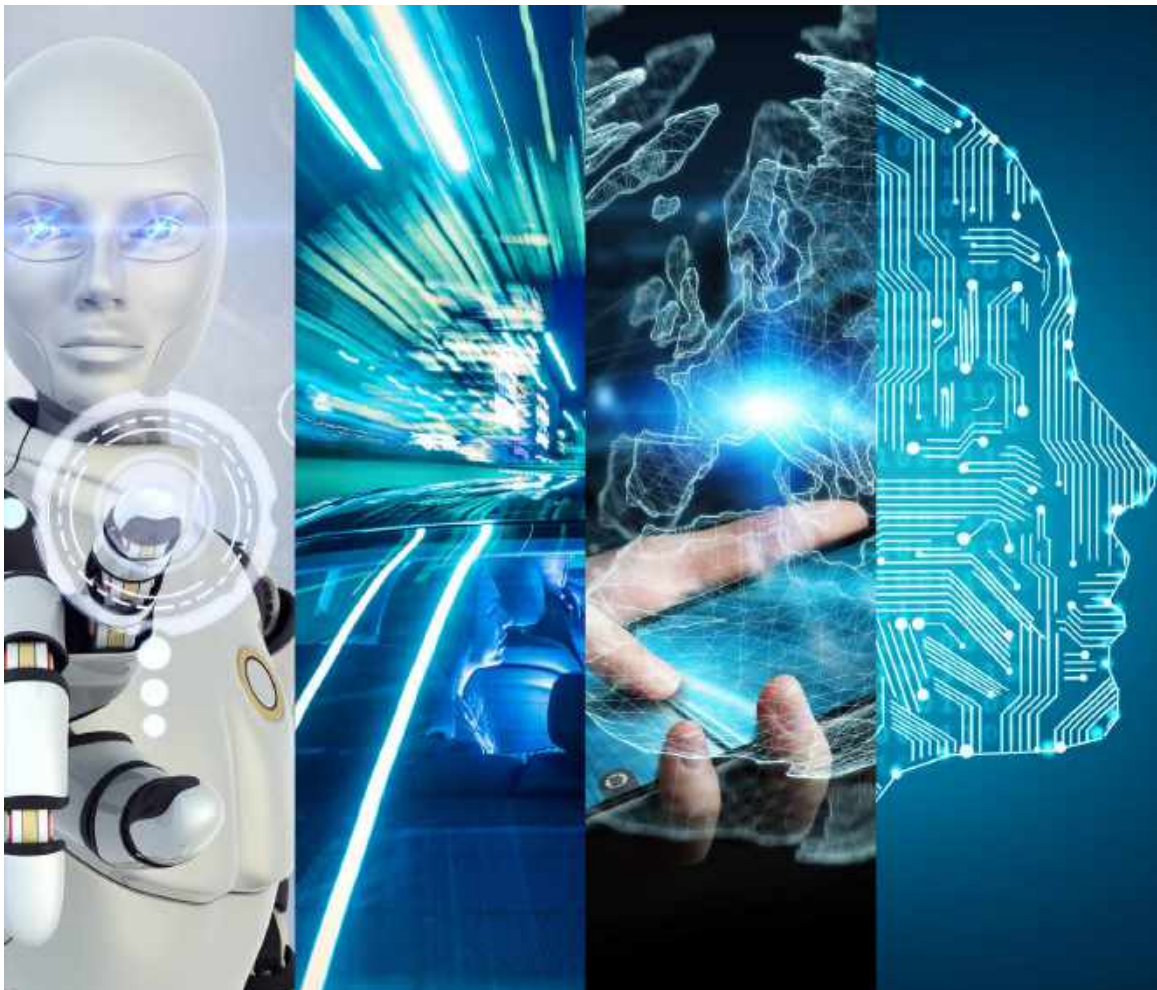
Why a WorldSkills UK Tech Summit?

We are experiencing a significant period of transformation with the adoption of automation and smart technologies in business and everyday life. If the UK embraces Industry 4.0, the effect could be as profound as providing a clear path to sustainable productivity improvements of between 5-8%. This would help boost long-term competitiveness and reverse the current productivity gap compared with the rest of the G7[1]. Such change also has the potential to dramatically impact the nature of work for current and future employees.

This leaves us two challenges: how to develop the right skills, and how to change talent development to harness these productivity gains.

As a convening platform for the debate on technology, productivity and skills development, WorldSkills UK hosted a Tech Summit with key partners. The summit took place in November 2018 at WorldSkills UK LIVE, the UK's largest skills and careers event. It involved the people who will be directly impacted by this transformation: young people, parents, educators, governments and businesses from across the UK.

[1] https://media-publications.bcg.com/Is-UK-Industry-Ready-for-the-Fourth-Industrial-Revolution.pdf

The purpose

Building on our organisational model of creating spaces to 'think' innovatively about the challenges we face and then 'do' something to implement effective change, our purpose was to address four different perspectives:

THINK...

1 We know we must think beyond traditional models of training and work, with local and national educators working hand in hand with industry, as outlined in the Made Smarter Review[2]. So, we brought together partners in government, business and education to discuss how we can invest in technology and work collaboratively to build a future skills system to maximise Industry 4.0.

2 Millennials lack confidence and want businesses to help them develop the right skills for industry, including the "soft" skills they believe will be more important as jobs evolve[3]. Knowing our future lies in the hands of the next generation, we also hosted a Youth Summit at WorldSkills UK LIVE to create a platform for young people to have a dialogue with industry about preparing for tomorrow's workplace.

DO...

3 We know that seeing is believing when it comes to inspiring and informing young people and parents about future careers. Our research with the Careers and Enterprise Company[4] identified that young people say they learn best through hands on experience (31%). However, there is a disconnect, as only 18% ever receive hands-on careers advice. That's why we brought future tech careers to life through a 'Future Tech' experiential careers zone. It enabled young people and their parents to see and experience the latest innovations in technology first-hand.

4 Employers assert that our skills competitions accelerate and improve technical excellence to meet the ambitious standards. To facilitate the transition to the new skills and training development required by Industry 4.0, we have already launched new tech-focused competitions. Cloud Computing, Cyber Security, Building Information Modelling, Digital Rail, and Lab Technician competitions are helping employers build training that is a competitive differentiator for them and their employees.

[2] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/655570/20171027_MadeSmarter_FINAL_DIGITAL.pdf
[3] https://www2.deloitte.com/content/dam/Deloitte/ch/Documents/human-capital/ch-2018-millennial-survey-global-report.pdf
[4] https://www.worldskillsuk.org/media/5050/wsuk_gender-bias-report_final.pdf

Key findings

This report outlines key insights and activities from our Tech Summit in terms of harnessing potential and building a skilled workforce for a high-tech future, including:

1. *How the engineering and construction sectors are creating a collaborative skills system fit for the future*

2. *How the rise of technology in the workplace is impacting young people and how we can best support them*

3. *How companies brought to life the latest innovations in technology through our 'Future-Tech' zone*

4. *How skills competitions can help support the future skills needs of Industry 4.0*

THINK...

1 Creating collaborative skills systems for engineering and construction

Advances in technology are forcing employers to re-think their innovation strategies to maintain their competitive edge and boost productivity.

This is particularly true when examining future workforce skills and how they work with the skills sector in the UK to generate this talent. Following on from roundtable events we hosted earlier in 2018 with these two sectors[5], we reconvened leaders from large employers, SMEs, industry bodies, government and education to look at the second phase in this conversation. Namely, how do we create motivated leadership to invest in these technologies and stimulate collaboration to develop a skills system that will continue to make the UK an attractive investment destination and boost productivity?

Key insights:

- **Connected and integrated approach** – models of good practice are emerging across the country but may not be well known. We need to look at how we join industry and education together through the '**connectivity**' of Industry 4.0 to reshape how these bodies work together more collaboratively, through a co-delivery and co-investment model.

- **Building a common language when describing digital construction:** It is vital to have a shared understanding of what we mean by digital construction. This is important because there are multiple actors/roles within the construction industry. It will also help young people to understand the skills and competencies that employers are looking for.

- **Mindset** – we need to critically consider how we move mindset and qualifications along together. This is particularly true from a human resource perspective when looking at hiring practices, leadership and performance management.

- **Cultivating curiosity for data and not dwell on technology**: technology need not determine the future of work necessarily, it can be adopted to bring about incremental improvements if we have the openness to learn from the data and embrace the opportunity it creates for closer collaboration.

If you are interested to learn more, we will be publishing a complete report of these roundtables in Spring 2019.

2 Creating a tech and growth mindset for young people

Young people today are more adaptable and tech savvy than their older counterparts, with 90% having access to a smartphone. But it is estimated that there are over 300,000 young people do not have basic digital skills[6]. We wanted to give young people the opportunity to express how they feel about the rise of technology in the workplace and identify how we prepare them.

Our Youth Summit brought together a diverse range of young people to debate, discuss and create pitches through an accelerated form of design thinking for a panel of decision makers from BAE Systems, Facebook and the Association of Employment and Learning Providers (AELP).

From the pitches, young people shared some of the following key insights (below). What was most striking was how this dovetailed with the recommendations of employers during the roundtable events, such as creating a more connected pathway around Industry 4.0 and the importance of mindset in being able to adapt to the inevitable change that will occur. These insights from young people included:

- **Beyond the classroom** – there is a real need to identify how we reach young people from disadvantaged backgrounds outside of a mainstream school setting. It was suggested that by investing in more informal environments, such as youth centres, young people can explore tech in an uninhibited and creative way. Central to this is cultivating an environment of trust where young people can lead and discuss what they are interested in learning and knowing.

- **Connected Pathways** – attendees highlighted the need for education and careers advice to keep up with the pace of change in technology and how it might affect their future careers. 'If we don't do it now, we will have a generation of young people who are not ready for the world of work.' There is a need to:

  - Identify and start teaching future skills at a younger age.

  - Respect that learning styles of young people are individualised not standardised and provide a more engaging an engaging curriculum - with flexible pathways. This flexibility must also include the methods used to assess students and consider creativity.

  - Keep young people up to date and informed about how things are changing in real time, and empower them to help themselves.

- **Tech & Growth Mindset** – 'It is difficult to future proof technology skills, so we want to introduce a growth mindset at a younger age in school, which will enable them to adapt at the same pace as technology.' The winning pitch emphasised the importance of developing the behaviour in students from a young age where they believe they can get smarter and they understand that effort leads to higher achievement.

'We need to create an environment in which young people from disadvantaged backgrounds can believe in their ability to learn and develop tech skills.'
Youth Summit participant

[6] https://www.goodthingsfoundation.org/news-and-blogs/blogs/Young-adults-and-the-digital-skills-gap

3 *Future Tech: seeing really is believing*

Throughout 2018, we have engaged with employers and young people to explore how we best prepare the next generation for the change Industry 4.0 is bringing to the future of work. Across both groups there was an identified need to implement a 'seeing is believing' philosophy on technology through a dedicated area focused on inspiring young people through the Year of Engineering and Industry 4.0.

Partnering with the UK Department for Transport we developed the 'Future Tech' zone, themed around how employers can develop young people to support the governments four industrial challenges on clean growth, an ageing society, the future of mobility and artificial intelligence and data.

Key features of the zone included the Rolls-Royce Volante Vision Concept 'flying car' showcasing Aston Martin's influence in mobility innovation, Network Rail, Facebook, and Highways England demonstrating how we can exploit VR and augmented reality technologies to train young people. The likes of Raspberry Pi and online retailer Ocado delivered coding workshops, underlining the importance of programming and coding skills to the future health of the economy.

Kate Cowie, Facebook: 'Days like this are so important because young people don't necessarily associate engineering with IT and software engineering. It's great to get out there and spread what engineering is about and explain to young people about some really exciting career opportunities.'

4 *Developing new tech skills competitions to meet employer needs*

To ensure that we continue to champion the skills that are needed to drive the UK economy and help to support the UK's industrial strategy, we introduced four new skills competitions into our portfolio.

Partnering with innovative companies such as Autodesk and Amazon, these competitions in Building Information Modelling (BIM), Cyber Security, Cloud Computing and Laboratory Technician demonstrate the skills that are needed now in the UK and provide a platform to champion the leaders in these sectors.

The demands of industrial digitalisation are going to shape the way that business is done in the 2020s. Ensuring a pipeline of talented, productive and adaptable young people to drive the workforce of the future is going to be vital. Our competitions – testing standards nationally and internationally – have an essential role in supporting this objective.

Next Steps for WorldSkills UK

Technology will transform working practices, representing a potential threat but also a significant opportunity for the UK economy. With the right technical skills and resilience in the workforce, such advancements could reverse the UK's productivity gap.

As demonstrated with our 2018 Tech Summit, WorldSkills UK is committed to playing an active role in contributing to the debate and the action that will help prepare the UK for a technologically-driven future.

WorldSkills UK is determined to use its expertise in technical skills excellence, developed over decades of experience in global skills competitions and from its unique network of international skills experts, to help the UK build a world-class technical education system. This will prepare students for the technological changes they will face in industry.
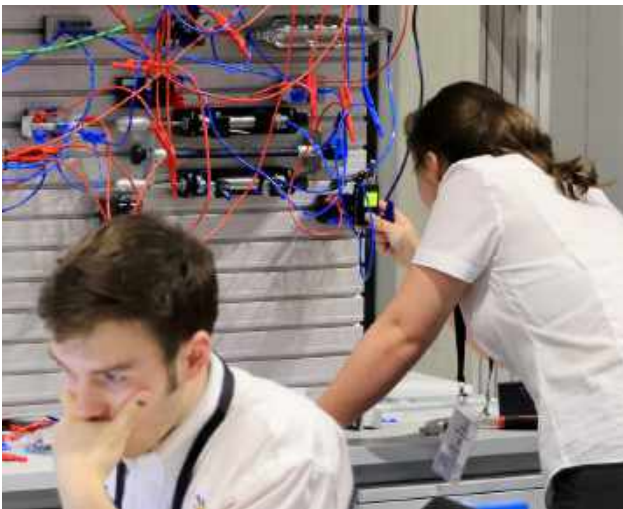
Anne Milton Minister for Apprenticeships & Skills, England, inspecting the Roll-Royce Volante.

In 2019, we will focus on:

- Engaging our valued partners in business, education and governments to discuss new research and develop innovative ways that technical education in the UK can support productivity gains for the economy and society.

- Drawing on our experience in international competitions to provide employers and young people with access to bespoke, world-class level training usually reserved for Team UK competitors. This training is vital for developing the right mindset to maximise the opportunities created by technological change.

- Continuing to champion the importance technology in our new and existing competitions, providing opportunities for the UK to demonstrate that we have the skills that can add value in an increasingly competitive global market place.

- Sustaining a platform for young people to discuss technology and careers through a Youth Coalition that WorldSkills UK is forming with partners such as Youth Employment UK and the Prince's Trust. Working closely with partners, we will continue to champion the voices of young people and support employers in becoming 'Young People Ready' to bridge the gap between education and the world of work.

About WorldSkills UK

What we do: We are an accelerator for young people in the start-up phase of their careers. This means we inspire more young people to take up apprenticeships and technical education; we champion their success; and we accelerate their personal and professional development.

Why we do it: To change the national conversation so that apprenticeships and technical education are seen as prestigious career routes for all young people.

How we do it: Through experiential and digital careers advice; skills competitions, and mindset and productivity training.

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