



Exploring the skills economy

“We are about to enter a new era... it is the age of the skills economy.”

Nadhim Zahawi,
Education Secretary (2021)



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WorldSkills UK and the case for the skills economy



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This paper is a case study of how WorldSkills UK is working with its partners nationally and internationally to unleash the potential of a skills economy to help power up UK competitiveness and productivity by harnessing the world-class talent of the next generation.

It sets out:

What is the skills economy?

The potential of a world-class skills economy to support economic growth

How WorldSkills UK is championing the development of a world-class skills economy in the UK and globally



What is the skills economy?

The skills economy is a concept in which governments, employers, parents and young people recognise being highly skilled as a valuable currency for success and acknowledge the potential of technical skills to power economic growth. It relies on understanding the economic value of the skills people have and how they can be applied productively at work.

The knowledge economy and the skills economy should go hand in hand

This is different to the knowledge economy, with the intellectual property generated in parts of our pharmaceutical, digital and engineering industries, supported by fantastic universities and research institutions, recognised as truly world-leading. And this has rightly been the jewel in the UK's economic crown for the last few decades and something we should continue to champion.

Successful and competitive global economies will need the two to become equally balanced, the knowledge economy and the skills economy should go hand in hand.

Just look at how the knowledge economy served us all well during the pandemic with leading UK scientists creating vaccines quicker than anyone thought possible. But equally, the pandemic highlighted how we all rely on skilled workers to

...we have undervalued the technical skills needed for sectors such as digital, clean tech, advanced manufacturing and life sciences

keep our society moving, including highly-skilled technicians who worked alongside vaccine scientists to ensure testing, safety, manufacturing and distribution of vaccines.

Another example is the incredible research that has developed battery technology to make mass use of electric vehicles feasible. But this will only become a reality with hundreds of highly skilled technicians to run gigafactories.

And in many countries that have de-industrialised, the UK included, the knowledge economy, based on intellectual property, science, financial and professional services, has been a vital source of growth.

But the unintended consequence of focusing on the knowledge economy alone means we have undervalued the technical skills needed for sectors such as digital, clean tech, advanced manufacturing and life sciences to thrive across the UK, particularly as firms look to bring their supply chains closer to home.

This has arguably led in the UK to a triple whammy of:

- under-investment in technical and professional education and training
- a lack of ambition for young people, from all backgrounds, who choose college or apprenticeships
- a distraction from building the pipeline of high-quality technical skills that our employers and the economy need.





“Courses teaching technician... skills are vanishing from English education at speed, even though the economy is crying out for these skills.”

Just consider two examples of how our skills economy is underpowered.

Firstly, in England, there is what’s called a ‘missing middle’, a lack of technicians, who hold higher technical qualifications, in sectors such as advanced manufacturing, automotive and life sciences, who fulfil roles such as lab technicians and production engineers and who are crucial for adopting and spreading innovation¹. As leading skills advisor to No.10 Downing Street Professor Alison Wolf has highlighted:

“Courses teaching technician... skills are vanishing from English education at speed, even though the economy is crying out for these skills².”

Secondly, an ambition to achieve excellence in training is being lost, meaning the quality of skills being developed aren’t always meeting the increasing standards required by employers to tackle their ongoing competitiveness and productivity challenges.

UK benchmarking data, and experience gained from training young people to achieve global industry standards, all bears this out. In countries such as Switzerland, Korea and Chinese Taipei, young people emerging from their skills system are better trained to achieve the standards of excellence required globally.

1 <https://policyexchange.org.uk/wp-content/uploads/The-Training-We-Need-Now.pdf>

2 <https://conservativehome.com/2019/06/05/alison-wolf-in-defence-of-the-augur-review-it-takes-productivity-industrial-strategy-and-skills-seriously-will-the-new-prime-minister-listen/>

So the stark message is this: the UK will continue to fall behind unless we place a much higher value on developing not just high-quality technical skills, but world-class technical skills

In the UK it can take two or more years of dedicated coaching and intense training to help our young people achieve the same level. And we do achieve high standards, Team UK has been in the top ten globally over the past decade and two-thirds of the team achieve world-class standards. But based on recent WorldSkills international benchmark rankings, the UK isn't as competitive as it should be in areas such as digital and advanced manufacturing.

Although WorldSkills UK has been working hard to improve performance by developing skills to world-class standards, the UK is in effect standing still and therefore has been falling behind. Many of our European counterparts, such as Switzerland, Germany and Austria, have traditionally invested heavily in their professional and technical education and apprenticeships, while other countries, particularly in Asia, such as South Korea, Japan and China, have invested in digital and engineering skills in line with their economic priorities. And we're now seeing a new generation of countries, such as Costa Rica, recognising that world-class skills can boost their economic prospects, all of which is making it much harder for UK to keep up.

So the stark message is this: the UK will continue to fall behind unless we place a much higher value on developing not just high-quality technical skills, but world-class technical skills, to support the development of not just a skills economy, but a world-class skills economy.





The world-class skills economy and growth

Building a world-class skills economy, in policy and practice, would arguably help tackle three persistent and interrelated economic trends in the UK.

Firstly, productivity levels, which have been stubbornly low over the past decade. Before the financial crisis in 2008 UK productivity had been growing at 2% per year, but since then it has remained stagnant. Based on 2019 data the UK's productivity levels are 15% lower than both France and the US³.

Secondly, economic and social disparities across the UK, according to official data quoted in the Government's Levelling Up strategy⁴, remain significant. For example, average earnings in London are 1.5 times higher than in the North East. Disparities also exist between towns within the same region: nearly half of adults in York have a qualification at level four or above compared to only a quarter in Doncaster.

3 <https://researchbriefings.files.parliament.uk/documents/SN02791/SN02791.pdf>

4 <https://www.gov.uk/government/publications/levelling-up-the-united-kingdom>

Investing in skills development is closely linked to productivity improvements and reducing regional inequalities

Thirdly, the UK's declining share in global foreign direct investment (FDI). According to recent EY Attractiveness Surveys, which monitor international investment trends the UK was second to France for the number of FDI projects it had won for the third year running, with the gap widening in 2021⁵.

Investing in skills development is closely linked to productivity improvements⁶ and reducing regional inequalities. And many of the countries which are competitive for inward investment, such as Singapore, France and Ireland are the very countries we know are prioritising high-quality skills as an economic necessity, using data analytics to model their skills needs and investing in those skills to attract investors⁷.

So in the UK we risk underpowering key sectors of the economy (engineering, clean tech, digital and life sciences) which need world-class technicians as well as graduates. And because firms in such sectors are internationally mobile, they can choose to locate in France or Ireland if they can't get the skills they need in the UK. The UK then risks missing out on foreign investment, and with it high-quality jobs, productivity spillovers and potential local economic development.



A report in 2020, called Manufacturing the Future Workforce⁸, summed up the challenge in a nutshell, when it said:

“If the UK could combine its world-leading research base – with a manufacturing workforce equipped with the knowledge and skills needed to deploy and exploit new technologies, it would secure its position as a world leader in the effective commercialisation of the very best ideas.”

5 <https://www.telegraph.co.uk/business/2022/05/31/britain-lags-behind-france-foreign-investment/>

6 https://www.worldskillsuk.org/wp-content/uploads/2020/10/rsa_globalskillsinnovationuk.pdf

7 <https://www.worldskillsuk.org/insights/wanted-skills-for-inward-investors/>

8 <https://hvm.catapult.org.uk/wp-content/uploads/2022/06/Manufacturing-the-Future-Workforce-Full-Report.pdf>

All of this adds up to a compelling case for developing a world-class skills economy, that can stand tall globally alongside the UK's world-leading knowledge economy.

And UK governments are already starting to recognise the importance of the skills economy:

- central Government's plans to grow the economy are based around international trade in engineering and advanced manufacturing, digital, clean tech, creative and life sciences, precisely the sectors which need young people with world-class skills to be competitive
- in Wales, plans for a new Tertiary Education Commission aims to strengthen the skills system in line with employer need
- in Northern Ireland, a new Skills Strategy and Skills Council have been designed to grow professional and technical qualifications to meet the needs of their economy
- in Scotland, the National Strategy for Economic Transformation is designed to make sure people have the skills they need as the economy changes
- in England, the Skills and Post-16 Education Act incorporates plans to align skills delivery to local economic need and expand higher technical education, while new Higher Technical Qualifications are designed to increase the prestige of studying at levels four and five and improve employer recognition to help plug the 'missing middle'.

"We are about to enter a new era... it is the age of the skills economy." Nadhim Zahawi, Education Secretary (2021)⁹

All of this creates the right environment to put the development of a world-class skills economy centre stage - and address concerns from inward investors and employers about skills supply and quality, as set out annually in surveys of inward investment trends by consultancy EY.

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9 <https://www.fenews.co.uk/fe-voices/speech-nadhim-zahawi-addresses-association-of-colleges-conference/>



Championing a world-class skills economy

The opportunity to set a new level of ambition for skills is exactly why WorldSkills UK has radically reshaped what it does since 2020, to support the case for a skills economy.

WorldSkills UK has innovated in three ways, by:

1 Aligning its work to help meet UK long-term economic and employer demand

WorldSkills UK commissioned a Skills Taskforce for Global Britain, with consultancy firm EY as our Founding Member and with John Cridland CBE, former Director-General of the business organisation the CBI, as Chair. Its role was to make the case for and champion the vital link between the development of a high-quality skills base to help attract inward investment to help create high-quality jobs in key growth sectors.

Its [report](#)¹⁰, published in May 2022, highlighted the crucial role of high-quality skills for employers in internationally traded sectors to attract inward investment to all parts of the UK and help level up our economy. The report argued that bolstering our ability to attract international investment will bring huge benefits in terms of jobs, technology, productivity and innovation, not just in big multi-national firms but in clusters of smaller firms and supply chains across the towns, cities, regions and nations. And this work has been bolstered by diagnostic research on future skills the economy needs but are in short supply and not at the standards needed, in areas such as digital skills, green skills and advanced manufacturing skills.



2 Demonstrating how to mainstream world-class training to supply more skills at higher standards across the UK skill systems

90%

*the number
of colleges that
WorldSkills UK
works with*

WorldSkills UK has set itself the mission of using our over 65 years' experience of training to world-class levels to help improve standards and boost opportunity for more young people and employers. To support the economic need for higher quality skills WorldSkills UK has expanded its plans to mainstream global best practice in training across the UK.

- it currently works with 90% of colleges in towns and cities supporting the development of students and apprentices through competitions-based training in a powerful local network
- its Centre of Excellence, in partnership with NCFE and based on diagnostic research from the University of Oxford, is growing to spearhead the drive to boost standards in teaching using international best practice so that more young people, from all backgrounds, are highly skilled, confident and ready for work

¹⁰ <https://www.worldskillsuk.org/insights/wanted-skills-for-inward-investors/>

- its Innovation Network is also growing, with partners accessing data developed by WorldSkills UK to benchmark and improve their performance. While the WorldSkills UK Learning Lab offers online access to training resources developed by our international experts
- WorldSkills UK is now working with over a quarter of all colleges in depth to help mainstream global best practice to drive up standards and it has plans to grow this impact further.



3 Championing a global approach to skills development, giving the next generation cutting edge skills to build their careers, contribute to local economic growth and protect the environment

WorldSkills UK is growing all this work by engaging in and sharing global perspectives and best practice in skills development

WorldSkills UK is growing all this work by engaging in and sharing global perspectives and best practice in skills development, to support more colleges, more training providers and more universities to help more young people succeed to better meet the demand for world-class skills from employers, now and in the long-term.

Through a growing number of bilateral international partnerships we are exchanging know how on developing world-class skills with partners in countries like Chinese Taipei, Japan and South Korea in areas such as offshore wind, advanced manufacturing and electric vehicles.

WorldSkills UK is also supporting WorldSkills in its work globally to champion the development of young people and educators in establishing a WorldSkills Occupational Standards Development Centre in Finland to help develop global training standards and in spearheading the development of a global community of researchers to make the case for a skills economy internationally.

Creating a world-class skills economy in the UK is vital not just for economic growth, but for gaining wider recognition of the importance of investing in world-class skills

Refocusing WorldSkills UK's efforts in these three ways has been important not only to bring economic dividends, but also as a way of tackling head on misplaced snobbery about the value of technical education and apprenticeships for young people. We know from research by Oxford University¹¹ that across the WorldSkills global network, many countries are grappling with how best to develop skills that will support recovery and growth, and crucially give more young people, from all backgrounds, a sense of opportunity, ambition and aspiration, restoring pride in choosing a technical career route.

WorldSkills UK, as a leading member of WorldSkills, will work to ensure its ever growing network of colleges, training providers and universities, employers and industry sectoral partners are working in national and international networks with the same ambition of helping:

- make a world-class skills economy a reality for the UK, standing tall on the global stage, hand in hand with our world-leading knowledge economy
- build a prosperous future across the UK, attracting more international investment into digital, advanced manufacturing and green economies to create high-quality jobs and protect the environment
- harness the skills and talent of the next generation for the future of the country.

Creating a world-class skills economy in the UK is vital not just for economic growth, but for gaining wider recognition of the importance of investing in world-class skills for the young women and men who will help power our future prosperity. Because at WorldSkills UK, we believe that when young people succeed, we all succeed.

¹¹ <https://www.worldskillsuk.org/insights/drivers-of-technical-excellence-in-the-skills-economy/>

Vocational excellence and the case for the skills economy



Professor Susan Relly
Professor of Vocational
Education, Oxford University

Vocational excellence is all around us, underpinning all that we need to live modern lives and forge futures that align with living sustainably and equitably. All the while it is often invisible: less discussed in main stream media, and the career routes and the institutions where this excellence is developed are given much less attention in policy rhetoric, support, and funding. Yet, vocationally excellent skills drive the economy. The skills taught and developed through the technical and vocational education and training (TVET) route are imperative for economic productivity and growth (OECD, 2017), and their importance for economic recovery post-pandemic, as well as Britain's future post-Brexit, is clear (Bentley-Gockmann, 2021).

To make vocational excellence more visible we need to address four questions:

What is it?

Why do we need it?

How do we achieve it?

Why now?



What is vocational excellence?

1500
contestants
mostly aged
16-22 from
more than
60
countries

I have been researching vocational excellence since 2007 and I will draw on various aspects for this research. Throughout my research career I am often asked, 'what is vocational excellence?'. It could be as simple as your coffee from the barista in your favourite coffee shop, or your new haircut that makes you feel a million bucks, or the service on your car where you feel safe in the knowledge of the expertise of the mechanic when driving your family to your next destination; the kitchen in your recent renovation.

More objectively though, we have an understanding of vocational excellence from WorldSkills Competitions. These competitions bring together approximately 1500 contestants mostly aged 16-22 from more than 60 countries, who gather every two years to compete publicly and demonstrate excellence in 60 skill areas. Competitors are judged by their performance in these skills and international standards from WorldSkills Competitions provide criteria for judging the competitor's performance that 'set out what a capable practitioner must know, understand and do' (WS, 2020).

The WorldSkills Standards Specifications (WS, 2020) provide a framework that:

- cover the specialist, technical and generic skills that comprise intermediate work roles across the world
- set out what a capable practitioner must know, understand, and do

- are prepared, with guidance, by technical and vocational WorldSkills experts
- are consulted upon and updated biennially with industry and business worldwide
- indicate the relative importance of each section of the standards, as advised by industry and business.

These specifications act as a reference point to 'establish the baseline from which to grow and reward authentic vocational performance' (WS, 2020).

Globally, the most successful skills systems are underpinned by a well-supported, respected, and trained technical teaching workforce

Evidence from a recent international research project (James et al, 2021), conducted for WorldSkills UK on the drivers of technical excellence showed that world-class skills systems, underpinned by robust standards, drive economic growth through improved productivity and inward investment. The focus countries were Austria; Brazil; France; Hungary; India; Japan and South Korea. The key findings highlighted how agile pedagogic adaptations undertaken by a knowledgeable teaching workforce allowed for the development of vocational excellence. It was also found that that the most successful skills systems responded to shifting economic needs, technological change, and industry development when employers and training providers/teachers were structurally linked. In addition, standards of excellence were a vital source of informing national skills systems, and that WorldSkills is a key mechanism allowing for a 'third space'. This unique positioning was key to enabling teachers and trainers to experiment with pedagogy and technology in a way that drives innovation and excellence.

Globally, the most successful skills systems are underpinned by a well-supported, respected, and trained technical teaching workforce with structures in place to ensure the delivery of world-class technical education and training.

Excellence in technical and vocational education and training (TVET) has existed in skills systems around the world for many decades; economic prosperity has depended on it. And the TVET route is starting to receive increasing government attention in the UK; the government's recent Skills for Jobs White Paper for England underlines policymakers' recognition of ensuring skills development is front and centre in education and training policy and economic strategy.



Why do we need vocational excellence?

Higher education institutions (HEIs) have been seen as the main vehicle to skilled employment. Indeed, higher education (HE) has been the main focus of supply-side education and training (E&T) policy for a long time. Particularly in recent decades, especially since the massification of HE, a policy focus in the United Kingdom has been on the knowledge economy (Brown et al, 2008). Government policies have been strongly influenced by the idea that HE leads to better jobs, greater social cohesion, and improves students' knowledge and skills levels, which then improve productivity and economic performance (Keep, 2020). While HEIs are clearly playing an important role in terms of the knowledge economy, generating intellectual property, this focus entirely alienates understanding and recognition of the skills underpinning the knowledge developed – in the skills economy.

A case in point is the vaccine development for the current Covid-19 pandemic. Many great minds have been involved in the long-term development of vaccine protocols that have led to the current supply of vaccines, such as Oxford Astra Zeneca, that are resulting in decreased death, illness, and hospitalisations. The vaccines development has been

A focus on the skills economy utilising vocational excellence in the UK is important for several reasons

underpinned by finely-honed, high-quality skills from many technicians helping to develop, test, produce, and deliver it globally. In a symbiotic way knowledge and skills have come together to provide an answer to a global health and economic crisis. Many of these skills are taught and developed through Further Education (FE) and the technical and TVET route, and are clearly imperative for economic productivity and growth (OECD, 2017).

A focus on the skills economy utilising vocational excellence in the UK is important for several reasons.

Firstly, skills are developed across the tertiary education sector and workplaces. Unlike a focus solely on the knowledge economy, incorporating the skills economy allows for this broadened understanding of where skills, leading to vocational excellence, are developed.

Secondly, it showcases the development of skills excellence highlighting the extraordinary work already occurring in providing high-level, quality skills that the UK's skills system delivers.

Thirdly, it places skills excellence at the heart of the economy where they make impact in terms of international trade, development, and investment, especially in growth sectors providing job opportunities.

Fourthly, it places employers at the forefront of training and development to work with the UK's high calibre further education and higher education institutions.

A clear message outlined in the Skills for Jobs White Paper for England (Department for Education, 2021) is that employers, education and training providers, and policy-makers must work together in any endeavour to improve the quality and prestige in TVET, making it an attractive pathway and developing vocational excellence a priority.

To do this requires a long-term strategic approach; an approach that incorporates and places importance on the skills economy as much as the knowledge economy.



How do we achieve vocational excellence?

There is a strong UK evidence base for how a world-class skills system can be built across the four nations

In many respects we already are. There is a strong UK evidence base for how a world-class skills system can be built across the four nations. WorldSkills UK has for a long time been at the forefront of promoting, fostering and delivering quality and standards in the UK's technical education system through the active promotion of policy based on high quality research and through the WorldSkills UK Centre of Excellence.

The technical education system and skills competitions programmes provide a benchmark for high performance and an objective way to assess vocational excellence as discussed earlier. They also provide an opportunity to research the various dimensions of vocational excellence.

The Developing and Understanding Vocational Excellence (DuVE) research began as a legacy project after London hosted the WorldSkills international competition in 2011. This suite of projects provided an actual research base to increase theoretical and practical understanding of vocational knowledge and skills development. It allowed for an understanding of what does and does not work and provided a platform for practical application of the research findings, for

example, in terms of creating high-quality workplace learning provision or ensuring the benefits of WorldSkills Competitions were more widely understood.

These studies provided a research baseline for future research development and some of the findings have been built upon, for example in the report, Good people in a flawed system: the challenges of mainstreaming excellence in technical education (James Relly, 2019), from which the WorldSkills UK Centre of Excellence was developed. Moreover, we can see excellence being developed and clustering in regions through Institutes of Technology and more FE Colleges are embracing the excellence agenda (Bentley, 2018).



Why vocational excellence now?

“...esteem in its own right for the vocational route where vocational excellence is developed, and for the people who take this route.”

If not now, when? Because we cannot continue as we have been. Black Lives Matter, Me Too, the pandemic, need for economic growth, climate change all demand we take a good, long, hard look at ourselves. To look at the way we value what is important for society and the way we demand and realise change for equity, diversity and belonging. A key change is giving esteem to the vocational route as we esteem the academic route. Not parity- they are not analogous and these routes specifically serve different purposes with different outcomes (James Relly, 2021). I am talking about esteem in its own right for the vocational route where vocational excellence is developed, and for the people who take this route.

Furthermore, vocational excellence breaks down barriers, gender barriers, diversity barriers, human barriers. Taking seriously the what, where, how and why of vocational excellence matters because the people taking the vocational route matter.

This is why we must value the skills economy and vocational excellence as much as we have learned to value the knowledge economy.

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WorldSkills UK is an independent charity and a partnership between employers, education and governments. Together, we are using international best practice to raise standards in apprenticeships and technical education so more young people and employers succeed.

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Charity number 1001586, Company number 02535199
VAT registration number GB945610716

Funded by



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for Education

