



**FIT FOR THE FUTURE**

**A 5-POINT PLAN TO GROW AND SUSTAIN  
ENGINEERING AND TECHNOLOGY  
APPRENTICESHIPS FOR YOUNG PEOPLE**

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**An inquiry led by Lord Knight and Lord Willetts**





# FOREWORD

**The UK has a proud history in engineering and technology, with its innovators responsible for the steam engine, the telephone and the World Wide Web. Many of the world's best-known engineers have come through the UK education system, and with the number of students studying engineering and technology in UK universities on the rise, it is becoming clear that engineering is once again gaining momentum.**

However, for UK engineering and technology to thrive and help the UK realise its ambitions to grow the economy and achieve net zero, we need more young people to choose an engineering career. And to facilitate this, the various pathways into engineering and technology roles need to be made more accessible, attractive and available to more young people from all backgrounds. Apprenticeships provide an important one of these routes.

Apprenticeships could and should be the engine of opportunity that the UK economy needs. Not only do they provide a vital bridge between learning and work for young people, but they also help employers meet the growing demand for engineering and tech skills in the labour market.

In a world of ever-increasing global competition for inward investment in sectors like life-sciences, renewable energy and tech, the UK will be left behind if it cannot foster and support a more diverse and skilled STEM workforce for the future. Technical pathways are central to this. But as it stands, apprenticeships are not reaching their full potential. Over time, numbers have been declining, including in subjects like engineering and technology, just as pressures on the apprenticeship budget have been increasing.

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We wanted to understand the reasons behind this decline. More importantly, we wanted to identify what could be done to turn the tide for engineering and tech apprenticeships. It seems we are not alone. Almost 100 organisations and individuals provided written and oral evidence to our inquiry. Their views and insights reflect both a genuine concern about the shifting focus of apprenticeships and a real eagerness to work together to find solutions.

What the evidence confirmed is that the story starts in schools. With an accountability system for schools that still centres on university as the most important destination, 11 to 16 year-olds are given little room in the curriculum for applied learning. As a result, we have seen subjects like design and technology, which provide young people with essential hands-on experience, decline over recent years, depriving many of the opportunity to apply their learning to real world problems.

During the inquiry we also heard from many young people about their positive experiences of apprenticeships and how the pathway had opened up engineering career opportunities for them. However, we also learned about the challenges that many young people encounter along the way - ranging from insufficient careers advice and transport issues, to benefit inequities and difficulties achieving the necessary functional skills required. Decisive action is needed to help dismantle these barriers for young people, if apprenticeships, like university degrees, are to provide young people with a bright future and the country with the skilled workforce it needs.

Small and medium-sized enterprises (SMEs) used to be the lifeblood of apprenticeships. Their active participation in apprenticeship programmes not only enriches the skill set of the workforce but also fosters innovation and technological advancement. But again, their involvement in apprenticeships has dropped. We heard that the decision by many employers not to engage appears to be compounded in part by the challenges facing further education providers in their localities - not least the worrying shortage of specialist teaching staff in engineering and tech subjects. The report sets out the strong need for high-quality intermediary support for SMEs, including practical help to navigate the system.

Political parties across the spectrum are in agreement about the critical role that apprenticeships play in the skills ecosystem. In the last twenty years we have seen countless reviews and legislative changes. But we need to go further if they are to reach their potential. To achieve sustained growth in engineering and tech apprenticeships, genuine parity between technical and academic pathways is needed across the whole learning life cycle. This includes parity in the financial model for degree apprentices and undergraduates in higher education, with a loan system available to both, and a refocusing on entry level opportunities for a wider range of young people.

### **Our report sets out a five-step plan to address these concerns.**

Now is the moment for ambitious, fresh thinking. We hope that this report can contribute to policy development and will help to ensure that apprenticeships represent a strong value proposition for employers as something which they see as easy to engage with, flexible and attractive. Most importantly, we want to see apprenticeships reaching their full potential, putting young people front and centre, and inspiring the much-needed engineers and technicians of tomorrow.

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**The Rt. Hon. the Lord Knight of Weymouth**

**The Rt Hon. the Lord Willetts**



*Jack Knight*

*David Willetts*

# INTRODUCTION

This inquiry takes place during a time of transformation. The UK finds itself navigating the ongoing impacts of the pandemic, leaving the EU, the cost-of-living crisis and climate change. Without an increase in the number and diversity of engineers and technicians, the UK lacks the capability to tackle some of the biggest challenges we face, from energy security through to sustainable farming, house building and advancements in life sciences. Addressing new and emerging skills gaps in engineering, technology and innovation is therefore essential to drive economic growth and productivity - enabling the UK to compete for inward investment on a global stage, in areas such as green technology.

Apprenticeships are central to addressing current and future skills gaps.



## INVESTING IN FUTURE SKILLS

Engineering generates up to an estimated £645bn gross value added (GVA) to the UK's economy annually – equivalent to 32% of the country's economic output<sup>1</sup>. A recent report commissioned by EngineeringUK<sup>2</sup> found that demand for engineers is predicted to grow faster than for other occupations. Furthermore, vacancies for 'green engineering' roles in the UK have increased by more than half (55%) over the last 5 years. This research also reveals that engineering occupations<sup>3</sup> account for 19% of current jobs but for 25% of all job postings in the past year. This suggests that the current skills shortage in engineering is greater than in other employment areas, or that employers are hiring for future growth or most likely, a combination of the two.

All political parties recognise the importance of science, innovation and technology, and the need for the UK to have the workforce to drive this forward, both in the context of the path to net zero and as a wider enabler for economic growth and employment opportunities. The recent Science and Technology Framework<sup>4</sup> (published by the newly established Department for Science, Innovation and Technology) places a strong emphasis on talent and skills, pledging to create an agile and responsive skills system, which delivers the skills needed to support a world-class workforce in STEM sectors and drive economic growth. This policy direction dovetails with wider aspirations to address regional economic disparities (levelling up), including a desire to grow the availability of high-skilled, high-wage and stable jobs. However, we have concerns that the school curriculum is not effective at attracting young people into technical and vocational learning.

## MAKING SURE APPRENTICESHIPS

### WORK FOR EMPLOYERS AND

### YOUNG PEOPLE

Apprenticeships are a longstanding pathway into engineering and technology careers, and companies of all sizes see the real value that apprenticeships can represent – providing a vital entry point for talent and helping meet their future skills needs. At the same time, apprenticeships provide an important route into skilled employment for young people, enabling them to 'learn and earn' at the same time. However, the apprenticeships route has not served young people as well as in other comparable countries, such as Germany, where almost 88% of all apprenticeship starts are under the age of 24<sup>5</sup>, this report looks at the reasons for that. We have identified a range of concerns by employers over the bureaucracy involved in taking on young apprentices and the ongoing issue that many young people find it difficult to navigate their next step into further education, higher education or employment.

## LOOKING TO THE FUTURE

This report describes a series of policy recommendations for all political parties to consider. While apprenticeships will undoubtedly form an important part of any future skills system in the UK, the sector is crying out for a long-term vision of how they can grow and thrive in an ever-changing economic environment. The focus of the recommendations is therefore on getting government to work alongside employers, providers and young people to make the apprenticeships system a success - a viable and desirable pathway into engineering and technology for young people.

Given the UK's ambitions on climate change, science and innovation, as well as the widely acknowledged need to widen career pathways for young people, we urge the government, engineering, manufacturing and technology employers, professional institutions and skills bodies to come together to help grow and sustain apprenticeships for the future.

<sup>1</sup>Royal Academy of Engineering. 'Hotbed of innovation: New research reveals engineering adds up to an estimated £645bn to the UK's economy annually', 2022. Note - this report uses a slightly different footprint for engineering than EngineeringUK's research and this inquiry. EngineeringUK's engineering footprint is explained in our terminology section, later in this report.

<sup>2</sup>EngineeringUK. 'Engineering skills needs now and into the future', 2023.

<sup>3</sup>See page 5 of this report for the definition of the engineering occupations, which relates to the engineering footprint.

<sup>4</sup>Department for Science, Innovation and Technology. 'The UK Science and Technology Framework', 2023.

<sup>5</sup>[https://www.bibb.de/datenreport/de/datenreport\\_2020.php](https://www.bibb.de/datenreport/de/datenreport_2020.php)

# ABOUT THIS INQUIRY

## AIMS OF THE INQUIRY

At the start of this inquiry, we set out to investigate what could be done to reverse the decline in apprenticeship starts over recent years and to achieve sustained growth in engineering, manufacturing and technology apprenticeships<sup>6</sup>, particularly for young people. Our inquiry is focused on England, while of course recognising the role and importance of apprenticeships in the devolved nations of the UK.

### The aims of the inquiry are as follows:

- To examine the reasons behind the decline in engineering, manufacturing and technology apprenticeships over time
- To better understand the barriers facing young people in pursuing apprenticeships in engineering, manufacturing and technology
- To identify solutions and good practice which could help to increase the number and diversity of young people starting and completing engineering, manufacturing and technology apprenticeships

## OUR REPORT

### Our report is divided into 3 main parts:

- **Executive summary** – this section summarises the findings and sets out a 5-point plan aimed at addressing the systemic barriers and concerns identified by businesses, education providers and young people
- **Chapter 1 - The apprenticeships story so far** – examines changes to apprenticeship policy over recent years and identifies some causes for concern in apprenticeship participation
- **Chapter 2 - Insights and analysis** – sets out the key findings from the inquiry, drawing on 88 written evidence submissions, oral evidence sessions and focus groups
- **Conclusion and Recommendations** – sets out the recommendations in more detail

The inquiry heard from a wide range of stakeholders including engineering, manufacturing and tech employers, young people, STEM (science, technology, engineering and maths) outreach organisations, Professional Engineering Institutions, sector bodies, youth organisations, education and training providers, think tanks and others. Evidence has come from across the country including 5 Combined Mayoral Authorities. The discussions reflect a real eagerness to collaborate and strengthen the system for the future.

<sup>6</sup> See the terminology section on p. 6 for detailed information about what we mean by that.

# TERMINOLOGY

## ENGINEERING-RELATED

### APPRENTICESHIPS

Engineering and technology apprenticeships are defined in this report as any apprenticeship sitting under the broad heading of engineering and manufacturing technologies, construction, planning and the built environment, or information and communication technology.

## ENGINEERING FOOTPRINT

This report defines engineering by using the engineering footprint definition developed by EngineeringUK, the Royal Academy of Engineering and the Engineering Council. This definition was developed by agreeing on a set of criteria regarding the level of qualifications and skills deemed to be required for engineering roles. The process involved undertaking an extensive review of standard occupational classification (SOC) and standard industrial classification (SIC) codes and agreeing a list that fulfilled the criteria.<sup>7</sup>

Following this framework, the engineering workforce was defined as those working in the Standard Occupational Classifications (SOC) that meet the footprint's criteria for engineering. Where appropriate, the analysis further disaggregates this according to the footprint's definition of core and related engineering:

- Core – refers to roles that are primarily engineering-based and require the consistent application of engineering knowledge and skills to execute the role effectively (for example, civil engineers or mechanical engineers)
- Related – refers to roles that require a mixed application of engineering knowledge and skill alongside other skill sets, which are often of greater importance to executing the role effectively (for example, quantity surveyors, or IT operations technicians)

Similarly, the engineering sector/those working in engineering industries, are defined as those people who work in the Standard Industrial Classifications (SIC) that meet the footprint's criteria for engineering. It is worth noting that these concepts are inter-related. For example, one can work in an engineering job (SOC) within or outside of the engineering sector (SIC).

## PROVIDERS

In this report we use the word provider to encompass a wide range of organisations providing education and skills training. This includes colleges and sixth forms, as well as private sector providers. In some cases, businesses are both an employer of apprentices and a provider of apprenticeship training – known as employer providers. Level 6 and 7 (degree) apprenticeships are usually taught in Higher Education Institutions.

## YOUNG PEOPLE

This inquiry has a particular focus on increasing apprenticeship opportunities for young people by which we mean people aged 16 to 25.

<sup>7</sup> <https://partner.engc.org.uk/media/9134/engineering-footprint-report-summary-raeng.pdf>

**EXECUTIVE**

**SUMMARY**





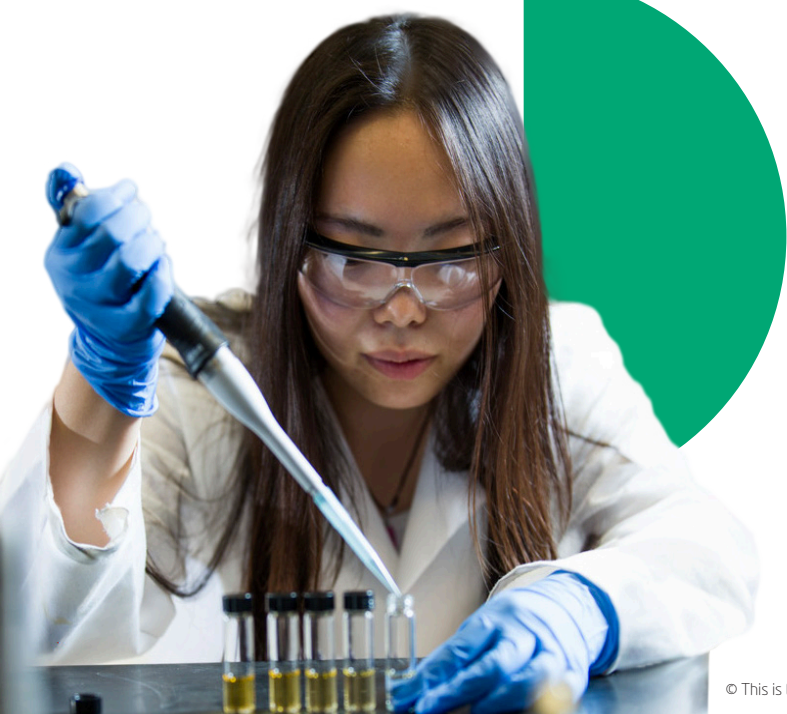
**The UK needs a substantial increase in the number and diversity of engineers and technicians over the next few years, the coming decade and beyond. These are the skills we need if Britain is to compete globally, grow the economy and reduce our dependency on migrant labour.**

For this to happen, all the different pathways into engineering and technology need to deliver both in terms of upskilling the current generation, as well as skilling and training the next generation of engineers and technicians. The decline in engineering apprenticeship starts since 2016/2017, particularly for the younger age groups, is therefore worrying. Although 16 to 18 year-olds still made up 35% of all engineering related apprenticeship starts in 2021/2022 and 16 to 25 year olds made up 70%, engineering-related apprenticeship starts for 16 to 18 year olds have declined 22% since 2016/2017, while starts by both 19 to 24 year olds and those 25+ have fallen 6%. The decline in the number of apprenticeships starts has been driven by a decline in lower-level apprenticeships, particularly intermediate apprenticeships (Level 2).

This inquiry set out to understand the reasons behind this decline and to make recommendations on how to address it. The evidence we have received suggests that many businesses, particularly smaller firms, are struggling to find the capacity and resources to take on young apprentices, and companies are concerned about the quality of training provision and barriers in relation to apprenticeship standards and bureaucracy. On the other hand, for young people, the impact of the pandemic and years of disruption to their education have taken their toll, making it harder for many of them to navigate their next step into further education and higher education or employment. We have heard that not enough young

people are aware of, or value, the apprenticeship options open to them or know where to start. Financial barriers and entry requirements are also impacting on access to apprenticeships for many young people.

Outlined below is a 5-point plan aimed at addressing the barriers and concerns identified by businesses, education providers and young people throughout the report. Following this plan should go a long way to making apprenticeships a successful entry route into engineering and technology jobs for many more young people and help put technical education routes on par with academic pathways. It will also ensure that the UK has the engineering and technology workforce it needs across all the regions of the UK to be economically successful and at the forefront of technological innovation.



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## AN APPRENTICESHIP

# SYSTEM FIT FOR THE FUTURE

### ACTION 1

#### REBALANCE EDUCATION

Ensure that the secondary school system is fit for the future and there is genuine parity of esteem between technical and academic pathways.

#### WHAT NEEDS TO HAPPEN?

**Curriculum** – We recommend that government directs and supports all schools to offer a broad and more balanced curriculum up to the age of 16 that yields knowledge and skills that are relevant to a variety of careers and to a diversity of learners and enables ongoing access to hands-on subjects such as design & technology during key stages 3 and 4.

**BTECs** – We recommend that government continues to fund a range of qualifications at 16, including BTECs, to ensure that more young people can gain qualifications that will open-up pathways into further education, apprenticeships and beyond.

**English Baccalaureate (EBacc)** – We recommend that government replaces the EBacc and Progress 8 accountability measures for schools to better reflect the breadth of qualifications and pathways that should be available to and valued by schools, young people and their parents.

**Careers** – We recommend that government develops a new careers strategy with access to parity of esteem between technical and academic pathways, as well as increasing diversity through these pathways, at its heart, and works with the engineering, manufacturing and technology community to bring the opportunities afforded by these pathways to life.

**ACTION 2****SUPPORT  
YOUNG PEOPLE**

Provide better support for young people throughout their apprenticeship journey and take decisive action to break down barriers.

**WHAT NEEDS TO HAPPEN?**

**Pre-apprenticeship support** - We ask that government expand its pre-apprenticeship offer for young people aged 16 to 18, by building and improving on existing programmes such as the T Level transition programme and traineeships, and by continuing to fund BTECs as an alternative pathway alongside T Levels.

**Benefits** - We recommend that government amend child benefit rules to ensure that child benefit is maintained for apprentices under the age of 20.

**Transport** - We recommend that government work with local and combined authorities to develop a package of support for apprentices up to the age of 25 in entry-level and low paid work that addresses concerns regarding travel costs to and from their employer and training provision.

**Functional skills** - We call on the government to review the approach to functional skills requirements within apprenticeships and consider proposals for increasing access for young people, including the potential for a reshaped route to gaining these functional skills. Such a review should examine the barriers for young people under the current system, draw on the views and experiences of young people, providers and employers and engage the assessment industry in the development of more work related functional skills qualifications.

**ACTION 3****REFOCUS  
FUNDING**

Ensure long-term funding for apprenticeships at all levels and greater equity between vocational and academic routes.

**WHAT NEEDS TO HAPPEN?**

**16 to 19 year olds** - We recommend that, as soon as the fiscal situation allows, government funds apprenticeships for 16 to 19 year olds through an increase in the Education and Skills Funding Agency budget.

**Degree apprenticeships** - We recommend that government looks to funding degree apprenticeships through the standard higher education fees and loans model and urge the government to reduce the overlapping bureaucratic burdens on degree apprenticeships.

**19 to 25 year olds** - As a result of these changes, the Apprenticeship Levy is then able to focus in particular on 19 to 25 year olds studying Level 2 to Level 5 apprenticeship qualifications.



## ACTION 4

## ENABLE BUSINESSES

**Enable more SMEs<sup>8</sup> to play an active role in apprenticeships. Work together with employers as well as providers to ensure that engineering and technology apprenticeship standards are given the strategic importance they merit and meet the skills needs of the sector.**

### WHAT NEEDS TO HAPPEN?

**Apprenticeships standards** - We recommend that the Institute for Apprenticeships and Technical Education (IfATE) works with a broad range of engineering and technology employers, including more SMEs and engineering consultancy firms, as well as Professional Engineering Institutions, to rationalise current apprenticeship standards in engineering, manufacturing and technology to ensure that standards enable apprentices to gain core transferable engineering skills and knowledge valued by their employers. Alongside this, we recommend that IfATE work with businesses across the engineering, manufacturing and technology sectors to develop a set of more specialised, flexible modules that complement the rationalised suite of apprenticeship standards.

**SMEs** - We recommend that local and combined authorities work with Group Training Associations England and the Professional Engineering Institutions to roll-out more Group Training Associations across England to support engineering and manufacturing SMEs with the recruitment of apprentices, training, access to levy funds and wider funding issues, and the successful delivery of apprenticeships

**Strategic importance** - We recommend that government works with IfATE and the engineering and technology community to ensure that resource-heavy apprenticeships courses with a strategic importance to the economy are assigned

sufficient funding to enable education providers to attract good quality teaching staff and to ensure that they are economically viable for providers to run in locations across the country.

**Residential options** - We recommend that government develops and expands existing models of residential apprenticeships.

## ACTION 5

## EMPLOYERS TAKING ACTION

**Encourage employers to play their part in growing and sustaining apprenticeships for the future and to help widen opportunities for young people.**

### WHAT NEEDS TO HAPPEN?

**Further education teaching and industry knowledge** - We ask that engineering, technology and manufacturing businesses work more closely with training providers in their area, supporting teaching quality through releasing more staff to teach apprenticeships courses in the sector.

**Widening opportunities** - We ask that engineering and technology employers rise to the challenge of skilling the next generation of engineers and technicians and offer more apprenticeship opportunities to young people, including those who do not currently meet minimum maths and English requirements before starting their apprenticeships. We also encourage employers to consider their supply chains and where possible signpost young people who have been unsuccessful in applying to their apprenticeship schemes to other opportunities in their area.

**Diversity and inclusion** - We recommend that businesses include the number and percentage of apprentices in their organisation who are female in their gender pay gap reporting.

<sup>8</sup>Small and midsize enterprises (SMEs) are businesses that maintain revenues, assets, or a number of employees below a certain threshold. SMEs in this report are defined as companies with fewer than 250 employees.

# CHAPTER 1



# THE APPRENTICESHIPS

## STORY SO FAR

### POLICY CONTEXT

Apprenticeships policy in England has witnessed a series of important changes and adaptations over the last two decades. This chapter looks at the key policy developments for apprenticeships through the lens of wider post-16 reforms and explores what this means for apprenticeships today.

### WHAT IS AN APPRENTICESHIP?

An apprenticeship combines technical learning with a paid job and is available to anyone over the age of 16. Apprenticeships differ across different parts of the UK. Since 2017, apprenticeships in England are required to last a minimum of 12 months but some are much longer, depending on the level and subject studied.

Each apprentice must complete 20% off-the-job training, learning new skills and knowledge as set out in the relevant apprenticeship standard. This training often takes place in a further education setting such as a college or sixth form but can also be delivered by an independent training provider, employers themselves, or a mix of both.

Apprenticeship levels start at Level 2 (intermediate) which is equivalent to 5 GCSEs and go up to Levels 6 and 7 (higher) which are equivalent to bachelor's or master's degree.

The supply of apprenticeships is reliant on the decisions made by individual employers to recruit people into what is a paid job. Without the employer, there is no apprenticeship. This marks out apprenticeships as different to other educational pathways such as A levels, T Levels, BTECs or higher education.

Name	Level	Equivalent educational level
Intermediate	2	5 GCSE level passes
Advanced	3	2 A level passes
Higher	4, 5, 6 and 7	Foundation degree and above
Degree	6 and 7	Bachelor's or master's degree

The current apprenticeship system is the product of skills policy changes both large-scale and iterative, going back decades. In the 2000s, policy developments on apprenticeships were shaped by a number of influential reviews including the Cassels Report (2001)<sup>9</sup> which resulted in a series of reforms such as the government introducing pre-apprenticeships to help widen participation and improve completion rates and an apprenticeship entitlement for 16 to 17 year olds. The Leitch Review of Skills (December 2006)<sup>10</sup> had a significant impact on skills policy reform and in early 2008 the government's World Class Apprenticeships white paper<sup>11</sup> reflected this, as seen in the commitment to increase apprenticeship funding and the establishment of a new National Apprenticeship Service, among other things.

The Wolf Report (2011)<sup>12</sup> and the Richard Review (2012)<sup>13</sup> played an important part in the development of government apprenticeship policy in the run up to the 2015 general election. In June 2015, the then Skills Minister, Nick Boles, outlined the government's approach to reach its commitment of 3 million apprenticeships – as pledged earlier that year in the 2015 general election manifesto.<sup>14</sup> Boles said at the time "if university graduates have their moment in the sun so should people who undertake apprenticeships".<sup>15</sup> This wider aspiration to bring about greater parity of esteem between further and higher education has been a central thread of policy debate since the establishment of the National Apprenticeship Service in 2008.

Fast forward to the Skills for Jobs white paper (2021), which paved the way for Skills and Post-16 Education Bill and formed a central pillar of the Queen's speech. The white paper set out the current government's vision for an employer-led system, with business shaping new apprenticeship standards, driving forward local skills improvement plans (LSIPs) and helping to ensure that technical qualifications were geared up to plug skills gaps now and in the future.

One of the fundamental aims of the current government's recent wider reforms to post-16 education has been to streamline the skills offer for young people, leading to the planned reduction of BTEC qualifications for example. They have been keen to promote the benefits of a reformed skills system which offers 3 clear options to young people aged 16: A levels, T Levels or apprenticeships. Within this simplified menu of qualifications, the role that apprenticeships play becomes even more important.

<sup>9</sup>Sir John Cassels, DfES. 'Modern Apprenticeship Advisory Committee, Modern Apprenticeships: The Way to Work', 2001.

<sup>10</sup> HM Treasury. 'Leitch Review of Skills', 2006

<sup>11</sup> <https://dera.ioe.ac.uk/id/eprint/22851/1/RP09-14.pdf>

<sup>12</sup> Alison Wolf. 'Review of Vocational Education - The Wolf Report', 2011.

<sup>13</sup> Doug Richard. 'The Richard Review of Apprenticeships', 2012.

<sup>14</sup> The Conservative Party. 'The Conservative Party Manifesto', 2015.

<sup>15</sup> Department for Business, Innovation and Skills. 'Government kick-starts plans to reach 3 million apprenticeships' Press Release, 14 June 2015.

## POLICY TIMELINE

Below we map out key policy developments in the apprenticeships landscape since the early 2000s.

**2001** **The Cassels Report** - In March 2001, Tessa Blackstone, then Education and Employment Minister, announced the establishment of the Modern Apprenticeship Advisory Committee under the chairmanship of Sir John Cassels. The Committee's 2001 report Modern Apprenticeships – the Way to Work later known as the Cassels report, contained a series of recommendations for government including a national framework and a modern apprenticeship entitlement for 16 to 17 year olds.

**2005** **Sector Skills Councils** – Designed to help minimise skills gaps and align apprenticeship training with employer needs, employer-led councils were established to help co-design apprenticeship frameworks.

**2006** **Leitch Review** - The Leitch review report on skills, published in December 2006 contained some specific recommendations on apprenticeships, including increasing the number of apprenticeships to 500,000 per year by 2020 (in the UK) and a new entitlement that every young person with the right qualifications should be able to take up an apprenticeship place and that employers should drive the content of apprenticeships through their Sector Skills Council.

**2011** **Wolf Report** – Education Secretary (at the time), Michael Gove, commissioned Alison Wolf to carry out a review of how the vocational education system for 14 to 19 year olds could be improved, with a particular focus on progression routes into work, training and higher education. The Wolf report set the scene for the restructuring of the delivery of vocational education in England and Wales. It paved the way for the apprenticeships reforms that followed including the introduction of off the job training element for apprentices and the maths and English requirements for qualifications post-16.

**2012** **Richard Review** – Entrepreneur Doug Richard, compiled an independent report on the future of apprenticeships, calling on the government to improve the quality of apprenticeships and have a stronger focus on the needs of employers. Richard also argued that a good level of maths and English should be a pre-requisite for the completion of an apprenticeship.

**2015** **Apprenticeship Standards:** The government introduced new apprenticeship standards in 2015, developed by employer groups to ensure that apprenticeships are more relevant to the needs of employers and better reflect the skills required in specific occupations.

**Degree Apprenticeships:** In March 2015, the government announced the roll out of degree apprenticeships<sup>16</sup>, for the first time enabling learners to study for a degree qualification as an integral part of their apprenticeship. The first phase of subjects to be introduced included 2 engineering subsectors – aerospace and nuclear.

**2020 vision for apprenticeships:** In December 2015, the government set out its vision for apprenticeships – “to be available across all sectors of the economy, in all parts of the country and at all levels including degree level”<sup>17</sup>. This vision document focused strongly on plans to introduce an apprenticeship levy and the desire to drive up quality.

<sup>16</sup> Department for Business, Innovation and Skills. 'Government rolls-out flagship Degree Apprenticeships' Press Release, 12 March 2015.

<sup>17</sup> Department for Business, Innovation and Skills. 'English Apprenticeships: Our 2020 Vision', 2015.



**2016**

**The Institute for Apprenticeships & Technical Education:** IfATE was established in May 2016 as part of the Enterprise Act 2016. The executive non-departmental public body, sponsored by the Department for Education, launched in April 2017. IfATE's mission is to "enable employers to co-create high quality, cost-effective apprenticeships and technical qualifications, so that every employer and individual gets the skills they need to succeed<sup>18</sup>."

**Sainsbury Review:** In late 2015, David Sainsbury was asked by government to chair a panel of experts that would develop recommendations that would not only improve, but transform, technical education in England. The panel's report<sup>19</sup> was published alongside the government's Post-16 Skills Plan in July 2016, which paved the way for the introduction of a new technical qualification now known as T Levels.

**Responsibility for apprenticeships transferred to DfE:** In July 2016, full responsibility for apprenticeships was transferred to the Department for Education after the Department for Business, Innovation and Skills was replaced by the Department for Business, Energy and Industrial Strategy<sup>20</sup>.

**2017**

**Apprenticeship Levy:** In April 2017, the government replaced the previous funding model<sup>21</sup> with the introduction of the Apprenticeship Levy, which requires all employers with an annual pay bill of over £3 million to pay a levy of 0.5% of their pay bill towards funding apprenticeships. Employers can then use these funds to pay for apprenticeship training.

**Digital Apprenticeship Service:** The government launched the Digital Apprenticeship Service (DAS) in May 2017, which enables employers to manage their apprenticeship funding and find apprenticeship training providers through an online platform.

**2019**

**Augar Review:** The Augar Post 18 Review of post-18 education and funding in England published its final report in May 2019. This included a long list of recommendations, from a new lifelong learning loan to making investment in further education workforce a priority.

**Adult education devolution –** In August 2019, 6 Combined Authorities and the GLA were handed powers to administer adult education budgets for their areas.<sup>22</sup> More recently, as part of the Chancellor's budget statement in March 2023, it was announced that devolution trailblazer areas<sup>23</sup> (Greater Manchester and West Midlands) would be offered deeper powers in a range of areas including skills, such as more involvement with initiatives such as Skills Bootcamps.

The Conservative manifesto of 2019 put skills at the heart of the party's policy agenda, with a firm commitment to level up Britain's skills<sup>24</sup>. The Manifesto also pledged to look at how we can improve the working of the Apprenticeship Levy.

<sup>18</sup>Institute for Apprenticeships & Technical Education. 'Annual Report and Accounts for year ended 31 March 2022', 2022.

<sup>19</sup>Department for Education, 'Report of the Independent Panel on Technical Education', 2016.

<sup>20</sup>HM Government. Statement made by Prime Minister: 'Machinery of Government Changes', 18 July 2016.

<sup>21</sup>House of Commons Library, 'Apprenticeships Policy in England briefing', January 2023.

<sup>22</sup>Education and Skills Funding Agency. 'Devolution of the adult education budget effective from 1 August 2019' News Release, accessed online June 2023.

<sup>23</sup>Trailblazer deals were first announced early 2022 in the Levelling Up White Paper. They involve devolving more powers to mayoral authorities in England and simplifying their funding arrangements. Greater Manchester and the West Midlands, the trailblazer areas, were invited to negotiate new deeper devolution deals with the government.

<sup>24</sup>The Conservative and Unionist Party. Manifesto: 'Get Brexit Done Unleash Britain's Potential', 2019.

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**2020**

**T Level qualifications:** In September 2020, the government launched T Level qualifications, 2-year vocational courses that provide technical skills and knowledge in specific industries. T Levels are designed to be a high-quality alternative to A levels and include an industry placement as part of the course. T Level courses started from September 2022 in design and development for engineering and manufacturing; engineering, manufacturing, processing and control, and maintenance, installation and repair for engineering and manufacturing.

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**2021**

**Skills for Jobs white paper published:** When the government published the Skills for Jobs white paper in January 2021, they designed the set of policy changes as landmark reforms that will transform post-16 education and skills system.

Skills and Post-16 Education Bill introduced in the House of Lords: In the 2021 Queen's Speech, the government confirmed that it would bring forward a Skills and Post-16 Education Bill during the 2021–22 session. The government has said it wants to use the bill to transform access to skills across the country through reform of the post-16 education and training system in England. The finalised bill became the Skills and Post-16 Act in 2022, when it received Royal Assent.

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**2022**

**Flexi-Job Apprenticeships:** From February 2022, learners have had the option of taking a flexi-job apprenticeship. The new scheme enables an apprentice to work across a range of projects and with different employers to gain the full skills and experience they need to complete their programme<sup>25</sup>.

**Ongoing reforms to Level 2 and below:** The government published its proposals to reform qualifications at Level 2 and below, in a consultation launched in March 2022<sup>26</sup>. This forms part of the government's wider ambition to simplify the skills landscape and reduce the number of courses available.

**Blunkett 'Learning and Skills' Report** - In October 2022, Labour's council of skills advisers published an independent report, summarising the conclusions and recommendations of a review led by former Education Secretary, Lord Blunkett. Apprenticeships feature heavily in the report, including proposals for a new Apprenticeship and Learning Levy, improved incentives for SMEs, the reintroduction of the Education Maintenance Allowance for 16 to 19 year olds and a Young Person's Taster Apprenticeships programme at age 14 to 16.

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**2023**

**UCAS** – plans to broaden search and application hub: In February 2023, it was announced that young people would be able to use UCAS to search and apply for apprenticeships, alongside degrees (starting from 2024). It will also display different pathways into individual career areas, meaning that if a student is interested in, for example, engineering, they will see the undergraduate and apprenticeship routes set out side-by-side<sup>27</sup>.

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**Over recent years a range of other flexibilities have been introduced into the apprenticeship system. These include allowing apprentices to switch training providers, extending the amount of time apprentices have to complete their training, and allowing employers to transfer up to 25% of their levy funds to other employers in their supply chain.**

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<sup>25</sup> Department for Education. 'Flexible apprenticeships to boost jobs in key sectors' Press Release, 10 February 2022.

<sup>26</sup> Department for Education. 'Review of post-16 qualifications at level 2 and below in England', 2022.

<sup>27</sup> Department for Education. 'Apprenticeships boosted under plans to broaden UCAS' Press Release, 6 February 2023.

## SKILLS FOR JOBS WHITE PAPER

**On 21 January 2021, the government published the Further Education white paper - Skills for Jobs: Lifelong Learning for Opportunity and Growth. Key deliverables include:**

- Give employers a central role in designing almost all technical courses by 2030, to ensure that the education and training people receive is directly linked to the skills needed for real jobs
- Establish new College Business Centres to drive innovation and enhance collaboration between the further education sector and employers
- Change the law so that from 2025 people can access flexible student finance so they can train and retrain throughout their lives. This forms part of the lifetime skills guarantee. Provide a Lifelong Loan Entitlement, the equivalent of four years of post-18 education from 2025, and transform the funding system so it is just as easy to get a loan for a higher technical course as it is for a full-length university degree
- Boost the quality and uptake of Higher Technical Qualifications – by introducing newly approved qualifications from September 2022, supported by a government-backed brand and quality mark
- Baker Clause – A new 3-point plan to enforce the Baker Clause consisting of (i) a new minimum requirement about who is to be given access to which students and when (ii) tougher formal action against non-compliance (iii) government-funded careers support for schools to be made conditional on Baker Clause compliance. The Baker Clause stipulates that schools must allow colleges and training providers access to every year 8 to 13 student to inform them about approved technical education qualifications and apprenticeships
- Provide a Lifelong Loan Entitlement, the equivalent of 4 years of post-18 education from 2025, and “transform the funding system so it is just as easy to get a loan for a higher technical course as it is for a full-length university degree”
- Local Skills Improvement Plans LSIPs – Introduce LSIPs designed to enable greater employer involvement, working together with local colleges and others to help shape local skills provision, supported by a £65 million Strategic Development Fund to put the plans into action

## SKILLS AND POST-16 EDUCATION ACT

**The Skills and Post-16 Education Bill that followed the White Paper was introduced into Parliament in May 2021, with the Act being given royal assent in April 2022.**

**The Act introduces among other things:**

- The lifelong loan entitlement at the equivalent of 4 years of post-18 education for qualifications at levels 4 to 6 that was stipulated in the White Paper
- A requirement on schools to bring in providers of technical education and apprenticeships and inform students about the range of technical qualifications and apprenticeships at least 3 times per year

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Local Skills Improvement Plans as stipulated in the White Paper. Employer Representative Bodies will be set up in every region and will develop and feed into these plans.

## APPRENTICESHIP FUNDING

The government collects an apprenticeship levy of 0.5% on total payroll from UK businesses with an annual payroll expenditure of more than £3 million. From this, HM Treasury sets an English apprenticeships budget for the Department for Education, and the devolved governments receive a share of the funding calculated using the Barnett formula.

The apprenticeships budget in England is used to fund training and assessment for new apprenticeship starts for all employers of all sizes, both those who pay the levy and those who do not, and to cover the ongoing costs of apprentices already in training and any additional payments made to employers, providers and apprentices.

According to a Parliamentary Question<sup>28</sup>, answered in June 2023, the DfE's apprenticeship budget for the 2021/22 financial year was £2,466 million and the total spend was £2,455 million, meaning 99.6% of the apprenticeships budget was spent. The table below shows the percentage of the apprenticeship spend against the budget by levy payers and non-levy payers in the 2021/22 financial year, including the percentage spend by levy-paying employers through levy transfers to other employers. It also reflects the spend on apprenticeships that started prior to the introduction of the apprenticeship levy reform, and non-apprenticeships training, such as the cost of running the apprenticeship service, marketing, and communications campaigns.

Apprenticeship spend	2021/22 financial year (£ million)	% Spend against budget
Levy payers	1,592	65%
Of which: via levy transfer		2%
Non-Levy payers	817	33%
Pre-apprenticeship levy reforms	7	0%
Non-apprenticeships training spend	39	2%
<b>Total Spend</b>	<b>2,455</b>	<b>100%</b>

There are an estimated 27,300 businesses (to the nearest 100) with headquarters registered in England that paid the Apprenticeship Levy in the tax year 2021 to 2022<sup>29</sup>. The apprenticeships budget for 2021/22 is likely to be lower than the typical apprenticeship budget due to the impact of the pandemic on salary bills during that period.<sup>30</sup>

## DRAWING ON EXISTING EVIDENCE AND INSIGHTS

A broad body of literature exists on the subject of apprenticeships. This includes research and policy reports by policy think tanks, academics, employer bodies and parliamentary select committees. Such evidence tells the story of apprenticeship starts over recent years and the factors at play in declining numbers, as well highlighting

the practical issues facing young people and employers as they interact with the apprenticeships system. During the inquiry we have sought to draw on literature to complement and build on the wide range of written and oral evidence we received.

<sup>28</sup> UK Parliament. Parliamentary Question for Department for Education, 'Apprentices: Taxation', UIN HL8010, tabled on 22 May 2023.

<sup>29</sup> UK Parliament. Parliamentary Question for Department for Education, 'Apprentices: Taxation', UIN HL8011, tabled on 22 May 2023.

<sup>30</sup> There is a widely reported mismatch between the amount of money that is collected via the apprenticeships levy and the apprenticeship budget set by government. The understanding by the authors of this report is that this mismatch is explained by the Barnett formula and the fact that the levy is a UK wide levy, but the apprenticeships budget only for England.

## OVERALL PRIORITIES WITH THE APPRENTICESHIP SYSTEM

It is clear to see a growing consensus across much of the literature that the apprenticeship system and associated funding needs to be refocused towards young people. Publications by the Edge Foundation<sup>31</sup>, Onward<sup>32</sup> and others support a shift in policy focus towards young people starting out on their apprenticeship journey, with a view to widening participation and enabling their progression.

The House of Lords Youth Unemployment Committee's comprehensive inquiry report *Skills for every young person*<sup>33</sup> concluded that apprenticeships should be prioritised for young people who are choosing this route as an entry point to the labour market. We must improve the current spread of apprenticeship starts so that provision is better tailored towards young people and those who would benefit most, which will consequently provide better value for the public purse in the longer term.

Evidence suggests that apprenticeships which are undertaken by young people are associated with significant economic outcomes for the economy, employers and individuals (Centre for Social Justice).<sup>34</sup> Figures published by the Social Mobility Commission<sup>35</sup> also show that disadvantaged female learners with an intermediate apprenticeship qualification earn 11.6% more at age 28, compared to individuals holding a different qualification at the same level.

## YOUNG PEOPLE - THE APPRENTICESHIP JOURNEY

Youth Employment UK's 2022 Youth Voice Census<sup>36</sup> found that whilst 83.2% of young people had apprenticeships discussed with them once or more in secondary school, only 29.3% of young people said that they were either likely, or very likely to apply for an apprenticeship (this compares to 65% for university).

This suggests that there is more progress to be made in ensuring that all young people are aware of the benefits of an apprenticeship and the career pathways it can open up.

The National Foundation for Educational Research (NFER) examined barriers to access in relation to apprenticeships in their 2022 publication 'Equalising access to apprenticeship'.<sup>37</sup> The report found a range of challenges for young people including: a lack of awareness, English and maths requirements, wage levels, and inadequate careers support. The report also highlights substantial differences in the availability and accessibility of apprenticeship opportunities across the country.

Literature suggests that the process of applying for an apprenticeship still presents challenges for many young people. For example, research published by the Sutton Trust and UCAS<sup>38</sup> found that only 50% of apprentices surveyed said their experience of applying for their qualification was positive, compared to 90% of placed university and college students. Furthermore, the report identifies disparities in support for students – with 1 in 3 apprentices from a lower socioeconomic background receiving no support with their application.

In October 2022, the St Martin's Group, in partnership with the Learning and Work Institute, published research<sup>39</sup> with apprentices exploring why so many people fail to complete their apprenticeship. Those who took part in interviews identified a number of areas for improvement including: better communication between employers and training providers, more opportunities for support and mentoring, more/earlier communication on programme details, and increased support to access study resources and materials.

<sup>31</sup> UK Parliament. Parliamentary Question for Department for Education, 'Apprentices: Taxation', UIN HL8010, tabled on 22 May 2023.

<sup>32</sup> UK Parliament. Parliamentary Question for Department for Education, 'Apprentices: Taxation', UIN HL8011, tabled on 22 May 2023.

<sup>33</sup> There is a widely reported mismatch between the amount of money that is collected via the apprenticeships levy and the apprenticeship budget set by government. The understanding by the authors of this report is that this mismatch is explained by the Barnett formula and the fact that the levy is a UK wide levy, but the apprenticeships budget only for England.

<sup>34</sup> Centre for Social Justice. 'Trade secrets: how to reboot apprenticeships and kick-start the recovery' August 2020.

<sup>35</sup> Social Mobility Commission. 'Apprenticeships and social mobility: fulfilling potential', June 2020.

<sup>36</sup> Youth Employment UK. 'Youth Voice Census', 2022.

<sup>37</sup> NFER. 'Equalising access to apprenticeships', 2022.

<sup>38</sup> The Sutton Trust and UCAS. 'Where next? What influences the choices of would-be apprentices?', 2023.

<sup>39</sup> The St Martin's Group in partnership with the Learning and Work Institute. 'Apprenticeship outcomes and destinations', 2022.

## PARTICIPATION IN DEGREE

### APPRENTICESHIPS

Many organisations working in the education and skills field have welcomed the introduction of degree apprenticeships and the opportunities that they present. At the same time, a number of policy and research experts have raised distributional concerns arising from policy changes. For example, in their 2022 report 'The Recent Evolution of Apprenticeships' the Sutton Trust and CVER<sup>40</sup> highlights that deprived areas have suffered more from the decline in Level 2 apprenticeships (where they are still disproportionately concentrated) whilst more prosperous areas have benefited disproportionately from the expansion of Degree Apprenticeships.

The Sutton Trust and CVER also examine apprenticeship participation among individuals who were eligible to receive free school meals (FSM) when at school and found that this group is under-represented at all levels of apprenticeships – but increasingly so at higher levels. A fact that may come as a surprise to some is that Higher and Degree apprenticeships are not more common among disadvantaged individuals than a university degree. Based on their findings, the report authors conclude that it is hard to see Higher and Degree Apprenticeships as a route to widen opportunities for individuals from poorer backgrounds.

### SUPPORTING SMES -

#### BREAKING DOWN BARRIERS

Several policy think tanks and sector bodies continue to highlight the practical barriers many SMEs experience in engaging with apprenticeships and highlight the need for tailored local support. The think tank Policy Exchange argues for a more streamlined process and direct financial support to enable SMEs to play the full role in the apprenticeship system that is essential to deliver high quality apprenticeships at scale<sup>41</sup>.

The Federation of Small Businesses has conducted extensive research with small employers and highlights that most small firms and micro-businesses do not

have HR teams, making it harder to find the time, and in some cases to have the knowledge, to get involved in activities such as the development of apprenticeship standards. Their report, 'Scaling Up Skills', also sets out feedback from small firms on the administrative, cost and supervision implications of recruiting and training apprentices. The report advocates for increased support for SMEs including greater financial incentives targeted at those taking on young apprentices.

In the research paper 'Join the Dots: the role of apprenticeship intermediaries in England'<sup>42</sup> the Institute for Public Policy Research (IPPR) sets out the case for guaranteed access to high-quality intermediary support for every SME such as: practical support to navigate systems, aggregating employer demand, and support to understand and access funding.

### INTERNATIONAL COMPARISONS

Much of the policy debate around apprenticeships continues to highlight approaches overseas. A report published by the Gatsby Charitable Foundation<sup>43</sup> examines how apprenticeships compare across different countries including England, the Netherlands, Switzerland, Germany and Denmark. It highlights significant differences in the age of apprentices - citing that over 60% of apprentices in Switzerland are under 19, compared to just 21% in England. The report also concludes that England has a far higher number of individual apprenticeship standards when compared to the other nations studied.

A recent report by WorldSkills UK<sup>44</sup> raises concerns that the UK is at risk of falling behind world-leading countries in the sharpness, speed and quality of young people's technical skills in manufacturing and engineering. The same report highlights the benefits of the approach taken in countries such as Switzerland where there is a stronger focus on practical content within qualifications generally and a more systematic partnership between education, industry and government underpinned by a training system that is closely connected to the needs of the economy and labour market.

<sup>40</sup> Sutton Trust and CVER. 'The recent evolution of apprenticeships', 2022.

<sup>41</sup> Policy Exchange. 'Reforming the Apprenticeship Levy', 2023.

<sup>42</sup> IPPR. 'Join the dots: the role of apprenticeship intermediaries in England', 2023.

<sup>43</sup> The Gatsby Foundation. 'What is an apprenticeship? Comparing the occupational coverage of apprenticeships in England, the Netherlands, Switzerland, Germany and Denmark', 2022.

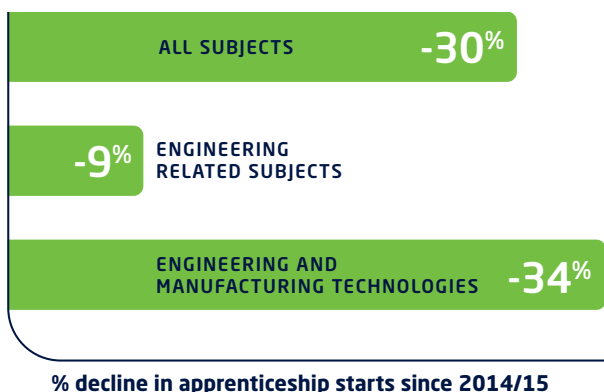
<sup>44</sup> WorldSkills UK. 'International benchmarking and insights: bringing world-class skills to the UK', 2023.

# WHERE WE ARE NOW - A SHIFTING PICTURE?

**Many would agree that policy reforms in recent years have undoubtedly improved the quality of apprenticeships and that is something to be commended.**

The apprenticeship levy has clearly had some positive impacts – not least sparking new conversations in boardrooms around the country about investing in training opportunities and increasing technical skills for the future. The introduction of degree apprenticeships is a welcome and popular addition. Likewise, giving local skills planning a statutory footing, with a focus on employer skills gaps now and in the future, is a positive move. Yet, despite attempts by successive Ministers to make apprenticeships more accessible and more appealing to employers and young people, a simple fact remains – not enough people are coming through the apprenticeships route. In fact, numbers have declined.

Since 2014/15 apprenticeship starts have dropped by 30% for all subject areas, and 9% across engineering-related subjects. In the engineering sector, this decline is particularly pronounced in engineering and manufacturing technologies, where there has been a 34% fall in apprenticeships starts since 2014/15.



Unfortunately, the latest figures do not suggest a much-needed bounce-back is happening. Data shows that apprenticeship starts across all subjects are down by 6.2% in the 2022/23 academic year compared to the same period in 2021/2022. The data also confirms that younger people and those accessing lower-level apprenticeships are particularly hard hit.

In light of an acute need for skills, declining starts in subjects like engineering and technology particularly amongst younger people should ring alarm bells in all political parties and force us to better understand and address the issues stopping young people accessing and thriving in apprenticeships in this sector.

**“We call on DfE to reverse the sharp decline in apprenticeship starts and address the perverse situation where the majority of apprenticeships are being given to older, already highly qualified adults at the expense of young people, and the taxpayer.”<sup>45</sup>**

**Robin Walker MP,  
Chair of the Education Select Committee**

<sup>45</sup> Department for Education, ‘Apprenticeships and Traineeship Data’ webpage. Accessed May 2023.

<sup>46</sup> <https://committees.parliament.uk/committee/203/education-committee/news/194988/government-must-pause-post16-education-shakeup-or-risk-making-skills-shortages-worse/>

## 7 CAUSES FOR CONCERN

**Beyond the number of (engineering, manufacturing and technology) apprenticeships starts, the shifting apprenticeship picture includes several other worrying characteristics which we will consider in more detail below:**

- 1 Level** – Level 2 and 3 apprenticeships are declining
- 2 Age** – Participation is falling most amongst younger age groups
- 3 Business size** – Proportionately fewer Small to Medium Sized Enterprises (SMEs) are engaging with apprenticeships
- 4 Disadvantage** – Apprenticeship starts by people from the most deprived backgrounds is declining
- 5 Geographic spread** – Apprenticeship opportunities are not evenly distributed
- 6 Awareness** – Awareness of apprenticeships among young people and parents is still too low
- 7 Gender** – Only 14% of those starting an apprenticeship in engineering and technology are female<sup>47</sup>

**“The reforms have increased levy-paying employers’ financial investment in apprenticeships but also stimulated their preference to use it to train existing staff at higher levels, sometimes through converting existing training provision to apprenticeships. This may generate higher level skills, but the cost might be a lower number of apprentices, fewer trained by smaller employers, as well as fewer younger and lower-level apprenticeships.”<sup>49</sup>**

The Gatsby Charitable Foundation

### **1 LEVEL - Level 2 and 3 apprenticeships are declining**

The decline in the number of apprenticeship starts is being driven by a significant decline in the number of starts in lower-level apprenticeships, particularly intermediate apprenticeships (Level 2). This also applies to each of the individual sector subject areas in the engineering, manufacturing and technology sectors.

In 2014/15 there were 63,250 starts in engineering-related apprenticeships at Level 2. By 2021/22 this figure had more than halved (down to 30,980)<sup>48</sup>. During that same period Level 4 and 5 apprenticeships saw a steady increase.

<sup>47</sup>When considering issues relating to the diversity of young people participating in engineering-related apprenticeship subjects, this inquiry puts a particular spotlight on gender as a result of the low numbers of female starts relative to the population. However, it also notes, the following figures in relation to ethnicity and disability: for engineering-related apprenticeships, in 2021/22, 12.5% of starts were by people from a minority ethnic group, up from 7.4% in 2014/15. In 2021/22, 13.3% of starts in engineering-related apprenticeships and 13.6% of starts in all sector subject areas were from disabled people and/ or those with a learning difficulty, up from 10.1% and 10.3% respectively in 2016/17. (all figures from ‘Fit for the future: Growing and sustaining engineering and technology apprenticeships for young people, Inquiry led by Lord Knight and Lord Willetts. Call for evidence’, 2023.

<sup>48</sup>EngineeringUK. ‘Fit for the future: Growing and sustaining engineering and technology apprenticeships for young people, Inquiry led by Lord Knight and Lord Willetts. Call for evidence’, 2023.

<sup>49</sup>The University of Warwick (report commissioned by the Gatsby Foundation and the Edge Foundation). ‘The Benefits of Hindsight: Assessing the impact of apprenticeship reforms on employer behaviour’, 2022.



2

## AGE - Participation is falling most amongst younger age groups

Whilst evidence shows that there has been a drop in overall apprenticeship starts across all age groups, the youngest age group has seen the biggest decline. Since 2016/17, the number of apprenticeship starts for 16 to 18 year olds has fallen by 37% (from 122,750 to 77,430), for 19 to 24 year olds by 25% (from 142,190 to 106,330) and for those aged 25+ by 28% (from 229,940 to 165,350). A similar pattern can also be observed in engineering-related apprenticeships. While 16 to 25 year olds still make up almost 70% of all engineering related apprenticeships in this sector, the biggest decline in starts in engineering related apprenticeships was among 16 to 18 year olds. Since 2016/17, engineering-related apprenticeship starts for 16 to 18 year olds have declined 22% (from 43,750 to 33,960), while starts by 19 to 24 year olds and those 25+ have both fallen only 6% (from 36,460 to 34,390 and from 31,490 to 29,610, respectively).

This represents a clear shift of the age profile of those taking up apprenticeships<sup>50</sup>. As a result, in 2016/17, 39.2% of those starting engineering-related apprenticeships were aged 16 to 18, compared to 34.7% in 2021/22. This is partly due to the increase in the numbers of degree apprenticeships, and the increase in the number of apprenticeships starts in information and communication technology, which tends to have a higher age profile. 46.1% of starts in information and communication technology in 2021/22 were 25+ only 14.7% were 16 to 18 years old.

The upward shift in age in apprentices could spell problems for engineering in the years ahead, due to the changing age profile of the profession as a whole. For example, there is a lower proportion of workers in the 16 to 24 age group in engineering (8.1%) compared to those working in non-engineering roles (11.4%), a proportion that has declined since 2010 (from 8.6% to 8.1%)<sup>51</sup>.

3

## BUSINESS SIZE - Fewer SMEs are engaging with apprenticeships

Apprenticeship starts have declined across the whole of the engineering and technology sector between 2015/2016 and 2020/2021. This decline, however, was less pronounced among large businesses, where numbers have fallen about 18% (from 47,550 starts in 2015/16 to 39,100 in 2020/21), as compared with 57% in businesses with fewer than 50 employees (from 16,200 to 6,970). Companies with 50 to 249 employees saw a middling fall of 34%, from 41,830 to 27,960 apprenticeships starts.

This is also reflected in the increase of apprenticeship starts that were in large companies (more than 250 employees) from 44% in 2015/2016 to 53% in 2020/21.

**“Today, the average apprentice is more likely to be over 25 than under 19, studying in business rather than engineering or construction, and working in a large London office over a small business in the North or the Midlands. This is concerning”.** ”

Onward <sup>52</sup>

<sup>50</sup> Department for Education, 'Apprenticeships and Traineeship Data' webpage. Accessed May 2023.

<sup>51</sup> EngineeringUK, 'Fit for the future: Growing and sustaining engineering and technology apprenticeships for young people, Inquiry led by Lord Knight and Lord Willetts. Call for evidence', 2023.

<sup>52</sup> Onward, 'Course Correction: Why apprenticeship reform is needed to level up opportunity', 2022.



4

#### **DISADVANTAGE - Apprenticeship starts by people from the most socio-economically deprived backgrounds is declining**

Data shows that the proportion of apprenticeship starts by people from the most socio-economically deprived backgrounds<sup>53</sup> has declined in recent years. 20.6% of apprenticeship starts across all sectors were by those in the most deprived group, down from 25.8% in 2016/17. A similar trend has been seen for engineering-related apprenticeships. 18.6% of those starting an apprenticeship were from the most deprived group in 2021/22, down from 21.2% in 2016/17, which is concerning, particularly in light of the levelling-up agenda. It raises questions about the accessibility of the system, at a time when the country needs a more diverse engineering workforce including young people from socioeconomically disadvantaged backgrounds.

Some organisations have raised concerns about the shifting patterns in relation to levels, including the decline in Level 2 apprenticeships and the impact this has on participation in deprived areas of the country. For example, in a report last year<sup>54</sup>, the Sutton Trust found that deprived areas have suffered more from the decline in Level 2 Apprenticeships (where they are still disproportionately concentrated). More prosperous areas have benefited disproportionately from the expansion of Degree Apprenticeships.

5

#### **GEOGRAPHIC SPREAD - Apprenticeship opportunities are not evenly distributed**

The engineering sector is not evenly spread across the country and seems to defy expectations that areas where engineering businesses cluster equates to more apprenticeships opportunities in the sector. Recent research commissioned by the Royal Academy of Engineering shows<sup>55</sup>, for example, that Birmingham, Cambridge and Bristol (alongside others) attract some of the highest volumes of employment and are attractive environments for engineering businesses. One would therefore expect there to be a wealth of apprenticeships opportunities. Yet, engineering-related apprenticeship starts have declined in every region except for London and the South East, which have seen small increases. As an example, data shows that engineering-related apprenticeship starts in the West Midlands dropped by over a quarter (27%) between 2016/17 to 2021/22 (from 14,410 down to 10,520)<sup>56</sup>. For an area of the country which is heavily reliant on engineering and tech skills for key sectors such as aerospace, automotive, food technology and creative industries, one would expect apprenticeship numbers to be growing not shrinking.

<sup>53</sup> For this data the index of multiple deprivation (IMD) is used. This separates England into quintiles of deprivation. For this data, we have used the highest deprivation quintile to define the students from most deprived backgrounds. For more information, please see [www.gov.uk/government/statistics/english-indices-of-deprivation-2019](http://www.gov.uk/government/statistics/english-indices-of-deprivation-2019)

<sup>54</sup> The Sutton Trust. 'The recent evolution of apprenticeships', 2022.

<sup>55</sup> Royal Academy of Engineering, 'Engineering Economy and Place', 2023

<sup>56</sup> EngineeringUK. 'Fit for the future: Growing and sustaining engineering and technology apprenticeships for young people, Inquiry led by Lord Knight and Lord Willetts. Call for evidence', 2023.

6

**AWARENESS** - Awareness and knowledge of apprenticeships among young people and parents is still too low

It is not enough to have educational and skills pathways into engineering and science careers. Young people and parents need to know about them and what their options are locally. EngineeringUK's Engineering Brand Monitor<sup>57</sup> suggests more needs to be done to increase young people's awareness and understanding of vocational pathways, including apprenticeships and T Levels. Just 43% of 11 to 19 year old respondents across the UK said they knew about the apprenticeship options available to them.

There are significant regional disparities. Knowledge of apprenticeship options was found to be highest in London (63%) and lowest in Yorkshire and the Humber (34%), with the South West (35%) and the West Midlands and East Midlands not faring much better (36% and 37% respectively). Similarly, parents in London were most knowledgeable about apprenticeships (62%) compared to other regions in England<sup>58</sup>. The findings are a reminder of the importance of high-quality and impartial careers information, advice and guidance for all young people.

7

**GENDER** - Only 14% of those starting an apprenticeship in engineering and technology are women

14.2% of engineering-related apprenticeship starts are by women. While this is an increase of 6.6% percentage points since 2014/15, there is no doubt that we could, and should, be making more progress on diversity across engineering apprenticeships particularly in light of the fact that the number of female apprentices starting an engineering-related apprenticeship at intermediate level (Levels 2) has dropped – from 8.5% in 2014/15 to just 7.2% in 2021/22.

It appears that increased take-up by women is driven by increases in subjects like ICT (32.1% of apprenticeship starts in this sector subject area were by female apprentices, up from 17.5% in 2014/15). Women also take more higher-level apprenticeships with the highest percentage point increase of female participation being at Levels 4 and 5 (16% increase in the percentage of female apprentices) over the 7-year period since 2014/15, followed by degree or higher (11.8% increase in the percentage of female apprentices). This may be a positive development as when apprenticeships are offered to people already in the workforce, employers may be using them to enhance retention and progression, which is generally lower amongst women.

<sup>57</sup> EngineeringUK. 'Engineering Brand Monitor', 2021.

<sup>58</sup> EngineeringUK. 'Levelling up engineering skills briefing', 2022.

# CHAPTER 2



# INSIGHTS AND ANALYSIS

**This section summarises the evidence provided through the written responses to the call for evidence, the oral evidence, and focus groups with young people. Themes are grouped according to respondent, looking at topics that impact across the board, as well as specific issues faced by businesses, providers, and young people.**

There were 88 written responses to our call for evidence: 18 from engineering companies, 16 from individuals, 6 from Professional Engineering Institutions, 5 from providers, and the remainder from other organisations such as careers/education bodies, combined authorities, trade associations, think tanks and youth organisations. In addition to the written evidence, two oral evidence sessions were conducted with a range of stakeholders, as well as two focus groups with young people aged 16 to 25 – one with current engineering and technology apprentices, the other with people who had actively considered an apprenticeship but ultimately chosen not to take one up.

The questions explored the role that apprenticeships play in helping to meet UK skills needs, the reasons behind the decline in apprenticeships numbers, the barriers to businesses taking on young apprentices as well as the barriers to young people accessing them, and asked respondents to put forward recommendations as to what would help drive up apprenticeship numbers, as well as completions.

## THE ROLE OF APPRENTICESHIPS

Respondents were overwhelmingly positive about the role of apprenticeships. They told us that apprenticeships “have given generations of people the chance to learn, build, make, and create, while meeting their professional and personal goals” (Enginuity), and are an “essential way to fulfil the country’s needs for a highly skilled workforce for our future” (Martin). Importantly for engineering, where there is an ageing workforce<sup>59</sup>, respondents told us how apprenticeships enable workers to “pass on the skills of existing time-served employees to the workers of the future” (Ford Aerospace) to ensure continuation of service to customers and enable the UK to compete in the global market.

There was an understanding that apprenticeships allow a route into a successful career for those who prefer to earn and learn through a more hands on approach, and that they “offer a direct experience of the world of work and skills training with on-the-job experience and off-the-job theoretical underpinning knowledge” (Careers England). However, there was also a view that they should not only be for young people who do not have the grades to go to university. In addition to training young people, companies are also using apprenticeships to reskill or upskill existing staff to close skills gaps, with apprenticeships offering “an opportunity for businesses to diversify, upskill and strengthen the capabilities of their employees in strategic areas” (National Grid).

Many of the businesses that responded to the inquiry were currently offering apprenticeships and using them to support their recruitment strategy. Some had experienced changes in their offering and/or the number of applications since the Covid-19 pandemic and the UK’s exit from the EU (Brexit).

<sup>59</sup> Trends in the engineering workforce, EngineeringUK 2022, online, accessed April 2023

## OVERVIEW OF REASONS FOR DECLINE AND BARRIERS

### TO INCREASING APPRENTICESHIP NUMBERS

**Table 1** shows the variety of topics that were covered in the written responses demonstrating the wide range of experiences of companies and providers. These topics will be explored in more detail in this chapter.

Although the apprenticeship levy was mentioned by around half of respondents, this covered a wide range of issues, explored further on page 34. Awareness and perceptions of both apprenticeships and engineering featured highly in responses, as well as parity of esteem between apprenticeships and university education. This demonstrates the need for education across society to improve knowledge and opinions of vocational routes and

of engineering as a career option. Money featured as a barrier and reason for decline in a number of ways: the cost of hosting an apprentice for businesses, the funding available for businesses, the time between businesses funding an apprenticeship and seeing a return on their investment, the cost of living restricting young people's ability to become an apprentice over another (more highly paid) work, and further education staff and trainer shortage due to the salaries being paid in comparison with other careers. There is therefore a clear consensus that the apprenticeships system requires more financial investment across the board in order to be successful and meet future skills needs.

**Table 1. Topics mentioned in inquiry responses as reasons for decline in numbers of apprenticeships and barriers**

Topic	Count
The apprenticeship levy	45
Awareness/perceptions of engineering	42
Awareness/perceptions of apprenticeships/support from schools	39
Company costs (incl. health & safety requirements & safeguarding)	34
Careers provision and company engagement with schools	31
Parity of esteem	24
Cost of living/amount apprentices are paid	23
Funding/investment/incentives	23
Further education staff/trainer shortages	20
English and maths requirements	18
Company capacity/expectations	16
Diversity & inclusion	16
Location	15
Covid-19	15
Standards	14
Lack of applicants	12
Confusing application process and/or end point assessment	12
Bureaucracy	7
Courses don't meet industry needs	6
Lack of employers offering apprenticeships	4
Time to seeing return on investment	4

## AWARENESS AND OPINIONS

### OF APPRENTICESHIPS

Lack of awareness of apprenticeships was mentioned frequently as hindering apprenticeship opportunities – on the one hand, young people and their parents not being aware of what apprenticeships are or how to access them, and on the other hand, businesses not understanding the potential associated with employing an apprentice or the process for doing so.

Additionally, among young people, employers and providers, there was a strong feeling that there was not parity of esteem between apprenticeships and university degrees. Young people told us that there is “a stigma around apprentices being seen as a lesser option, not as valuable” (young person, focus group) it was also noted that “schools must be prepared to understand and engage with apprenticeships, not see it as a second rate pathway” (oral evidence). Various respondents cite that many people, including potential apprentices and their parents, consider apprenticeships to be for young people of lower academic ability who are unable to get into university.

There is apparently little information and advice given in schools about routes into successful careers other than through university. Teachers are often seen as biased towards degree education, rather than exploring and explaining more technical routes to their students, perhaps because they are not confident advising on alternatives such as apprenticeships. Young people in the focus groups commented that “school quite heavily pushed university” and “very much had a focus on you do your GCSEs, your A levels, you go to university” with “no real discussion around other routes and opportunities”.

Responses also highlighted a lack of effective and consistent outreach and engagement between employers and younger students at primary and secondary school. Increasing this would contribute to increasing awareness of different careers and pathways into them, broadening the number of options young people see as being open to them.

Furthermore, the language used to promote apprenticeships was described by some as off-putting. Apprenticeships are often referred to as technical which could be seen as unappealing to young people who do not consider themselves to have sufficient technical ability.

## SUPPLY AND DEMAND

The question remains about whether there is a lack of apprenticeship opportunities available to young people or a lack of applicants for available roles. Responses suggest that there is a combination of both, dependent upon the specific sector and geographic location.

Many larger companies said that they have been able to increase their offer of apprenticeships in recent years. Of these, well-known companies seem to be having no issues recruiting apprentices but are aware that this is somewhat due to their brand appeal, with one reporting having around 10 times the number applicants needed to fill the roles advertised (BAE Systems). Young people also told us that they had found the application process to be “highly competitive”, which could suggest that some apprenticeships are particularly popular as well as that there not being enough apprenticeship vacancies to meet overall demand.

There were examples of large intakes of apprentices in large companies, and an engineering association (ACE) said that their members reported an increase in the number of apprentices being taken on. However, we were also told that “there is demand [from employers], but there is a lack of young people coming forward” (UK Metals Council – oral evidence), perhaps highlighting again an issue of awareness, the fact that some sectors are more attractive to prospective apprentices than others or that vacancies need better visibility.

In contrast to large companies, SMEs reported finding it difficult to offer apprenticeships at any level, even if they had previously been able to do so, the reasons discussed in the barriers for employers section on page 33.

It is important to note that many of the apprenticeships being offered are higher or degree apprenticeships rather than Level 2 and 3 programmes, therefore reducing apprenticeship opportunities for those young people most likely to access this level. Some of the mixed messages about whether there is a supply or demand issue may relate to apprenticeships being offered at different levels to that which young people seek most.

## APPRENTICESHIP OPPORTUNITIES

### FOR 16 TO 18 YEAR OLDS

One of the central themes to arise from this inquiry work has been the role that apprenticeships should play in relation to supporting engineering career pathways for 16 to 18 year olds. It is clear that the apprenticeship levy has had an impact on the decisions employers make on who to employ and how to spend their levy funds – with many choosing to offer apprenticeships to existing employees, rather than focus their apprenticeship offer on new recruits at the youngest age group<sup>60</sup>. For some engineering employers there are particular considerations involved for employers when having 16 to 18 year olds on-site for example, in safety critical industries. Other employers have worked collaboratively to overcome these as evidenced by their successful apprenticeship programmes, with routes in across the age-spectrum.

As part of the inquiry, there have been differences of opinion shared about whether the apprenticeships are an effective engineering pathway for under 19s and if so, what steps could be taken to increase the supply of apprenticeships for this age group. In this context there are reservations about the likelihood of large numbers of employers increasing their 16 to 18 year old apprenticeship offer given the decline in apprenticeship starts for this age group over time and the safeguarding considerations needed when employing this age group. That is not to say this age group is not a vital part of ensuring the UK has a thriving engineering and tech workforce for the future, but rather there are alternative pathways which may be better equipped to support their learning and work progression into engineering and tech careers. Good quality pre-apprenticeship support and traineeships for 16 to 18 year olds become even more important within this context and we return to this in the report recommendations.

## APPRENTICESHIP STANDARDS/

### FRAMEWORKS

Respondents highlighted apprenticeship standards and frameworks as being a barrier to companies or providers offering apprenticeships. It was clear that the change from frameworks to standards-based apprenticeships has been difficult for some companies. One provider told us that compared with the previous frameworks approach, the move to standards meant that “we are asking a lot more of our employers and as a provider that wants to be compliant, you feel that when you’re talking to them” (oral evidence 1). Another respondent highlighted that “changing them [the standards] and changing the funding system causes havoc for employers” (oral evidence 1). Particularly affected are SMEs across all sectors, 27% of whom reported that the reforms negatively impacted them<sup>61</sup>.

An issue highlighted is that requests for a new standard that may overlap in a number of areas with an established one, cannot be recognised. This means that additional standards that may better reflect the skills, knowledge and behaviour needs of all employers cannot be developed. There was a desire to involve a broader range of companies in the development of standards to enable them to become more reflective of what a wider range of employers, need.

SMEs in particular noted that there are certain parts of engineering that are not covered by the current apprenticeships offering, leaving them unable to hire an apprentice. They highlighted that standards are “not broad enough” to allow them to tailor the apprenticeship to their own business needs, and that they are “too specific and not relevant” to their business.

In addition, with technology advancing rapidly, and standards taking a long time to develop, they are not keeping pace with changing skills needs, especially in the digital, software and net zero areas.

<sup>60</sup> The 2021 Apprenticeship Learner Survey showed that 56% of apprentices were employed by their employer prior to the start of their apprenticeship - [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1080690/Apprenticeships\\_evaluation\\_2021\\_-\\_learners\\_research\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1080690/Apprenticeships_evaluation_2021_-_learners_research_report.pdf)

<sup>61</sup> Fit for the Future: apprenticeship and small businesses | FSB, The Federation of Small Businesses. accessed online, May 2023 – cited in inquiry response from Onward



## SOLUTIONS PROPOSED BY RESPONDENTS TO THE INQUIRY

- More campaigns to increase the awareness of apprenticeships on television or social media
- Change the way apprenticeships are described as a technical qualification
- Improve careers provision and advice/ guidance in schools to better highlight that apprenticeships can lead to a successful career and are a valuable educational pathway, challenging stereotypes about apprenticeships being for people with lower academic ability
- Incentivise schools to promote apprenticeships alongside higher education. Ensure a wider range of employers are more involved in the development of apprenticeship standards to ensure they meet their needs.
- Employers and schools to work together more closely to improve awareness of engineering and apprenticeships from an early age.



## BARRIERS FOR

## EMPLOYERS

**This section looks at some of the issues faced by engineering employers in trying to recruit apprentices - some are specific to engineering, whilst others are general issues found across all apprenticeships.**

## ALL APPRENTICESHIPS

### THE APPRENTICESHIPS LEVY

The levy is paid by employers with a wage bill of over £3 million (around 2% of all employers) and currently stands at 0.5% of their total annual wage bill<sup>62</sup>. The levy was described by one respondent as a “large employer tax” (Ford Aerospace).

Many respondents from the business sector found the levy inflexible. They highlighted that the levy can only be spent on the actual training costs of an apprenticeship, so there are many related costs that cannot be covered by the levy, restricting employers’ ability to take on more apprentices. For example, many cited concerns that salary costs cannot be paid using the levy funds. Some also suggested that companies would benefit from being able to use the levy for shorter courses to upskill existing staff where needed, therefore funding wider training beyond apprenticeships.

The levy is often being used to offer high level (degree) apprenticeships rather than training young people with no experience. Higher-level apprenticeships are more expensive to administer and deliver, resulting in fewer apprenticeships being available overall. The 2021 Apprenticeship Learner Survey<sup>63</sup> showed that 56% of apprentices were employed by their employer prior to the start of their apprenticeship, highlighting that the levy is likely to be being used to upskill existing staff rather than creating new opportunities.

The transfer of the levy from large companies to SMEs was a frequently mentioned issue. We were told about “numerous examples where regional interventions have enabled better access to levy funding for example, MTC training work with West Midlands Combined Authority and Oxfordshire Local Enterprise Partnership in a levy transfer scheme as well as using Lloyds sponsorship and levy transfer to further support SMEs in accessing apprentices.” However, in some sectors, larger companies are perceived as reluctant to transfer the levy funds to smaller companies down the supply chain (or not able to, due to restrictions on how it can be used), meaning that SMEs are not benefitting as intended. Furthermore, the bureaucracy associated with accessing levy transfers to SMEs was listed as a deterrent to accessing them. We were also told that “by allowing organisations to transfer more of their levy, they will be able to contribute more to the wider SME skills ecosystem.”

It is important to highlight, however, that not all employers responding to this inquiry, were experiencing the same barriers in relation to the levy.

### COSTS

The cost of employing an apprentice was identified as a major issue, especially for SMEs, particularly relating to the cost of salaries, although other associated costs also caused concern. Respondents also quoted the costs associated with taking experienced staff away from their day to day job, such as working on the production line, to train apprentices. In addition, the time needed to complete paperwork related to hiring an apprentice was cited as an issue and we were told “the apprenticeship compliance, both enrolment and on-programme, is very

**“If things are getting more expensive, then businesses in general are less likely to be looking to hire an apprentice”**

Oral evidence

<sup>62</sup> Key facts you should know about the apprenticeship levy, Department for Education, accessed online, April 2023

<sup>63</sup> Apprenticeship evaluation 2021: learner survey, gov.uk, accessed online May 2023

burdensome and off-putting to a lot of employers.”(oral evidence) Respondents from across the Professional Engineering Institutions and business drew attention to the fact that the lead time between an employer deciding to hire an apprentice and finding an appropriate apprenticeship standard through to the completion of the hiring process is quite long.

Furthermore, the inquiry heard that the time to seeing the return on their investment means that senior business leaders are less likely to see hiring an apprentice as a viable option if they require additional skills in the shorter term. Concerns were also raised about companies investing in apprentices, only for other companies (who do not invest in training) to poach their apprentices at the end of the course. Others highlighted that due to the increased costs of running a company, there is sometimes not an employment opportunity available at the end of an apprenticeship, meaning that they have invested in a trainee, but are unable to benefit from their expertise.

## ENGINEERING

### SPECIFIC ISSUES

**Engineering was described as “the heartland of apprenticeships” (oral evidence 2). There were some barriers that respondents indicated were either specific to engineering employers and apprenticeships, or more prominent within engineering than other subject areas.**

### TRAINING PROVISION

There was concern among respondents about the variability in the quality of the training provision provided across apprenticeships. One SME said “we no longer take on apprentices from local colleges due to the poor quality of training provided, the lack of management of the students and a failure to maintain communication about progress and student performance” (HONE-ALL). Additionally, MakeUK reported that “47% of manufacturers do not believe that colleges and other training providers are adequately meeting the needs of their business; 45% identified a lack of access to the right training provision as the biggest barrier to investing more in skills training.”

There was frustration among some businesses who could not find a suitable apprenticeship provider. For example, “two EAMA members have been unable to find any further education colleges willing to take on their approved apprenticeships (one at Level 3, one at Level 4) due to the funding available. In one case, the apprenticeship is being taught entirely online”. There is potential for some aspects of courses to be taught via online training, wholly or in part, but this may be more difficult for engineering due to the practical nature of many courses.

There was recognition of the time commitment required from an employer to train an apprentice.

## STANDARDS

raised a number of issues. Firstly, the standards were described as “too big-business focused”, suggesting that they are enabling larger engineering companies to increase their apprenticeship offer but posing difficulties for SMEs whose needs do not fit with those of big business. SMEs highlighted that they require a workforce that has a broader skills set, and that apprenticeship standards can be too specific at times to be applicable to their business. Although it was seen as positive that businesses were involved in developing standards, such as Trailblazer groups, we were told “it’s a lot easier to engage if you’re a large business” (oral evidence 1), something that was echoed in the written responses. Given such a large percentage of engineering companies are SMEs, different mechanisms are required for smaller companies to input into the standards in order to better meet their needs.

Low completion rates are another concern, particularly in relation to some apprenticeships. Latest data from DfE<sup>64</sup> shows an achievement rate of 61% for apprenticeships in engineering and manufacturing technologies, and 59% in construction, planning and the built environment. This is low compared to 67% in information and communication technology apprenticeships. Responses indicated that this is particularly a problem where it is possible to obtain an industry qualification before the end of the apprenticeship, effectively removing the incentive to complete the apprenticeship itself. It was suggested that this may be due to the professional qualifications having more importance than the apprenticeship qualification/

<sup>64</sup> Apprenticeships and traineeships Academic year 2022/23, Department for Education, gov.uk, online - accessed May 2023

certificate in the sector. It was also noted that some degree apprenticeships do not align with professional qualifications. In light of this, it is important to note that IfATE has recently made changes to align the End Point Assessments and professional qualifications, which is hoped will address this issue and aid completion rates<sup>65</sup>.

With engineering apprenticeships often being a practical course with specific health and safety needs, it was noted that these engineering-specific requirements are not always reflected in the standards. This can be a problem, particularly for SMEs, where the cost of implementing new health and safety measures has more of an impact, especially when not covered by funding.

## COST OF AN ENGINEERING APPRENTICESHIP

Engineering apprenticeships are generally longer than those in other sectors. For example, at Level 4, a lead engineering maintenance technician apprenticeship takes 36 months, twice as long as an early intervention Practitioner apprenticeship in the care sector, of 18 months. Associated with that are higher costs for employers and a longer wait to see the return on their investment. We were told that this is a bigger problem for the lower-level apprenticeships because “there is a notably higher proportion of the total training cost to be borne by the employer at Level 2 than at Level 3” (Make UK) because of the generally lower levels of funding available.

## YOUNG PEOPLE

### Many of the written responses to the call for evidence provided information about the barriers for young people to accessing apprenticeships.

Further insights were gathered through two focus groups with young people – one for those currently undertaking an apprenticeship and one with those who had considered an apprenticeship but then decided to choose a different pathway. Much of the insight related to all apprenticeship types, but there were also some engineering-specific points made which are discussed separately.

## ALL APPRENTICESHIPS

### AWARENESS AND PERCEPTIONS OF APPRENTICESHIPS

Insights gathered through this inquiry as well as through previous research undertaken by EngineeringUK<sup>66</sup> highlight that vocational routes such as apprenticeships are not as well-known and understood by young people, and their parents, as academic routes into the workplace through university degrees. Schools have a big role to play in educating young people about their future careers and the various routes into them. Yet we heard from young people that schools focus on more academic pathways such as GCSEs and A levels and that apprenticeships are “never really discussed much” or are “glossed over” and there is “no emphasis” on the availability of the apprenticeship opportunities out there, with it presented as a “second-rate pathway” (young person, focus groups).

Young people also highlighted that there was a lack of visibility of apprenticeship opportunities at careers fairs, and described how they were shown “hardly any range” and “no real variety” in options (young person, focus group). UCAS have reported that “over half of students looking to apply to higher education in 2022 are interested in apprenticeships but find it difficult to access relevant information.”<sup>67</sup>

<sup>65</sup> <https://feweek.co.uk/apprentices-to-take-integrated-epa-and-mandatory-qual-assessment/#:~:text=A%20popular%20proposal%20to%20reduce,before%20they%20take%20the%20EPA.>

<sup>66</sup> Levelling up engineering skills

<sup>67</sup> Where next? Improving the journey to becoming an apprentice, UCAS, May 2021

## WORKPLACE READINESS

Employers described that young people are applying to apprenticeships without having gained enough practical experience and social skills at school. Some noted that the Covid-19 pandemic has played a part in this, with large amounts of time spent learning remotely in recent years and therefore practical experience not being feasible. However, the lack of importance given to subjects such as design and technology in the curriculum that would provide young people with the opportunity to learn more of these practical skills was noted, as was the suggestion that schools should “start introducing employability skills from early secondary” (CIBSE).

However, issues around workplace readiness were not seen as a barrier by all employers. For example, one employer told us that “there needs to be a change of mindset in the industry that younger people see

things differently, that they need to allow those with no knowledge a chance to be trained up as they can be fast learners and have other life skills that can be useful in a working environment” (ACE).

Options for better preparedness for work include pre-apprenticeships and traineeships, but it was highlighted that these are not widely available, and that a national programme would be welcomed, much like the previous traineeship scheme which will no longer be funded as a standalone programme from 1 August 2023 but is being integrated into the adult education provision<sup>68</sup>. They would be beneficial particularly for “young people that could potentially succeed in apprenticeships but who cannot meet the entry criteria” (ENERGY-&-SKILLS-UK).

## SOLUTIONS PROPOSED BY RESPONDENTS TO THE INQUIRY

- Encourage larger firms to take on more apprentices than they need and then release them into the supply chain once trained
- Hand down more of the levy into the supply chain to allow for more SMEs to take on apprenticeships using the levy funding
- Review funding for apprenticeships, as the cost of hiring an apprentice is much higher (particularly in engineering) than the funding available
- Make standards more easily adaptable to meet employer needs with better mechanisms to enable SMEs to be more involved in their development
- Greater financial incentives for employers to take on an apprentice
- Greater support for SMEs to take on apprentices, such as help with required paperwork. It was suggested that this could be an organisation set up to advise, guide and/or complete forms on behalf of companies
- Make the registration process of an apprenticeships more user friendly, better support for employers with clearer website information for any queries

<sup>68</sup> Skills update statement made on 12 December 2022 by Robert Halfon, Minister for Skills, Apprenticeships and Higher Education, online, accessed June 2023

## APPLICATION PROCESS AND

## END-POINT ASSESSMENT

Apprenticeships follow a different application process to the better known UCAS degree application process and responses described a lack of support for young people in applying for apprenticeships. It was reported that “applications can be overwhelming sometimes and this isn’t something covered very well in schools” (quote from young person reported by Stemettes). Evidence from the Youth Voice Census 2022 shows that only 17.5% of apprentices had support from their school, college or sixth form in relation to the application process. (Youth Employment UK).

Additionally, the timing of application deadlines was noted as a factor that inhibited young people. Being different to the deadlines required for university applications, and possibly closer to the exam period, one young person who did not apply for an apprenticeship told us that they “completely missed” the deadline because they “assumed that it was going to be later like everything else”, highlighting the lack of information available around the process. (young person, focus group)

There were also criticisms of the End-Point Assessment. Respondents felt that the assessment did not reflect the practical nature of the programme of work undertaken throughout an apprenticeship. In particular, young people who chose to do an apprenticeship for practical skills felt disadvantaged by the academic nature of the end-point assessment, which can lead to them not completing the qualification.

## GRACE'S STORY

**My name is Grace McCrickard. I am 23 years of age and I live in Cumbria.**

I found out about apprenticeships from a Gen2 open evening, it was never something I was taught much about in school. Once leaving school I completed a 12-month traineeship at Gen2 which was a NVQ Level 2 Diploma in Performing Engineering Operations which give me a platform of knowledge and a good insight into electrical engineering. This led on to being invited to JF Nuclear for work experience and an interview, and ultimately gaining my apprenticeship.

I wanted to go down the apprenticeship route as an opportunity to obtain qualifications at the same time as gaining genuine work experience and starting off my career.

The apprenticeship that I started in 2017 with JF Nuclear, was an NVQ Level 3 Advanced and my job title then was an Electrical UVS Pilot Apprentice. Once I completed my Apprenticeship in early 2021, I then qualified and progressed into the job role of ROV EC&I Engineer and I went on to complete my Higher National Certificate and Higher National Diploma. In January 2023 I was promoted to Senior Electrical Technician which is the job role I am currently in at JF Nuclear, and I am enjoying every second of it!

The most challenging part of choosing my apprenticeship was not knowing if electrical engineering was going to be something I'd love, however once completing my NVQ Level 2 I had the opportunity to try all engineering roles which really cleared my mind knowing I loved Electrical Engineering.

I found my apprenticeship extremely enjoyable with amazing opportunities along the way, I am so grateful for the knowledge and experience that I have had the opportunity to gain in the 4 years of my apprenticeship. Personally, I wouldn't change a thing that's happened in the 7 years of being at JF Nuclear, I have genuinely enjoyed every second. In addition to this, the support I have had throughout my time at my training provider Gen2 has been amazing, which only encourages me to keep progressing my skills and knowledge.

I think one way the system can be improved to get young students into apprenticeships is to first teach more about them in school, giving students more insights into the amazing opportunities that an apprenticeship holds, especially in the nuclear and engineering sector.

## ENGINEERING

## APPRENTICESHIPS

AWARENESS AND PERCEPTIONS  
OF ENGINEERING

EngineeringUK's Engineering Brand Monitor showed that only 55% of young people knew what engineers do in their jobs, which is the first step in developing career aspirations and looking into pathways into engineering<sup>69</sup>. Consistent with this low knowledge level, young people told the inquiry that engineering was only "brought up once or twice at school" (young person, focus group). There are likely to be many reasons for that, but one concern raised was the knowledge and understanding of teachers. Make UK highlighted that despite 81% of STEM secondary school teachers saying that they know what engineers can do in their jobs, there is concern that, with the current evolution of new technologies, teachers "lack an accurate, detailed understanding of modern advanced manufacturing, the technical skills required and the nature of job roles in the sector". Increasing this understanding would enable them to better inform their students about the opportunities available.

There was a consensus that more needs to be done to raise the profile of engineering in schools and to support teachers, and that employers need better mechanisms to help. The increase in knowledge of and interest in environmental sustainability, and the impact that engineers can have related to this, provides an opportunity for cross-curriculum learning about engineering solutions – "Engineering, with a capital E and Sustainability, with a capital S, really need to be horizontal subjects, not vertical subjects" (oral evidence 1). One respondent summed it up by saying "We need to help engineering and manufacturing businesses shout more about what they do, how they do it and the amazing and wonderful career opportunities available within the industry as the outdated perceptions and presumptions about our Industry need to be changed, forever" (Hone-All Precision Ltd).

Furthermore, while progress has been made, engineering is still struggling with diversity. As a result, girls and young people from lower socio-economic backgrounds, ethnic minority groups or those with disabilities or special educational have few role models in the sector. However, it was noted that the engineering profession has been striving to increase diversity among the workforce and one young person told us that from their experience they have learnt that "neurodivergent people are actually really key to the engineering industry because of their creative ways of thinking" (young person, focus group).

## ENGLISH AND MATHS REQUIREMENTS

Currently, apprentices are required to have a GCSE or equivalent qualification in both mathematics and English in order to complete their apprenticeship. Where an apprentice does not already meet the minimum requirements before starting an apprenticeship, the Education and Skills Funding Agency (ESFA) funds apprentices to achieve qualifications in English, maths or both.<sup>70</sup> The necessity of this was questioned by respondents. For example, we were told that "suitable and capable people were available with the manual dexterity to become welders and caulkers but were effectively screened out by the apprenticeship additional requirements in maths and English." (FLETCHER BAE SUBMARINES).

Official government statistics showed that "while 69% of key stage 4 pupils achieved grade 4 or above in GCSE English and maths in 2021/22, less than half (48%) of disadvantaged pupils<sup>71</sup> achieved this level"<sup>72</sup> (NFER). There was frustration that this is "increasingly making apprenticeships an unobtainable route into employment for the lowest attaining young people" (North East LEP). There are also concerns that the requirements could "negatively impact social mobility" (WSP), particularly with the government's 'levelling up agenda'<sup>73</sup> wanting to give "everyone the opportunity to flourish".

<sup>69</sup> Engineering Brand Monitor 2021, parents and students, EngineeringUK, online, accessed June 2023

<sup>70</sup> English and maths requirements in apprenticeship standards at level 2 and above, gov.uk, online accessed May 2023

<sup>71</sup> Disadvantaged pupils is a term which defines any pupil eligible for Pupil Premium funding. The largest group of pupils who are eligible are those who have received Free School Meals (FSM) at any point in the past 6 years. Further eligibility criteria can be found here.

<sup>72</sup> Key Stage 4 Performance, gov.uk, online accessed May 2023

<sup>73</sup> Levelling up the United Kingdom, gov.uk, online accessed May 2023

## COST OF BEING AN APPRENTICE

With the increased cost of living, young people are experiencing additional financial pressures. Currently apprentices are considered to be employed and do not have student status. This impacts the benefits they are able to claim, which not only affects their own finances but can also affect their families who may be unable to claim child benefits or discounts or exemptions from council tax bills. We were told by a range of respondents to our call for evidence that many low-income families do not want their children to take up apprenticeships as it could negatively affect the family income in the short term.

Additional costs for apprentices include travelling to their place of work. While student travel is often subsidised in local areas, apprentices are normally required to pay the full amount. This can be a struggle for those from low-income families and a barrier to participation. It is particularly a problem where long distances need to be travelled, which is more frequently the case in the engineering and manufacturing sector with industrial sites often being in remote locations. Responses suggested that apprenticeship opportunities in remote locations attract fewer applicants and that the cost of travel in terms of both money and time was a contributing factor to this.

## SOLUTIONS PROPOSED BY RESPONDENTS TO THE INQUIRY

- Provide better information about apprenticeships, including information about options for courses and the application processes, to educators to ensure that they can promote apprenticeships as a valuable alternative to university
- Raise the profile of engineers and awareness of engineering in schools and among the public through, for example, embedding engineering thinking across the curriculum
- Provide more consistent, meaningful and high-quality outreach opportunities targeting a diverse range of young people from groups underrepresented in engineering such as girls and young women, ethnic minority groups and those from low socio-economic backgrounds
- Schools need to help young people develop skills needed for the workplace
- Treat young apprentices as students to ensure access to travel and child benefits up to the age of 20
- Aligned rates of pay with the living wage to ensure better affordability
- More focus on highlighting the success/experiences of existing apprentices from under-represented groups to help communicate that apprenticeships are an opportunity for all
- Embed youth voice in the design and implementation of any future strategy to widen participation for a diverse range of young people, ensuring equality, diversity and inclusion strategies are shared with young people and that related practices are transparent
- Government should develop national pre-apprenticeship or traineeship programmes that can be used to prepare young people for an apprenticeship
- Review the requirements for maths and English for individual courses
- Government should publish apprenticeship outcome data in same level of detail as Higher Education outcome data and make it available to young people as they make decisions about their future
- Government should explore residential programmes for taught aspects of apprenticeships to give apprentices similar experiences to university students and lower costs incurred due to travel



## PROVIDERS

**Numerous responses to the call for evidence highlighted issues for providers that impacted on the availability and quality of apprenticeship training courses. Most were issues that cut across the wider further education landscape, but which were particularly acute in relation to engineering-related subjects. This included the recruitment and retention of teaching staff, the cost of running engineering related apprenticeships, the current funding model, and apprenticeship standards. Respondents also highlighted the impact of the English and maths requirements on providers. Some businesses evidenced a solution they had developed alongside FE providers in their region to support young people to access apprenticeships.**

### TEACHER RECRUITMENT & IMPACT

#### ON QUALITY OF TEACHING

Issues around recruiting and retaining teaching staff can be seen across the further education sector and are not unique to engineering<sup>74</sup>. However, there are specific conditions that exacerbate the problem for engineering-related apprenticeships. There is a significant salary difference between working in engineering and teaching in further education, with the median advertised salary of all roles related to the engineering footprint being almost 29% higher than the national average of all occupations<sup>75</sup>, which can mean huge challenges in attracting staff. One further education (FE) college summed up their experience: “I would say this is the single biggest challenge that we have in FE... We’ve got lecturers that could earn a lot more out in industry”. They went on to say that they could also earn more in universities and also have better pay and conditions. (oral evidence 1) It is therefore perhaps unsurprising that highly skilled workers would not want to make the transition to teaching, given that their skills are in high demand in industry and they would be taking significant pay decreases to do so.

The concerns about further education staffing pressures raised by the inquiry are echoed in a survey by the Association of Colleges (AoC), which found that on average each college was running with 30 staff vacancies. The highest vacancy figure reported was a staggering 162 staff vacancies in just one college<sup>76</sup>. The curriculum areas with the highest proportion of vacancies, within the colleges that offer those subjects, are construction (76% reported vacancies, 67% persistent vacancies vacant 3 months or more) and in engineering (64% reported vacancies, 57% persistent vacancies). These subjects had higher vacancy rates than any others across further education. It is also worth noting that in a recent survey<sup>77</sup> commissioned by WorldSkills UK manufacturing employers were asked what actions would help to attract more young people into the sector and the most popular answer was being taught by inspiring educators with industry experience (61% of respondents agreed).

The overall situation concerning recruitment of specialist teaching staff has been further exacerbated by the fact that funding constraints have resulted in teachers’ pay in further education not keeping up with living costs and that they earn less than they did 10 years ago.<sup>78</sup>

While pay was seen as the most significant issue affecting further education colleges’ and training providers’ ability to recruit further education teachers, it was highlighted throughout the inquiry that the difficulty with recruiting and retaining teaching staff is multi-faceted. The issue of highly specialised/specific standards, as discussed above, has, according to some respondents, also exacerbated colleges and training providers’ ability to attract staff to teach the courses. Specialised standards require specialised trainers, who will demand higher salaries to attract them. A combined authority highlighted one traditional way apprenticeship providers recruited teaching staff was by hiring engineering employees nearing retirement. One industry body highlighted a recent trend of engineering employees retiring early, further affecting apprenticeship providers’ ability to recruit for teaching positions.

<sup>74</sup> Association of Colleges. Written evidence to the inquiry.

<sup>75</sup> [https://www.engineeringuk.com/media/318944/engineering-skills-needs-now-and-into-the-future\\_report\\_fv.pdf](https://www.engineeringuk.com/media/318944/engineering-skills-needs-now-and-into-the-future_report_fv.pdf)

<sup>76</sup> Association of Colleges. ‘2021/22 Staff Vacancies AoC Survey’, 2022.

<sup>77</sup> WorldSkills UK, in partnership with Learning & Work Institute and BAE systems. ‘Manufacturing Excellence’, 2023.

<sup>78</sup> Sibieta, L and Tahir, I. (2023). What has happened to college teacher pay in England? . London: Institute for Fiscal Studies. Available at: <https://ifs.org.uk/publications/what-has-happened-college-teacher-pay-england> (accessed: 21 April 2023).

Businesses said that they did not have confidence in the education providers to meet the needs of their apprentices due to knowledge gaps of teaching staff. One respondent highlighted that “salary levels of training delivery staff do not attract the lecturing/training specialists with the skill levels and experience needed for today’s engineering sector. Employers become dissatisfied with the content of the programme.” Again, this has been exacerbated by the issue of hyper specialised standards. “Specificity in pathways also means employers are often put off when they aren’t able to find a training provider on their doorstep” (GMCA).

Concerns about the quality of teaching were also raised by young apprentices themselves with all of the apprentices consulted for this inquiry reporting problems for example with their work base assessors. One said: “my work base assessor left, and there was a period where I had no work base assessor. I think it was for about maybe 2 or 3 months, ... they just put all their focus into the endpoint assessment apprentices, in their last year. So, I had a time period with no work base assessor, telling me what I should be moving on to next. Then, with the new work base assessor, who hadn’t actually been in the engineering industry.” Another young person reported being enrolled on the wrong course by their training provider.

## DUDLEY COLLEGE

**Dudley College is one of the largest and most diverse providers of apprenticeships in the West Midlands, working with over 2,000 apprentices across a range of sectors.**

They are investing in the region through industry-leading training, equipment and facilities. Dudley College launched the Black Country and Marches Institute of Technology (IOT) in 2021, leading a partnership of employers, universities and training providers in providing higher skills programmes to local residents who would not traditionally consider HE.

Dudley College collaborates with a range of employer partners. Industry representatives sit on the college’s Board of Directors and their Employer Advisory Group is made up of over 40 members, ensuring that they continue to be industry-led. For example, local precision engineering firm A&M EDM has helped them shape course development through their participation in Dudley College’s Advisory Group, while highly collaborative relationships with 80 NHS Trusts around the country have enabled them to develop specialist apprenticeship programmes mapped to CPD strategies. Partner employers, such as Fulcro, Kuka Robotics and Avensys Medical, have also donated specialist equipment, giving apprentices opportunities to work with new technologies.

However, Dudley college have observed that many SME’s have found the last few years particularly challenging, with not all employers having the time and resources to collaborate with education.

Dudley College works hard to make it easier for them to get involved, maximising the college’s use of funding while taking some of the load from employers by supporting apprentice recruitment and offering access to their facilities when not being used by students. This is a result of investment in building relationships and trust, and a dedication to simplifying the complexity of education.

Dudley College also supports school engagement projects including ‘STEM High-Fliers’, where pupils from Dudley Academies Trust are building a working biplane over the next three years, with support from Millennium Point Trust in Birmingham and the Royal Aeronautical Society. This aims to promote engineering related careers by raising aspirations and showcasing employment opportunities in the sector.

However, things have also become more challenging for the college. Like many Further Education providers, Dudley College has experienced issues around teacher recruitment and retention for engineering related apprenticeships. These recruitment issues have impacted on the number of courses they are able to offer, with some being dropped in recent years. In addition, Dudley College has found it more challenging to work with SMEs since the move from frameworks to standards. Standards can be hyper-specific and not necessarily suitable for SMEs, who often preferred the more general framework apprenticeships as a method of developing staff who are earlier on in their career.

## FUNDING

This inquiry comes at a time of wider pressures on the further education sector both in terms of teaching shortages as we discuss above, but also in relation to funding for the further education sector. The Institute for Fiscal Studies has found that further education colleges and sixth forms have seen the largest falls in per-pupil funding of any sector of the education system since 2010/11<sup>79</sup>. Funding per student aged 16 to 18 in further education and sixth-form colleges fell by 14% in real terms between 2010/11 and 2019/20.

Finance in the further education sector was raised as a key issue, not only in terms of teaching wages, but also other investments necessary for engineering-related apprenticeships. The cost of running apprenticeships in engineering is generally more expensive than in other sectors, because of the cost of acquiring and maintaining equipment, and the longer average duration of the apprenticeships. Engineering-related apprenticeships take on average 30 months whereas non-engineering-related apprenticeships take on average 18 months<sup>80</sup>. As the world moves towards net zero so new developments within certain engineering industries emerge, requiring more advanced technology to meet the needs of the newly developed apprenticeship standards. There can be a delay between the standard being developed and providers' ability to acquire the new equipment or hire the teaching staff necessary to deliver these new apprenticeships.

A number of respondents also highlighted the discrepancy between funding bands and the actual cost to providers of running an apprenticeship. They reported that often the funding is too low and does not cover the full cost of training, leaving businesses to make up the shortfall. This is a barrier for SMEs in particular, who are less likely to be able to find those additional funds. The highest government funding available for apprenticeships is £27,000, regardless of length of apprenticeship this figure has also not increased since 2017.<sup>81</sup> Added to this, the way in which apprenticeship funding is paid can be problematic. Providers are paid monthly, with 20% of total apprenticeship fees withheld until completion. All these issues around funding have implications for existing

apprenticeship courses and can present a barrier for the expansion or development of new apprenticeships, especially where they have high set up costs and/or running costs for providers.

Providers continuously determine financial viability when assessing whether to offer an apprenticeship training course. Low application numbers, which can increasingly happen due to the specialist nature of the current standards model, can make it unviable for them to run the apprenticeship, regardless of how important the skills might be within the industry. This can result in businesses being unable to find local training providers to support them. One contributor from a further education provider highlighted the planning process when considering which apprenticeships to offer in the coming year. "We're looking for 100% staff utilisation or thereabouts. So, if we are recruiting into various pathways, each one of those has to stand up and be financially viable. And we also have to have the staffing in place to be able to deliver those multiple pathways. So, the challenge of weighing up all of that can mean that we drop provision as a provider". (oral evidence)

Due to both the development of apprenticeship standards and the introduction of the apprenticeship levy, there has been a reported shift by providers towards to the needs of larger companies. Since the introduction of the levy, levy paying businesses have consistently had direct access to funding through the government's online system, allowing them to set up and manage their apprenticeships. Until recently, non-levy paying businesses could only access funding through training providers who had been awarded an Education and Skills Funding Agency (EFSA) contract. Many providers were not awarded funding<sup>82</sup>, meaning larger businesses were in a better position to access training providers and to manage their own needs. In a recent survey by the Association of Education and Learning Providers, 53% of apprenticeship providers highlighted shifting their delivery model from non-levy-paying SMEs towards large levy-paying businesses due to greater assurances around funding,<sup>83</sup> and 39% had reported turning away smaller businesses because of lack of funding by 2020.<sup>85</sup> While this system has since changed for non-levy paying businesses, the impact of this can still be felt.

<sup>79</sup> Institute for Fiscal Studies. 'Annual report on education spending in England', 2022. <https://www.ifs.org.uk/publications/10000>.  
2022#:~:text=Secondary%20school%20spending%20per%20pupil,50%25%20during%20the%20early%201990s.

<sup>80</sup> Taken from <https://www.gov.uk/government/publications/apprenticeship-funding-bands>, averages across all levels of apprenticeships.

<sup>81</sup> [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/730064/Apprenticeship\\_funding\\_from\\_May\\_2017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/730064/Apprenticeship_funding_from_May_2017.pdf)

<sup>82</sup> Julius, J., Faulkner-Ellis, H. and O'Donnell, S. (2021). Putting apprenticeships to work for young people. Slough: NFER. Pg. 14

<sup>83</sup> Association of Employment and Learning Providers: Member Survey Results, 2018

<sup>84</sup> <https://www.aelp.org.uk/news/news/press-releases/thousands-of-smes-denied-chance-to-recruit-apprentices-as-a-result-of-levy-shortage-latest-aelp-survey-finds/>

## MATHS AND ENGLISH REQUIREMENTS

As touched on earlier in this report, another key issue highlighted by many respondents relates to English and maths requirements for apprenticeships. While Level 2 apprenticeships rules enable some young people to complete their apprenticeships with a Level 1 maths and English qualification, Grade 4 or above at GCSE is a mandatory requirement for most apprenticeships, from Level 3 onwards. The funding for the additional support to help apprentices achieve this, should they not have done so already, is accessed through a different mechanism to the apprenticeship via the EFSA, and the additional administrative burden might make this unattractive for some providers. This has implications for supporting young people from lower socio-economic groups from accessing apprenticeships, increasing their risk of becoming NEET (Not in Education, Employment or Training). As outlined earlier, 47% of disadvantaged pupils<sup>85</sup> did not achieve a grade 4 or above in English and maths in 2021/22 and 31% of all pupils in the same year.

A possible solution highlighted was to give providers greater support to develop and run pre-apprenticeship programmes. This could be in the form of traineeships, which some respondents had been successfully supporting and delivering, providing a springboard for young people to enter on to apprenticeships. Ford Aerospace highlighted their model of a traineeship programme, developed together with a local further education provider to support young people who didn't necessarily meet the educational requirements of an apprenticeship and were at risk of becoming NEET.

One respondent raised concerns about the potential impact of recent government decisions in relation to traineeships. "The loss of traineeships will also be an issue as it will have a knock-on effect for young people who might not be quite ready to take on an apprenticeship" (GMCA). Last year, the government confirmed that the stand-alone national traineeship programme would come to an end and funding would cease in August 2023. Instead, the programme would be integrated and funded for 16 to 19 year olds as part of the national 16 to 19 study programme, and for adults through the adult education budget<sup>86</sup>.

## SOLUTIONS PROPOSED BY RESPONDENTS:

- Engineering employers should utilise current engineering employees' skills and time to address the apprenticeship teacher/trainer gap
- Increase further education funding to address recent year-on-year reduction in funding
- Increase apprenticeships funding bands to meet the cost of apprenticeships
- Give providers extra financial support to address the unattractive pay of further education teachers
- Give providers more support to enable them to offer English and maths, or functional skills as part of their apprenticeship offer
- Support providers to develop pre-apprenticeships to allow young people from more deprived backgrounds and/or at risk of becoming NEET to access apprenticeships

<sup>85</sup> Pupils are defined as disadvantaged if they are known to have been eligible for free school meals at any point in the past six years, if they are recorded as having been looked after for at least one day or if they are recorded as having been adopted from care.

<sup>86</sup> Hansard. Robert Halfon Written Ministerial Statement: 'Skills Update', 12 December 2022.

## FORD AEROSPACE

**Ford Aerospace (part of Spirol group) is an award-winning, global specialist in the high-precision machining, pressing of parts and sub-assemblies for the aerospace, industrial, and other high-technology sectors based in South Shields. The company employs 80 people.**

Ford Aerospace established Ford Engineering Academy 10 years ago to offer traineeships to young people in the North East region of England. These traineeships have been offered at local Further Education (FE) provider (Gateshead College) and are funded through the traineeship budget. The courses aim to support young people who, due to lack of knowledge, inexperience, or qualification barriers, are unable to apply for an apprenticeship. The young people who typically enter these traineeships are at risk of NEET (Not in Employment, Education or Training).

The academy offers traineeships to young people with no prior qualifications but a willingness to learn

and develop in engineering, supporting them to gain work experience by developing their employability and soft skills. The academy uses its network of local employers to supply work placements as part of the traineeship. Young people graduate from the traineeship with a recognised engineering qualification at either Level 1 or Level 2, with English and maths skills embedded in the course. Every young person who completes the traineeship has a guaranteed employer interview with a local business.

Currently, the academy supports 40 traineeships per year. Ford Aerospace directly employs 2 to 3 graduates from the academy as apprentices every year, assisting the remaining trainees find apprenticeships with other local employers in their network. This offer is expanding in partnership with two FE providers in the region (TyneMet College and New College Durham), which will result in 100 traineeships a year on offer in total.



## A REGIONAL SNAPSHOT

**An effective apprenticeship system relies not only on having robust national policies but also on being able to tailor approaches to reflect the needs of young people and employers in local communities. Through the call for evidence we were able to gain insights and evidence from a range of regional bodies.**

Many of the submissions noted the limited powers available to Combined Authorities in relation to apprenticeships. However, the inquiry also gained insights into how authorities continue to use their so called soft powers, collaborative clout and ability to trial new approaches as a means of supporting pathways into apprenticeships for young. Below is a snapshot of some of the work Combined Authorities already do to support apprenticeships around the country. Several recurring threads can be observed across a number of regions including levy transfer schemes, targeted apprenticeship support for small business, tailored local careers services and pilots aimed at removing barriers to apprenticeships for young people.

**“Apprenticeships are a vital mechanism to support and develop new talent.”**

Cambridge & Peterborough  
Combined Authority

## SUPPORTING SMES

Cambridgeshire & Peterborough Combined Authority (CPCA) outlined the importance of apprenticeships in meeting both current and future employer skills needs in the region. CPCA expressed the view that the manufacturing and engineering sector in Cambridge and Peterborough had an opportunity to capitalise on the government’s push for investment in emerging technologies. Government’s focus aligns well with local strengths of the area, such as energy and health diagnostics, carbon capture and new nuclear

CPCA have supported the delivery of flexi apprenticeships, or rotational apprenticeships allowing business to offer individuals the opportunity of experiencing a wider range of business functions, with apprentices being placed with more than one employer to encourage knowledge transfer and collaboration.

West Yorkshire Combined Authority (WYCA) also highlighted a range of activities delivered as part of their employment and skills programmes and which support local businesses. For example, the WYCA provides an apprenticeship levy transfer service, which so far this has supported 440 apprentices in 112 businesses across West Yorkshire and York. The West Yorkshire Manufacturing Taskforce made future-proofing their skills pipeline a key priority during their work between 2021/22.

**“There has never been a more important time to invest in skills and training with major structural transformations taking place in our economy. Whole industries and sectors are changing beyond recognition in a frighteningly short amount of time. To match this pace of change it is critical that employment and skills programmes quickly pivot to current and future local labour market needs.”**

Greater Manchester Combined Authority

## IMPROVING DIVERSITY IN APPRENTICESHIPS

GMCA's evidence draws attention to a series of projects which formed part of their 'removing barriers to apprenticeships' programme. Created in 2020, the programme was designed to help underrepresented groups to access apprenticeships. For example, one project within the programme was set up to support 20 pre-apprenticeship places and 10 apprenticeships for young people from minority ethnic groups to learn engineering skills in Rochdale. Another project involved a collaboration between The White Room, Total People, Manchester City Council and Pure Innovations aimed at removing barriers to apprenticeships for young people with special education needs and disabilities (SEND) through placements in the digital sector.

**"Multiple pathways into any sector will continuously help that sector's skills needs, therefore making apprenticeships more accessible will help the skills gaps in the engineering, manufacturing, and technology sector."**

Greater Manchester Combined Authority

## SUPPORTING YOUNG PEOPLE

The North East LEP was able to share extensive research which they commissioned to better understand the scale of the apprenticeship recruitment and retention challenges, test assumptions and to recommend actionable priorities for increasing the number of young people starting and sustaining apprenticeships.

Other activities undertaken by the North East LEP to support apprenticeships include their ApprenticeReady framework. This framework seeks to ensure that schools and other education providers (primary through to HEI), and employers are working collaboratively (alongside DfE), to ensure individuals in communities across the North East are apprenticeship ready. The LEP is also delivering a number of pilot projects including work funded by the Careers & Enterprise Company to support over 60 young people across year 11 and year 13 to access and apply for apprenticeship vacancies. The aim of the project is to test if providing similar hours of support for young people as that for UCAS applications impacts on interest in and starts of apprenticeship. Another LEP pilot (funded by the North of Tyne Combined Authority), is empowering young people (across year 7, 8 and 9) to make informed decisions including progression to Level 3 STEM subjects with a particular focus on physics. It does this by creating opportunities for young people to engage with employers and providers, thereby supporting increased awareness of current labour market opportunities and emerging industries.

**"Our apprenticeship research highlighted the value employers place on apprenticeships, recognising that with an ageing workforce, apprenticeships provided the pipeline to their future talent workforce."**

North East LEP

WMCA are piloting a new pre-apprenticeship offer, designed to help address the decline in apprenticeship take-up. The new project will deliver pre-apprenticeship training to up to 120 young people aged between 19 to 29 years, particularly those not in education, employment or training (NEETs). This will incorporate a combination of core and industry specific training over nine weeks, including English, maths and digital skills.

**“As a result of our collaborative approach we are capitalising on the expertise of industry and education providers, working together to tackle the skills challenges within the region.”**

West Midlands Combined Authority

In the West Yorkshire Combined Authority Area the West Yorkshire Employment Hub, launched in 2019, supports young people aged 16 to 24 who are further from the labour market and face challenges to develop skills, confidence and employability, and aims to help them move towards or into education/training or employment. The work of the hub includes engaging with business to help stimulate apprenticeship opportunities. 941 apprenticeship places were created in the first iteration. Like many other Combined Authorities, West Yorkshire has developed careers advice and inspiration activities rooted in local communities and tailored with up-to-date information on West Yorkshire’s jobs market.

## LIFELONG CAREERS SUPPORT

The West of England Combined Authority (WECA) told the inquiry about the steps they have taken to put in place innovative and tailored provision to help increase the take up of apprenticeships in the area. This includes their Careers Hub offer and their Levy Share scheme which has funded over 200 apprenticeships to date.

WECA also delivers a programme called Workforce for the Future which provides SMEs with support to understand the apprenticeship system and apprenticeship development plans. They are also looking to launch a new flagship service, Skills Connect. This new service will bring together information about all the skills training and support routes available to upskill, progress in work, or get a job. It will provide information on the areas of growing employment, including engineering and technology, and help clarify routes into them. It will host an apprenticeship support service, helping to demystify this alternative employment and progression route so that everyone can see the widest range of opportunity to help them choose the best path for them.

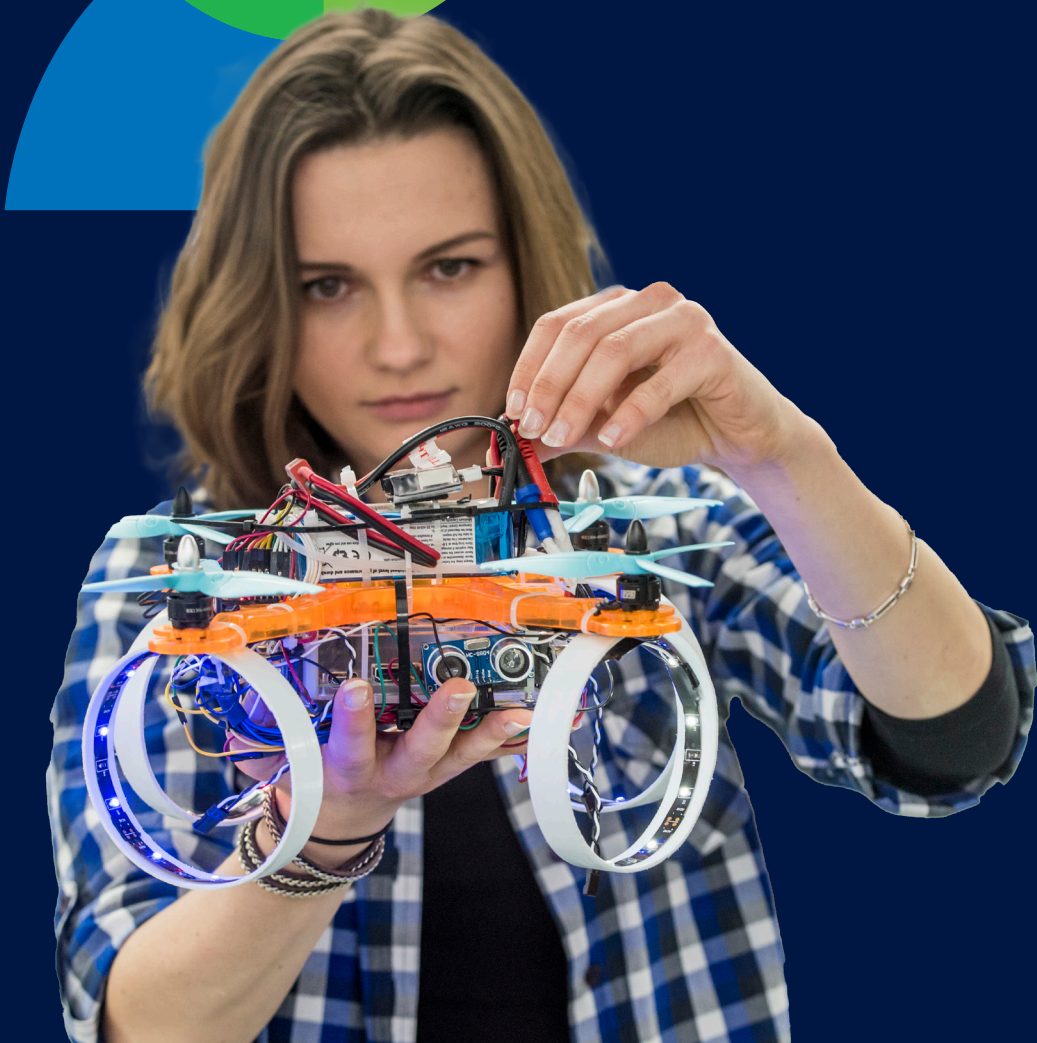
**“We see apprenticeships as a central lever for supporting the regions young people into the high skilled jobs we have in our growth sectors.”**

West of England Combined Authority



**CONCLUSION &**

**RECOMMENDATIONS**



**As the country looks to address the engineering workforce shortages across the UK, it becomes ever clearer that we need a skills system, with apprenticeships at its heart, to match that ambition. We believe that sustained growth in engineering and technology apprenticeships is achievable with the right policy reforms and buy in from employers - playing their part and collaborating alongside schools, colleges, universities, UTCs, sector bodies, regional authorities and others.**

The 5-point plan we outline in this report is forward looking and aims to address the current imbalances in the education and skills system that hinder the apprenticeships system from thriving. Addressing these recommendations would not only bring lasting benefits to the next generation of apprentices, but it would also better position employers up and down the country to meet their growing skills needs in sectors vital to the economy and growth, such as tech, artificial intelligence, renewable energy, infrastructure and health sciences.

We believe that the recommendations taken as a whole will ensure that apprenticeships continue as, and will grow to be, a viable pathway into the engineering and technology sector for young people, enabling them to become participants and drivers of the economic success of the UK going forward. We also believe that they will help address some of the imbalances in the education and skills system around the country.

However, making the changes we have set out will require ambition and fresh thinking by political parties. They will involve looking at the apprenticeship journey for young people, particularly for those underrepresented in engineering, and making tangible improvements at each stage. This starts with the school curriculum and careers provision and ends with addressing the barriers that stop employers from taking on young apprentices.

We look forward to working with Parliamentarians, the engineering community, employers, providers and others to make the case for change.

## 1. REBALANCE EDUCATION

**Ensure the secondary school system is fit for the future and there is genuine parity of esteem between technical and academic pathways.**

Engineering has very little visibility in the key stage 4 curriculum and uptake of engineering GCSEs is very low and falling. In addition, the design and technology GCSE, which is considered a feeder subject for engineering, has seen its numbers decline by 71% since 201<sup>87</sup>. The introduction of the English Baccalaureate<sup>88</sup>, with a focus on academic subjects, is considered to have been a driving force behind this decline in more 'hands-on' subjects. Furthermore, the high value that the school accountability measures of EBacc and Progress 8 put on

academic subjects must surely undermine any messaging to students, and teachers, that technical and academic routes post-16 have parity of esteem.

The authors believe that there needs to be an evaluation of how the curriculum and accountability measures can be reformed to enable all young people to thrive in the 21st century and to ensure greater parity of esteem between technical and academic pathways.

<sup>87</sup> <https://www.themanufacturer.com/articles/new-analysis-reveals-design-and-technology-student-numbers-have-fallen/#:~:text=New%20analysis%20reveals%20design%20and%20technology%20student%20numbers%20have%20fallen&text=The%20number%20of%20students%20taking,an%20education%20charity%20has%20found.>

<sup>88</sup> <https://www.gov.uk/government/publications/english-baccalaureate-ebacc/english-baccalaureate-ebacc>



### In light of this we recommend that government:

- 1 Directs and supports all schools to offer a broad and more balanced curriculum up to the age of 16 that enables young people to acquire knowledge and skills that are relevant to a variety of careers and to a diversity of learners and enables ongoing access to hands on subjects such as design and technology during key stages 3 and 4
- 2 Continues to fund a range of qualifications at 16, including BTECs, to ensure that more young people can gain qualifications that will open up pathways into further education, apprenticeships, and beyond
- 3 Replaces the EBacc and Progress 8 accountability measures for schools to better reflect the breadth of qualifications and pathways that should be available to and valued by schools, young people and their parents

There are a number of initiatives and policies aimed at providing young people with a better understanding of different career pathways. These include the most recent updates to the 2017 Baker clause as part of the Skills and Post-16 Education Act and the forthcoming promotion of apprenticeships on the UCAS website. As a result of measures over the last few years, overall awareness of apprenticeships has undoubtedly improved<sup>89</sup>. However, many respondents to our call for evidence, including young people themselves, continued to highlight a lack of awareness of engineering, manufacturing and technology apprenticeships and technical pathways.

This confirms research undertaken by EngineeringUK

that a lot more still needs to be done to ensure that young people understand their options and convert their awareness into action<sup>90</sup>. We must also ensure that more young people from more diverse backgrounds, including more young women, see working in engineering, manufacturing or technology as something they want to pursue and a viable career for them.

To achieve this, we need to build a comprehensive and well-funded careers strategy with the focus on meeting the workforce needs of the future. We are encouraged by the recent announcement that government is looking to develop a strategic action plan for careers<sup>91</sup>. When doing so, we would urge government to build on recent legislative developments such as the Baker Clause<sup>92</sup> and ensure that young people get early exposure to different career routes to enable them to develop a true understanding of what the different options are and what they mean to them. As well as promoting the pathways into engineering this should also celebrate the careers in engineering as being high value, high in aspiration and crucial in shaping the future.

- 4 We recommend that government develops a new careers strategy with access to and parity of esteem between technical and academic pathways as well as increasing diversity throughout these pathways at its heart, and works with the engineering, manufacturing and technology community to bring the opportunities afforded by these pathways to life

<sup>89</sup> CEC (2023) Ready for the future: A review of careers Education in England 2021/2022.

<sup>90</sup> Research by EngineeringUK suggests that only 43% of young people across the UK (aged 11 to 19) said they knew about the apprenticeship options available to them.

<sup>91</sup> Careers: Schools 'expected' to report Gatsby progress (schoolsweek.co.uk)

<sup>92</sup> The Baker Clause states that schools must allow colleges and training providers access to every student in years 8 to 13 to discuss non-academic routes. It also states that schools need to impartially promote the full range of technical education qualifications and apprenticeships

## 2. SUPPORT

### YOUNG PEOPLE

#### **Provide better support for young people throughout their apprenticeship journey and take decisive action to break down barriers.**

Based on the evidence presented in this report, it becomes clear that there needs to be a more systematic and holistic approach to supporting young people to become apprenticeship ready. In light of this evidence, we ask that government develops a clear vision and programme of support for young people who need an extra boost to enable them to successfully access apprenticeships. This thinking should involve the continuation of BTECs as an alternative to T Levels.

BTECs have a successful history of enabling young people from a diverse range of backgrounds to access apprenticeships as well as other educational pathways, as highlighted by organisations such as the Engineering Professors' Council<sup>93</sup>. The Institute of Physics warn<sup>94</sup> that the removal of funding from BTECs will exacerbate STEM skills shortages, raising concerns about the potential reduction in the coverage of physics at Level 3 and numbers studying the subject, disproportionately impacting those from under-represented groups. A recent report by the Baker Dearing Trust<sup>95</sup> also highlights that disadvantaged young people are amongst those with the most to lose if funding is removed from alternative technical qualifications such as BTECs, a conclusion from the DfE's own equalities impact assessment: "Those from SEND backgrounds, Asian ethnic groups, disadvantaged backgrounds, and males [are] disproportionately likely to be affected."

The support for young people we are proposing should be delivered in partnership with local and regional governments, employers and further education colleges. It should learn from and build on previous and existing

pre-employment programmes for young people, including the T Level transition, IfATE's Onramp programme as well as the national traineeship programme. It must be available to any young person who needs it.

- 5** We ask that government expand its pre-apprenticeship offer for young people aged 16 to 18, by building and improving on existing programmes such as the T Level transition programme and traineeships, and by continuing to fund BTECs as a pathway alongside T Levels

Travel costs, the cost of living, and the impact of the apprentice status on benefits are issues that have been raised in written responses to the inquiry as well as in discussions with stakeholders and the focus groups with young people. If we are to expand the range of young people being able to access apprenticeships, and therefore support the diversification of the engineering, manufacturing and technology workforce, these circumstantial issues need to be addressed.

- 6** We recommend that government amend child benefit rules to ensure that child benefit is maintained for apprentices that are under the age of 20
- 7** We recommend that government work with local and combined authorities to develop a package of support for apprentices up to the age of 25 in entry-level and low paid work that addresses concerns regarding travel costs to and from their employer and training provision

Evidence from a range of stakeholders, as well as insights from previous reports, highlights difficulties with the existing rules around maths and English requirements for apprenticeships. We have heard that in some cases, the current rules, and the way they are being interpreted by training providers and businesses, mean that some young people cannot access apprenticeships that they are otherwise fully qualified to succeed in<sup>96</sup>. We also heard that the requirements present a real challenge to improving diversity in apprenticeships and levelling up.

<sup>93</sup> Engineering Professors' Council (May 2021) 'Engineering Opportunity: Maximising the opportunities for social mobility from studying Engineering'

<sup>94</sup> Institute of Physics. 'IOP Statement on the DfE's review of post-16 qualifications at level 3 in England', 2021.

<sup>95</sup> Baker Dearing Trust. 'Transforming education. Addressing the productivity crisis'. 2023.

<sup>96</sup> Current rules require apprentices to achieve level 2 English and maths (equivalent to GCSE level) at the end of their apprenticeship. In 2021/22 31.2% of young people did not pass their GCSE in maths and English.

- 8** We call on the government to review the approach to functional skills requirements within apprenticeships and consider proposals for increasing access for young people, including the potential for a reshaped route to gaining these functional skills. Such a review should examine the barriers for young people under the current system, draw on the views and experiences of young people, providers and employers and engage the assessment industry in the development of more work related functional skills qualifications

### 3. REFOCUS FUNDING

#### Ensure long-term funding for apprenticeships at all levels and greater equity between vocational and academic routes.

Latest data suggests that the apprenticeships budget is close to being spent and demand for apprenticeships funding is likely to outstrip the amount collected through the levy in the near future<sup>97</sup>. The apprenticeships budget is used to cover training costs, including for Small to Medium Sized Enterprises, and for other support, such as incentives to employers for taking on younger apprentices.

The growth of degree apprenticeships is something that has been widely welcomed and many would like to see them continue to grow. However, degree apprenticeships are expensive to deliver and the increase in higher-level apprenticeships seems to have come at the expense of cheaper, lower-level apprenticeships typically offered to younger people, and those at the start of their career. Evidence suggests that this is skewing levy spending towards those from more advantaged backgrounds.

To ensure that the apprenticeships system allows for degree apprenticeships to continue to grow without displacing lower level apprenticeships, government

could look to introduce a loan-based system for degree apprenticeships, bringing them more in line with higher education. Based on 2022/23 figures, introducing loans for degree level apprenticeships would free up approximately £700 million levy fund per annum<sup>98</sup> to be spend on Level 2 to 5 apprenticeships instead.

At the same time, government should look to review the bureaucracy surrounding degree apprenticeships and resolve concerns regarding overlapping requirements on universities from Ofsted, IfATE and the Office for Students, which have made delivering degree apprenticeships challenging at times.

- 9** We recommend that government looks to funding degree apprenticeships through the standard higher education fees and loans model and urge the government to reduce the overlapping bureaucratic burdens on degree apprenticeships

Modelling also suggests that in the region of £700 million<sup>99</sup> is currently spent on 16 to 18 year olds via the levy and the apprenticeships budget. Funding this age group via the Education and Skills Funding Agency budget would bring apprenticeships in line with other educational pathways for 16 to 18 year olds, with the government taking responsibility for funding this age group. We believe that this would support the efforts of parity of esteem for technical and academic routes for young people and ensure guaranteed funding for entry level apprenticeships for this cohort while at the same time freeing up further funding for entry and lower level apprenticeships for other age groups. Together with other incentives and support for employers, funding 16 to 18 year olds apprenticeships from the further education budget rather than via the levy will also have the effect of de-risking employing 16 to 18 year olds and is therefore likely lead to more employers being willing to offer apprenticeships to this age group.

While such a large cash injection into further education is likely to be considered challenging in times of fiscal constraint, it should be seen as an investment into the

<sup>97</sup> See table p. ???

<sup>98</sup> This is based on data available for Level 6 and 7 apprenticeships. According to this website Apprenticeships and traineeships, Academic year 2022/23 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk) there were 30,710 starts at level 6 and 7 in 2022/23

<sup>99</sup> Based on the median cost of all apprenticeships for 2021/2022, and number of starts for apprentices age 16-18 at intermediate (level 2), advanced (level 3) and higher (level 4+), the estimated cost is £696 million. Apprenticeships and traineeships, Academic year 2021/22 – Explore education statistics – GOV.UK (explore-education-statistics.service.gov.uk)

future of the country and is certainly consistent with the political narrative across all parties about the need to invest in skills. A better funded further education sector would save the government money in the long run by increasing employment and, if that provision were targeted to areas of greatest employment need, reducing dependency on immigration. It would also enable government to improve their oversight of the training available to this age group and to better performance manage the outcomes.

If young people are unable to access training opportunities to open doors into skilled employment, the likelihood of them becoming NEET increases. Costs for a young person aged 16 to 18 being NEET stand at £56,000 in benefits, lost tax and national insurance contributions, as well as notional costs like health and criminal justice<sup>100</sup>. In contrast to that, the average cost for an apprenticeship for a 16 to 18 year old stands at between £7,000 and £16,000.

**10** We recommend that, as soon as the fiscal situation allows, government funds apprenticeships for 16 to 19 year olds through an increase in the Education and Skills Funding Agency budget

Both of the measures outlined in recommendations 9 and 10 would clearly refocus apprenticeships spending on entry level opportunities for younger people. Not only would this level the playing field for academic and vocational qualifications but also free up over £1 billion for businesses and government to spend on opening up more Level 2 to 5 apprenticeships opportunities for those 19 and above, and particularly 19 to 25 year olds in areas with higher deprivation levels and in need of greater educational and skills investment. We believe that this would not only be beneficial to the individuals able to access more opportunities, but also to engineering businesses struggling to fill their skills gaps as well as the economy as a whole.

## 4. ENABLE BUSINESSES

**Enable more SMEs to play an active role in apprenticeships. Work with employers and providers to ensure that engineering and technology apprenticeship standards are given the strategic importance they merit and meet the skills needs of the sector.**

There are an estimated 282 apprenticeship standards in the engineering, manufacturing and technology sector, many are very specific. This causes concern for employers, particularly SMEs and engineering consultancy firms who require people with more transferable skills. It may also put young people off taking apprenticeships that they think will lock them in to a narrow field for future employment or affect employers' interest in recruiting those trained through highly specified apprenticeships.

To help address this, we recommend that there should be clearer guidelines on the involvement of SMEs and consultancy firms, as well as Professional Engineering Institutions in trailblazer groups developing new and reviewing existing standards. Rationalising existing apprenticeship standards, and reviewing the need for new ones, will help make teaching more achievable and more affordable. New standards for apprenticeships should only be introduced where there is a clear need and should be developed with equity, diversity and inclusion in mind.

At the same time, some larger businesses value the specialist knowledge developed through the introduction of the apprenticeship standards, and also look to apprenticeships as a way of upskilling their workforce. Their needs could be addressed through the development of a set of modules that will complement this more rationalised suite of apprenticeships standards<sup>101</sup>. We recommend that this should be financed through the apprenticeships budget and be considered as part of the apprenticeship qualification system.

<sup>100</sup> <https://www.tandfonline.com/doi/full/10.1080/00131881.2015.1030848?scroll=top&needAccess=true&role=tab>

<sup>101</sup> <https://www.instituteforapprenticeships.org/media/6880/equity-diversity-and-inclusion-toolkit-final.pdf>

This combination of a core and modular approach would ensure that the engineering workforce is mobile as well as resilient to the future needs of the sector and impact of new and emerging technologies, while simultaneously making apprenticeships in the sector more attractive to young people seeking broader skills.

- 11** We recommend that IfATE works with a broad range of engineering and technology employers, including more SMEs and engineering consultancy firms, as well as Professional Engineering Institutions, to rationalise current apprenticeship standards in engineering, manufacturing and technology to ensure that future apprenticeship standards enable apprentices to gain core transferable engineering skills and knowledge valued by their employers. Alongside this, we recommend that IfATE work with businesses across the engineering, manufacturing and technology sectors to develop a set of more flexible modules that complement a rationalised suite of apprenticeship standards

Much of the written evidence reported smaller businesses struggling to access funding for apprenticeships, as well as concerns about the bureaucracy of taking on, and supporting, apprentices. It is also clear that small businesses, as well as parents and young people, might have concerns that an apprenticeship cannot be sustained for its entirety, typically several years, when offered by a smaller employer. This is having an impact on how many SMEs are offering apprenticeship opportunities.

There are attempts under way to simplify processes and procedures around apprenticeships<sup>102</sup> and this report highlights some of the existing programmes by combined authorities to help SMEs access levy funds. But it is currently unclear how aware SMEs are of these agencies, whether they all have access to them and how many provide more specialist support to engineering firms.

To ensure that all engineering, manufacturing and technology SMEs are able to easily access levy transfers, government funding, information and support, local and combined authorities should consider the role of Group Training Associations across England, and how

their remit, if necessary, could be expanded to support smaller engineering companies. Professional Engineering Institutions may also have a role to play in creating a network of support that will enable apprenticeships in the engineering sector to thrive. We also would expect the skills needs of SMEs to be central to Local Skills Improvement Plans and therefore for these to link in closely with the associations.

- 12** We recommend that local and combined authorities work with Group Training Associations England and the Professional Engineering Institutions to roll-out more Group Training Associations across England to support engineering and manufacturing SMEs with the recruitment of apprentices, training, access to levy funds and wider funding issues, and the successful delivery of apprenticeships

A banding structure is applied to apprenticeships funding and engineering courses often attract higher levels of funding in recognition of the additional costs associated with the training. However, there are concerns that the funding available for some engineering apprenticeships is not enough to enable further education providers to offer them. There are also concerns that the much lower level of funding available for Level 2 and 3 apprenticeships in the sector is not sufficient. It is therefore understood that funding restrictions limit the apprenticeships on offer.

The government recognises that some skills are strategically important and in short supply. For instance, the Shortage Occupation List highlights roles that are prioritised for filling through the immigrations system. The most recent Shortage Occupation List from April 2023, as well as other government strategies and analysis such as the Green Skills Strategy and Green Jobs Delivery Taskforce, leave no doubt that the UK needs more engineers. Recent data published by EngineeringUK shows that engineering occupations account for 19% of current jobs but for 25% of all job postings, suggesting that the current skills shortage in engineering is greater than in other areas, that employers are hiring for future growth, or a combination of the two.<sup>103</sup>

In light of this, and consistent with the prioritisation that the government is willing to operate through

<sup>102</sup> <https://www.instituteforapprenticeships.org/media/7390/ifate-a-simpler-skills-system.pdf>

<sup>103</sup> [https://www.engineeringuk.com/media/318944/engineering-skills-needs-now-and-into-the-future\\_report\\_fv.pdf](https://www.engineeringuk.com/media/318944/engineering-skills-needs-now-and-into-the-future_report_fv.pdf)

the immigration system, government should invest additional funding for courses that have been identified as strategically important to help more further education colleges offer these courses (including attracting the teachers they need). This should also make the UK less reliant on international recruitment in these areas. Identifying those courses should involve the Unit for Future Skills, IfATE and the wider engineering and technology community and draw on the expert analyses of the migration advisory committee. It's been estimated that ongoing labour shortages, if not addressed, could cost the UK economy £30 billion per year by 2027<sup>104</sup>.

- 13** We recommend that government works with IfATE and the engineering and technology community to ensure that resource-heavy apprenticeships courses with a strategic importance to the economy are assigned sufficient funding to enable education providers to attract good quality teaching staff and to ensure that they are economically viable for education providers to run in locations across the country

Some apprenticeships training will continue to be difficult to deliver in every part of the country because there are not enough young people who want to do it in every locality or because the training requires very specialist equipment. These kinds of courses, and the training providers offering them, might benefit from a residential offer, where apprentices attend training placements in blocks ranging from 1 week to several months. There are already some of these schemes around the country, where employers work closely with universities or other training facilities using this model. We recommend that government reviews these models and works with businesses and Higher Education Institutions to identify which courses would benefit from such a residential offer and how they could be expanded.

- 14** We recommend that government develops and expands existing models of residential apprenticeships

## 5. EMPLOYERS

### TAKING ACTION

**Encourage employers to play their part in growing and sustaining apprenticeships for the future and to help widen opportunities for young people.**

We have heard businesses express concerns about the quality of teaching on engineering, manufacturing and technology apprenticeships and young people reporting that they have had no teaching for months at times. We have also heard that colleges have stopped offering certain courses as they do not have enough qualified staff to teach them. Some of this has been linked to further education teacher shortages, the specialisation that has happened with the move to apprenticeship standards, and a lack of appropriate funding for FE.

Additional funding for further education would likely have a positive impact on this issue. We also think that there is more that can and must be done to increase the numbers of engineering, manufacturing and technology apprenticeship teachers available, support them in developing the quality of teaching. These actions will also help develop closer relationships between training education providers and employers. Without more and better qualified teachers in FE, the apprenticeship system will struggle.

We would like engineering businesses to get more involved here. There are many engineers who could and may like to be more involved in teaching the next generation and there are already programmes that enable that, like the Taking Teaching Further programme<sup>105</sup>, which has been running for a number of years. We believe that the focus now needs to be on fostering a more symbiotic relationship between businesses and education providers to ensure that this programme can deliver going forward.

<sup>104</sup> <https://www.rec.uk.com/our-view/policy-and-campaigns/labour-shortages/overcoming-shortages-creating-sustainable-labour-market>

<sup>105</sup> <https://www.gov.uk/guidance/taking-teaching-further-programme>



- 15** We ask that engineering, technology and manufacturing businesses work more closely with training providers in their area, supporting teaching quality through releasing more staff to teach apprenticeships courses in the sector

The engineering and technology sector has long struggled with having a very low representation of women amongst its workforce and only 14% of those starting an apprenticeship in engineering and technology are female<sup>106</sup>. It is therefore imperative that every effort is made to address this. The recommendations already touch on the importance of careers advice in this context, but there is undoubtedly more that engineering businesses could do and should consider and that will support efforts to improve the gender representation in engineering and technology apprenticeships.

Increasing the number of female apprentices in an organisation could increase its gender pay gap due to the lower wages often associated with an apprenticeship. This could act as a disincentive for businesses to take on female apprentices. Employers are allowed to provide a narrative around the gender pay gap as part of their reporting. We recommend that all businesses break down the data to explicitly include the number and percentage of female apprentices. This will ensure that where a business has taken the progressive step to focus on increasing female recruitment at the apprenticeship level, their efforts are recognised and they are not inadvertently penalised for their actions. It will also encourage them to improve their performance on these metrics.

- 16** We recommend that businesses include the number and percentage of apprenticeships in their organisation who are female in their gender pay gap report

Currently, just under a third of young people do not pass their English and/or maths GCSE or equivalent, making accessing Level 3 and above apprenticeships difficult. Although a pass of Level 3 English and maths is an exit rather than entry requirement of apprenticeships, we have heard from education providers and employers alike, that they are reluctant to employ and train young people who do not hold those qualifications. To ensure more young people can access apprenticeships in the future, we therefore not only recommend that government should review this requirement (see recommendation 8) but we also would like to see employers open up more opportunities for young people, including those who currently do not hold the required English and/ or maths qualifications.

- 17** We ask that engineering and technology employers rise to the challenge of skilling the next generation of engineers and technicians and offer more apprenticeship opportunities to young people including those who do not currently meet minimum maths and English requirements before starting their apprenticeships



<sup>106</sup> When considering issues relating to the diversity of young people participating in engineering-related apprenticeship subjects, this inquiry puts a particular spotlight on gender as a result of the low numbers of female starts relative to the population. However, it also notes, the following figures in relation to ethnicity and disability: for engineering-related apprenticeships, in 2021/22, 12.5% of starts were by people from a minority ethnic group, up from 7.4% in 2014/15. In 2021/22, 13.3% of starts in engineering-related apprenticeships and 13.6% of starts in all sector subject areas were from disabled people and/ or those with a learning difficulty, up from 10.1% and 10.3% respectively in 2016/17. (all figures from 'Fit for the future: Growing and sustaining engineering and technology apprenticeships for young people, Inquiry led by Lord Knight and Lord Willetts. Call for evidence', 2023.

# ANNEX

## LIST OF ORGANISATIONS WHO SUBMITTED WRITTEN EVIDENCE

- Actuate UK (Trade Alliance)
- ADS (Trade Association)
- Altrad Babcock
- Association of Colleges
- Association of School and College Leaders
- Aston Martin
- BAE Systems
- BCECA
- BCS, the Chartered Institute for IT
- Cambridge & Peterborough Combined Authority
- Campaign for Science & Engineering
- Careers & Enterprise Company
- Careers England
- CIBSE
- Cogent Skills
- Cranfield University
- Dudley College and IoT
- Edge Foundation
- ELE Advanced Technologies
- Electrical Contractors Association
- Energy & Skills UK
- EngEPA (Engineering End Point Assessors)
- Engineering and Machinery Alliance
- Engineering Construction Industry Training Board (ECITB)
- Engineering Professors Council
- Enginuity
- Ford Aerospace Limited
- Federation of Small Businesses (Not a full response)
- Giganeer
- Go Ahead
- Goring Engineering
- Greater Manchester Combined Authority
- HMV Catapult
- Hone All
- Hydraulics Online
- Institution of Engineering and Technology
- Institution of Mechanical Engineers
- Line Management Group Ltd
- Make UK
- Marshall Skills Academy
- Marvelous Manufacturing
- Met Office
- Multiverse
- Muslim Engineers' Network
- National Engineering Policy Centre
- National Grid
- NFER
- North East LEP
- Northern Trains Limited
- Nuclear Skills Strategy Group

- Onward
- Rambol UK Limited
- Royal Aeronautical Society
- Stemettes
- Surewave Technology
- Tech She Can
- Technical Apprenticeship Consortium
- The Association for Consultancy and Engineering (ACE)
- The Society of Motor Manufacturers & Traders Limited
- Troup Bywaters + Anders
- UCAS
- Ufi VocTech Trust
- UK Electronics Skills Foundation
- UK Metals Council
- UTC Portsmouth
- West of England Combined Authorities
- West Midlands Combined Authorities
- West Yorkshire Combined Authorities
- WorldSkillsUK
- WSP
- YMCA England and Wales
- Youth Employment UK

## LIST OF ORGANISATIONS

### WHO GAVE ORAL EVIDENCE

- Dudley College and the Black Country & Marches IoT
- UK Metals Council
- Ford Aerospace
- Federation of Small Businesses
- Troup Bywaters + Anders
- West Midlands Combined Authority
- West Yorkshire Combined Authority
- Edge Foundation
- National Engineering Policy Centre / BCS
- Multiverse
- Professor (emeritus) Ewart Keep (Oxford University)

**We also received 16 responses from individual respondents.**

With additional thanks to the contributions made by the Professional Engineering Institutions via the National Engineering Policy Centre, EngineeringUK Corporate Members and members of the Recommendations Reference Group including the Institution of Civil Engineers, Amazing Apprenticeships, STEM Learning, Institute of Physics and the Royal Academy of Engineering.



## ABOUT ENGINEERINGUK

EngineeringUK is a not-for-profit that drives change so more young people choose engineering and technology careers. We work in partnership with hundreds of organisations, all of which share in our vision for a UK with the diverse workforce needed for engineering and technology to thrive and to drive economic prosperity, improve sustainability and achieve net zero.

Established in 2001, EngineeringUK is funded predominantly via the professional registration fees of individual engineers, as well as the support of a range of businesses, trusts and foundations, and a corporate membership scheme.

Our mission is to enable more young people from all backgrounds to be informed, inspired and progress into engineering and technology.

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