Skills and Demand - Understanding the Skill Supply Concern in the UK

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PHILIPS

IET Skills & Demand in Industry: 2019 Survey

Understanding the engineering skill supply concern in the UK

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IET Skills and Demand in Industry
2019 Survey

Who we are

We inspire, inform and influence the global engineering and technology community to engineer a better world

Engineering Skills

- The UK engineering sector is at the heart of UK industry

- Engineering organisations generate **more than £420 billion of UK Gross Value Added**, and engineers make up **19% of the UK workforce**

- Ageing workforce and growing skills shortage pose greatest challenge to UK's engineering industries

- In 2013, SoS Vince Cable commissioned the Perkins Review of Engineering Skills as he was so concerned that lack of skills would scupper the UK Industrial Strategy

Substantially increasing the supply of engineers entering the labour market would benefit the UK economy

Engineering and Technology Skills in Healthcare

- Engineers and technologists have a major role to play in helping address the current and future challenges in healthcare

- 3,000 UK SMEs are designing and manufacturing cutting edge healthcare devices and equipment

- Thousands of engineers are working in areas such as prosthetics and orthopaedics, renal care, rehabilitation, imaging and modelling as well as tele-health and robotics

Engineering solutions have the potential to not only ease the burden on (NHS) services but also significantly cut costs

Our surveys have consistently highlighted chronic shortages in Engineering and Technology skills in the UK and its impact on business performance

The skills challenge

- There is an estimated shortfall of **59,000** new engineering graduates and technicians across ALL sectors

- Employment within engineering and technology is growing, **with almost one in three employers (31%)** saying they have expanded their engineering and technology workforce over the last three years

- Over half of businesses experience skills gaps and shortages in their new recruits

Recruiting sufficient engineering and technical staff with the right skills is the largest anticipated obstacle that businesses face in achieving objectives over the next three years

What employers are telling us...

60% report the **recruitment of engineering and technical staff** with the **right skills** is the **biggest anticipated barrier** to achieving business objectives over the next three years

53% are concerned that a **shortage of engineers in the UK** is a threat to their business, yet **46%** anticipate **growth** in their engineering and technology workforce over the next three years

48% report difficulties in respect of the **skills available in the external labour market** when trying to recruit

Only **20%** expect the **supply of engineering and technical skills** into industry to **improve** over the next **3-5 years**

More engineers needed, but skills a concern

Skills gaps in new recruits

73% have had **problems** with candidates who **have academic knowledge**, but **not the required workplace skills**[4]

48% report **gaps in the skills of their apprentices** or other young trainees. This is **up from 30%** in 2017[3]
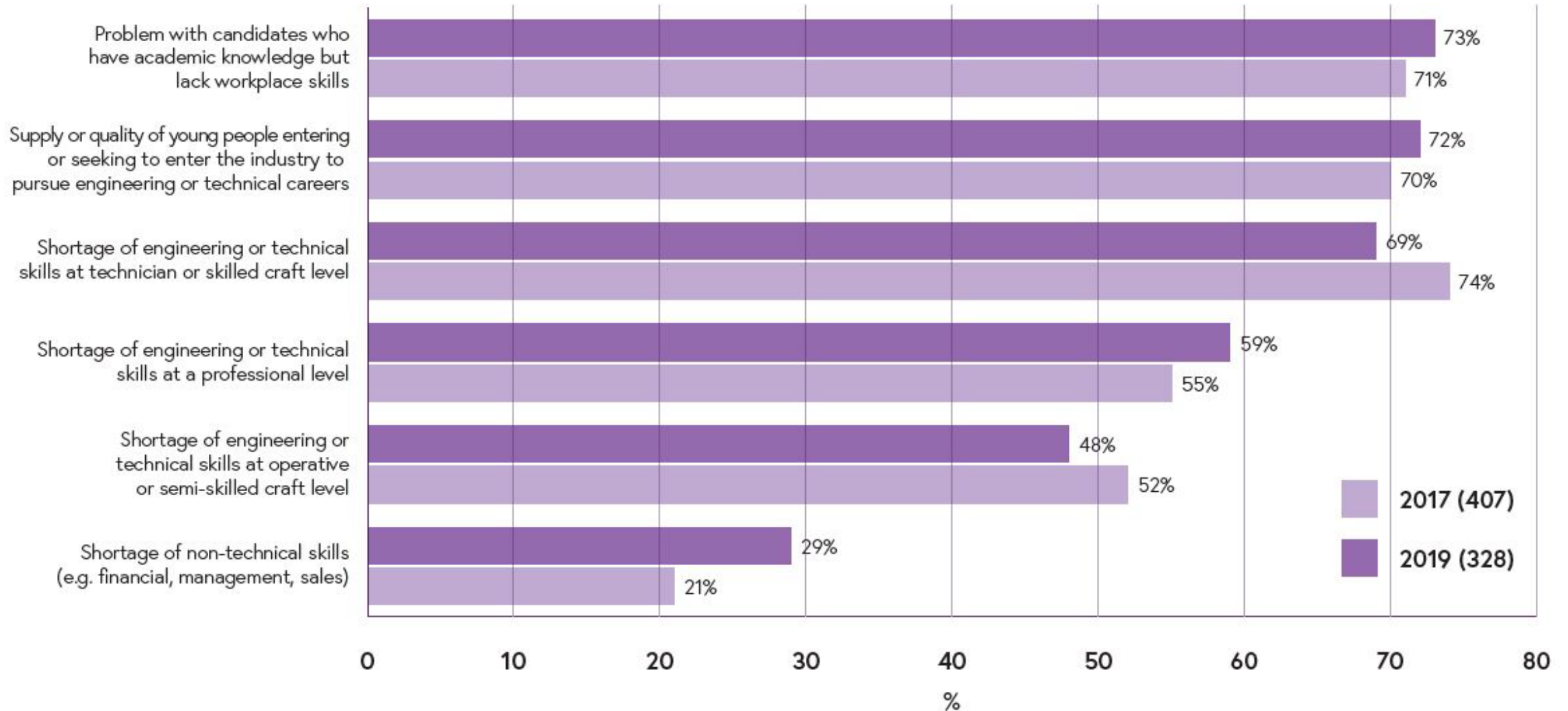
57% report **technical skills gaps at a professional level**, including people with HND, degrees or higher qualifications. This is **up from 46%** in 2017[3]

Young people, particularly apprentices and new graduates, lack the workplace skills required by industry

Nature of skills shortages

Figure 5: Areas in which there are external skills shortages - prompted, multiple responses (where companies had experienced a lack of skills in the external market).

	2017 (407)	2019 (328)
Problem with candidates who have academic knowledge but lack workplace skills	71%	73%
Supply or quality of young people entering or seeking to enter the industry to pursue engineering or technical careers	70%	72%
Shortage of engineering or technical skills at technician or skilled craft level	74%	69%
Shortage of engineering or technical skills at a professional level	55%	59%
Shortage of engineering or technical skills at operative or semi-skilled craft level	52%	48%
Shortage of non-technical skills (e.g. financial, management, sales)	21%	29%

Technical and vocational education can help bridge the gap

https://www.tlevels.gov.uk/subjects

- T Levels are new qualifications that will be taught from 2020

- They will offer students a combination of classroom learning and on-the-job experience, with a **compulsory 45 days work placement in industry**

- Designed to equip students with the knowledge and experience needed to progress into skilled employment and therefore improve the quality of the workforce at entry level

T Level in Healthcare Science due to be rolled out in September 2021

T Levels

Only **28%** of companies are aware that **T Levels** require students to have an **industrial placement**

59% of companies report they have the **capacity to offer work experience placements as part of T Levels.** This is mainly larger companies of **100+ employees**

Once made aware of the **requirement** **43%** intend to offer industrial placements.

Apprenticeships

Since 2013, apprenticeships have undergone significant reform, with the implementation of new employer-led standards, and the introduction of the **Apprenticeship Levy**

Increasing the number of good quality apprenticeships can help meet skills needs

The Apprenticeship Levy

- The Apprenticeship Levy was introduced in England to fund the development and delivery of apprenticeships

- It came into effect on 6 April 2017 and is a compulsory tax on companies with a pay bill of more than £3 million

- The majority of companies that are liable to pay the levy have reported that they are using it, with nearly half of these reporting that it is easy to use (48%)
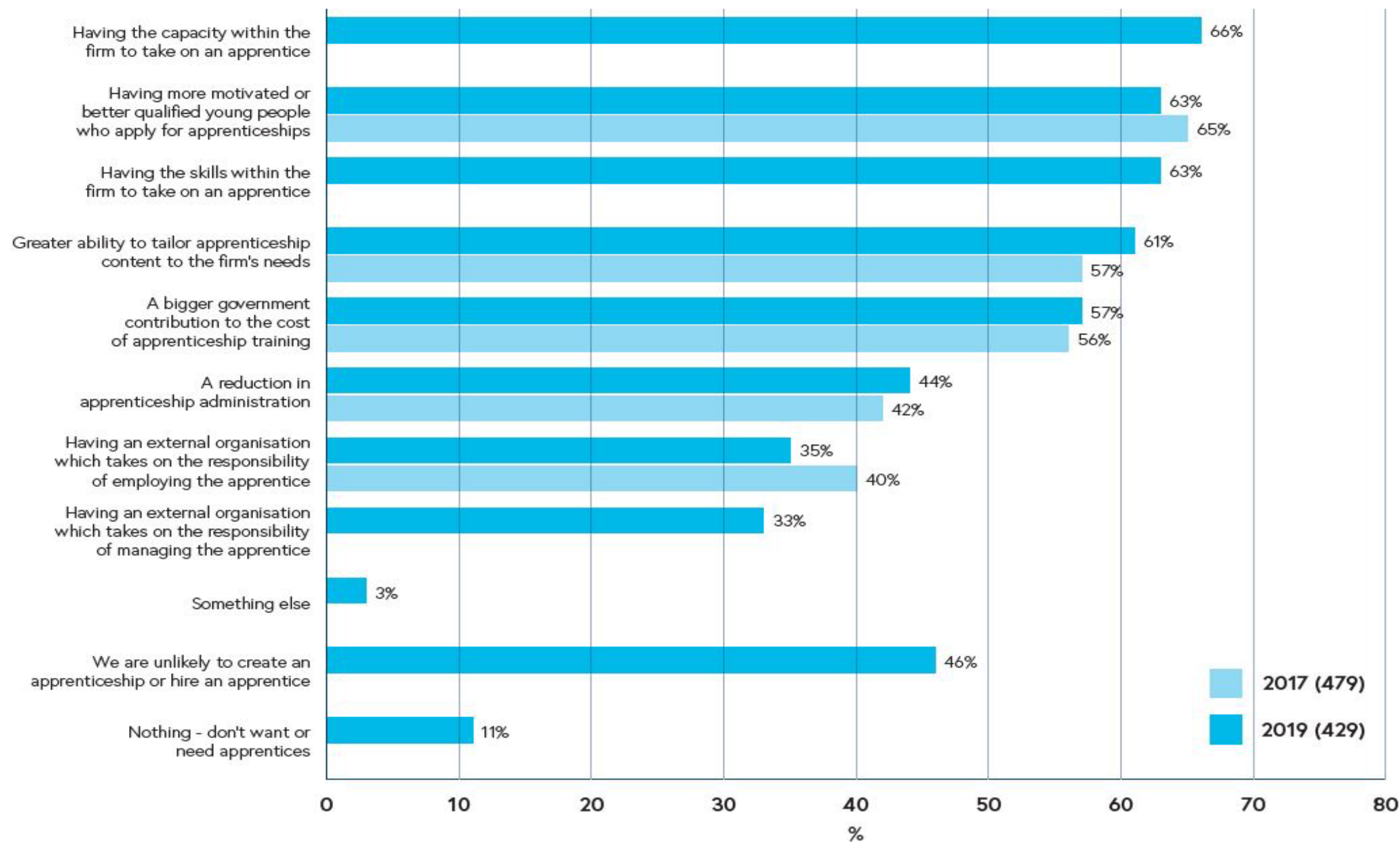
Increasing apprenticeships

- Greatest barrier to taking on an apprentice is the capacity within the firm (66%)

- Having the skills within the company to take on an apprentice (63%)

- Having more motivated or better qualified young people who apply for apprenticeships were both key factors (63% in each case)

- 61% also wanted greater control over the content of apprenticeships, to make them more relevant to their business

- A bigger government contribution to the cost of apprenticeship training was less important (57%), but still of relevance

Increasing apprenticeships

Category	2017 (479)	2019 (429)
Having the capacity within the firm to take on an apprentice		66%
Having more motivated or better qualified young people who apply for apprenticeships	65%	63%
Having the skills within the firm to take on an apprentice		63%
Greater ability to tailor apprenticeship content to the firm's needs	57%	61%
A bigger government contribution to the cost of apprenticeship training	56%	57%
A reduction in apprenticeship administration	42%	44%
Having an external organisation which takes on the responsibility of employing the apprentice	40%	35%
Having an external organisation which takes on the responsibility of managing the apprentice		33%
Something else		3%
We are unlikely to create an apprenticeship or hire an apprentice		46%
Nothing - don't want or need apprentices		11%

Graduates

57% report **technical skills gaps at a professional level**, including people with HND, degrees or higher qualifications. This is **up from 46%** in 2017[3]
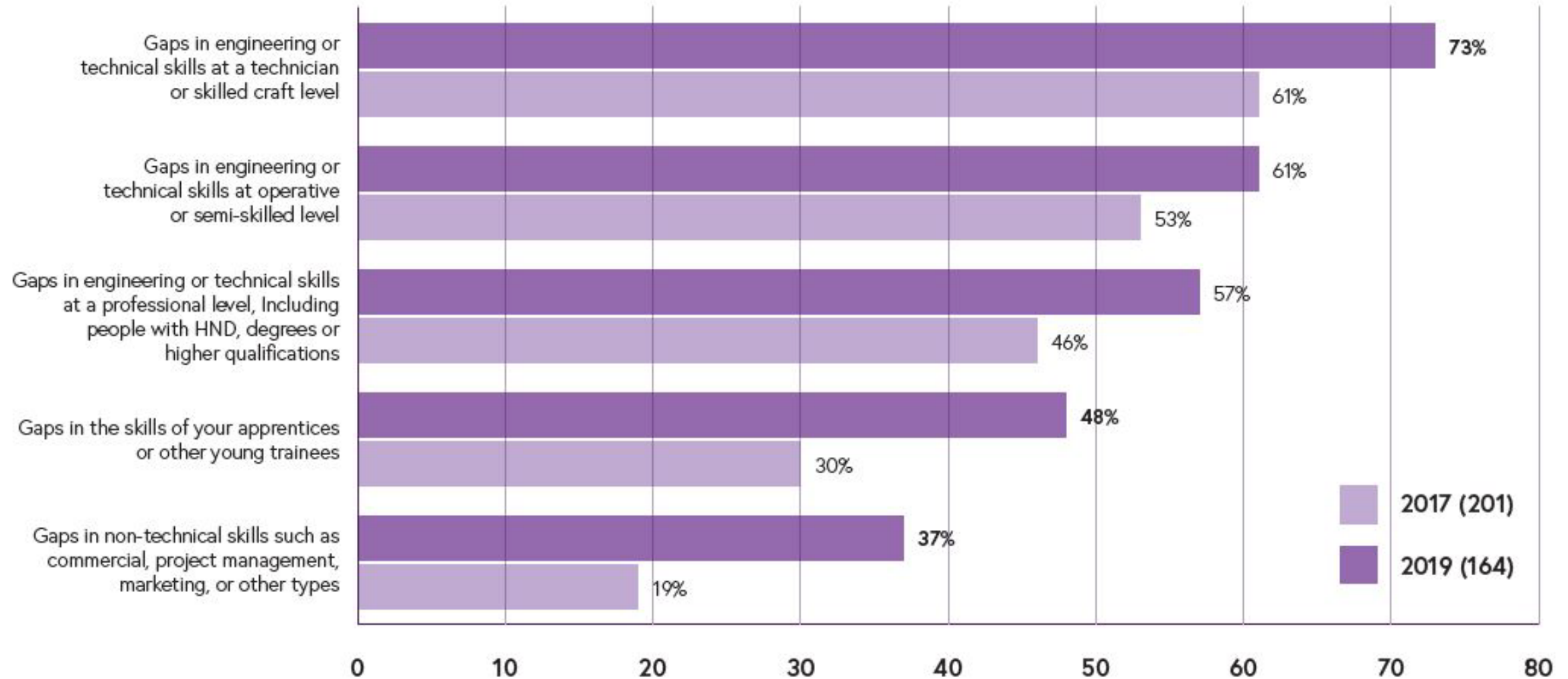

- Challenge is to develop graduates that are ready for employment when they graduate
- Academic knowledge is there but they lack ability to "think" and "flex"
- Work based learning and projects make a difference

Skills gaps in existing workforces

- 22% of employers report skills gaps or limitations within their current workforce

- Skills gaps in the workforce increase as company size increases, especially at technician level

- Even more pronounced is the skills gap for apprentices or young trainees

Skills gaps in existing workforces

Category	2017 (201)	2019 (164)
Gaps in engineering or technical skills at a technician or skilled craft level	61%	73%
Gaps in engineering or technical skills at operative or semi-skilled level	53%	61%
Gaps in engineering or technical skills at a professional level, Including people with HND, degrees or higher qualifications	46%	57%
Gaps in the skills of your apprentices or other young trainees	30%	48%
Gaps in non-technical skills such as commercial, project management, marketing, or other types	19%	37%

Widening the talent pool

Diversity in the workplace

Only **12%** of firms are **taking, or have taken any action** to **increase the diversity** of their engineering, IT and technical workforce in terms of the **ethnicity, LGBT+ status** and **disability** of the workforce

11% of the UK engineering and **technical** workforce is female

42% agree that their **organisation could do more** to recruit people from **diverse backgrounds**

Skills shortages - summary

- Recruiting engineering and technical staff with the right skills is vital to the health of engineering in the UK

- It is also the **largest anticipated obstacle or difficulty** that businesses may face in achieving objectives over the next three years

- Of particular concern to employers is a **lack of workplace skills** and a **shortage of young people** choosing to pursue engineering or technical careers

- Technical and vocational education could help bridge skills gap

- Employers have clearly made efforts to broaden diversity, but more still needs to be done to achieve a balanced workforce

What can employers do…….

- Engagement in the education system

- Widening the talent pool

- Training, upskilling and reskilling

- Focus on lifelong learning

Employer engagement in the education system

For industry to help shape the education agenda and make a larger impact upon skills, a deeper connection with the education system is needed

81% agree that **businesses have a responsibility** to support the transition from **education and training** into the workplace, to get people with the **right skills**

Engagement with education

- Only one in four companies (26%) partner with FE colleges or universities to help them develop courses matched to their company's needs

- More than half (57%) also provide work experience opportunities to young people at school, up from 49% in 2017

- Almost half the companies offer work experience to young people in FE (48%), with only 40% providing work experience to young people doing university courses

Helping young people to apply knowledge to new challenges, think logically and learn how to learn

Improving Diversity

- Demonstrate commitment through an Equality, Diversity and Inclusion strategy

- Participate in national days and initiatives to showcase engineering is a creative and exciting career for all

- Positive attitude to flexible working, structured career paths and back to work coaching for returners

IET Young Woman Engineer of the Year Awards

#SmashStereotypesToBits

Training, upskilling and reskilling

- As the digital revolution expands and disrupts at an exponential rate, companies are increasingly seeing a need to upskill and reskill their existing workforce

- Companies are most likely to focus on offering arrangements for older workers which help them to stay with the company (73%) and support the career development of employees (71%)

Training both new and existing staff is a tangible and direct way for employers to tackle internal skill gaps

Training Mechanisms

	All establishments	5-9 employees	10-24 employees	25-99 employees	100-249 employees	250+ employees
Your own training staff or other internal staff with specialist knowledge	69%	64%	68%	74%	87%	95%
Training organisations external to the business	81%	77%	79%	88%	93%	91%
Universities	17%	9%	20%	18%	42%	53%
Further Education colleges	37%	32%	31%	47%	61%	76%
Other	1%	0%	1%	2%	4%	2%
Un-weighted bases	505	113	159	142	59	32

Changing needs of the workforce

- As technologies and markets change, engineers need to develop their knowledge and skills in order to remain current and effective
- Older workers might need specific reskilling in light of increased digitisation and automation
- Young people will need to be able to adapt

We can't predict what change will be and businesses need to be ready for it

Lifelong learning

- To retain talent, businesses need to keep developing their staff. They are more likely to stay with a company if they are able to diversify and be supported by lifelong learning and development

- Support available from professional bodies

- Learn from other sectors

IET recommendations

To meet the UK's increasing engineering and technology skills needs, and to counter skills shortages and gaps, education, industry and government need **joined up** approaches at **strategic**, **tactical** and **local levels**

Key recommendations

The skills challenge: *IET recommendations*

- To improve potential recruits' workplace readiness and employability, more employers should commit to delivering high quality apprenticeship schemes, T Level work placements and other work experience opportunities. Systemic liaison with education partners is essential to ensure fitness for purpose and benefits for all parties.

- To raise awareness of the range of engineering and technology opportunities and to improve the supply of more diverse recruits, education, industry and PEIs should strategically work together and do more to engage with under-represented groups.

- PEIs must embrace multiple diversity strands and demonstrate their commitment to this important topic. Developing an EDI strategy and gaining top-level support in embedding it throughout an organisation is key to addressing the skills shortage and promoting equal opportunity for all.

Key recommendations

T Levels

The Government should do more to raise awareness and take-up of T Levels as a valued, attractive qualification, equivalent to A Levels, that offers wide-ranging vocational and higher-level study opportunities. Engagement with students at an early age is an essential element, together with targeted approaches to parents, teachers and businesses.

The Government should commit to ensuring the ongoing financial and staffing capability of the education sector to deliver T Levels effectively and keep pace with technological advances.

Key recommendations

Employer approaches to training: *IET recommendations*

– Employers should proactively link up with academic institutions to develop a greater range and network of flexible, individually tailored and innovative approaches at different levels. This is a beneficial means of upskilling and reskilling technical staff to meet industry needs, and keep abreast of emerging technology. This is particularly useful for small and medium-sized enterprises (SMEs) where resourcing pressures, capabilities, size or location may preclude traditional training routes.

– All employers should formally adopt ongoing workforce development and upskilling initiatives as a means of enhancing competitive advantage and commercial success.

Apprenticeship Levy

The Government should give employers greater flexibility on spending for skills development, relaxing apprenticeship levy restrictions and supporting alternative, high-quality training options.

CALL TO ACTION

Be activists in the education system

    Develop content

    Industry experience

Improve competitive advantage through a diverse talent pool

    Develop an EDI strategy and promote equal opportunity to all

Foster a culture of continuous learning

    Put training at the forefront of business planning

    Flexibility for employees to fit it around their work and home life

Work with IET and your professional body

    We are here to help you

Thank you for listening!

Find out more: theiet.org/skills

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