

IET skills and demand in industry 2021 survey

Examining the current skills challenges, identifying barriers and the future skills needed.

This summary document is based on the full report that explores the views of engineering employers on how they can respond to the current labour market and economic challenges to upskill their workforces and attract new, highly skilled talent.

The Institution of Engineering and Technology (IET) carries out an annual skills survey of engineering employers in the UK. In 2021 we focused on the current skills challenges employers are facing, identify barriers to building a supply of the needed skills and the skills that will be needed in future.

The majority of those that responded to our survey are positive about the future in terms of economic prospects. However, the skills gap is still a concern with more than half reporting shortages in skills within their own workforces.

Engineering employers are calling for help from Government and the education sector to offer better guidance and funded training for young people so that they are better prepared and equipped with the

appropriate skills for the roles that employers need to fill as they start to rebuild after the coronavirus pandemic and Brexit.

This summary document is based on the full report, which we commissioned and conducted in partnership with YouGov. The fieldwork was conducted online between 6 August and 2 September 2021. All of the business professionals who responded were drawn from the YouGov panel of over 1.8m people in the UK.

The results of our survey are broken into five categories, exploring the impacts of Covid-19 and Brexit, skills shortages, recruitment difficulties, sustainability strategies and new entrants to the workforce. The report also includes key recommendations for industry, Government and academia to ensure that current and future workforce needs are met.

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The IET is one of the world's leading professional engineering institutions. We provide independent, impartial and expert advice. We represent over 158,000 engineers in more than 150 countries, across multiple sectors including energy, built environment, transport, design and manufacturing, healthcare and digital.

Read our full survey at theiet.org/skills

1. The business context

Dealing with Covid-19, impacts of Brexit, key priorities for businesses and economic outlooks.

Impacts of Covid-19 and Brexit

The survey showed a quarter of employers say they have experienced a shortage of labour/skills (25%) and a slightly smaller proportion have felt the impact of tougher immigration controls for their non-UK labour (21%). The shortage of labour is most felt among medium-sized businesses – three-in-ten (30%).

Around one-in-ten engineering employers say they stopped some apprenticeships due to the pandemic, with no intention to complete them at a later date (9%).

The impacts of Brexit are less clear with one-quarter of engineering employers saying they do not know what impact leaving the EU has had on their business (23%).

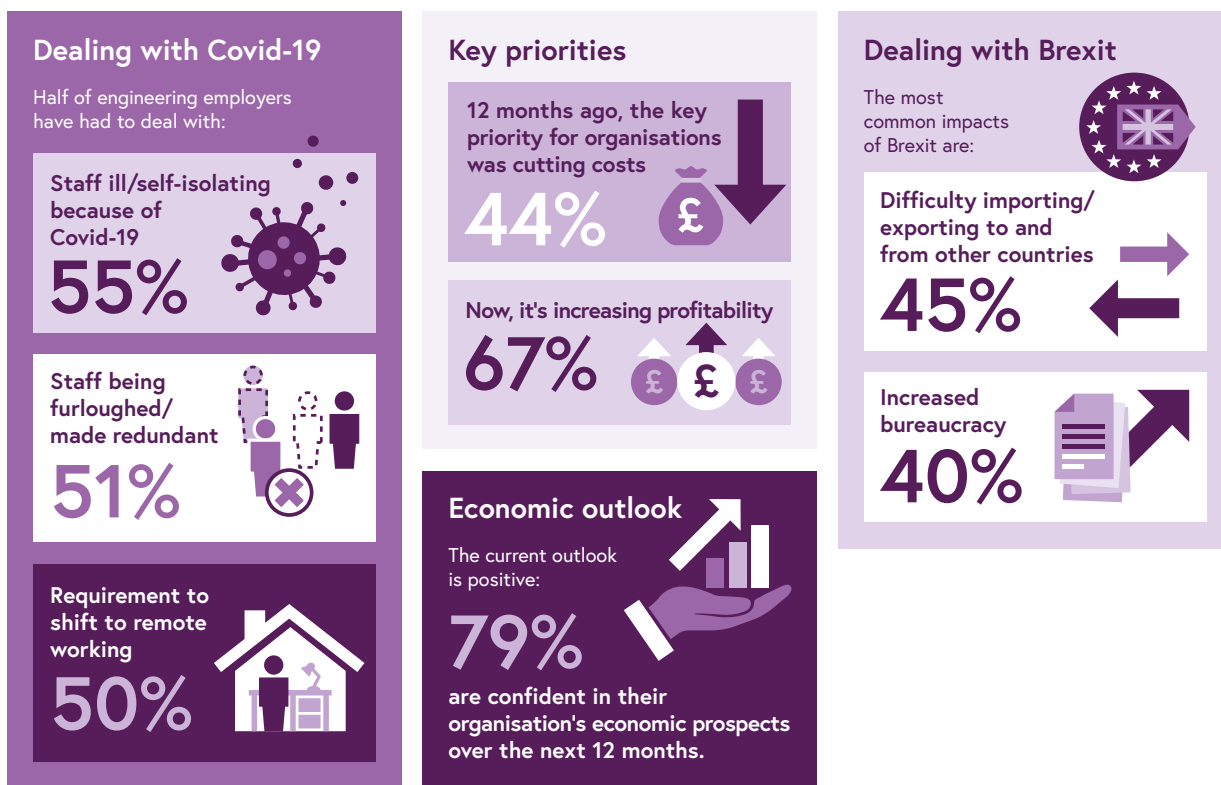
Economic prospects

Perhaps in spite of Covid-19 and Brexit, engineering employers are optimistic about their organisation's prospects over the next 12 months, with eight-tenths saying they are confident in their economic prospects (79%).

Engineering employers who are not confident about their organisations' economic prospects over the next 12 months were asked about the potential impacts – over half say they will reduce the number of new staff they hire (55%). A third of those not confident in their prospects will reduce their training budget (33%) or the number of apprentices they hire (35%).

Previous, current, and future business priorities

Engineering employers' priorities have shifted considerably to those they had 12 months ago or expect to have in 12 months' time. When asked to recall priorities 12 months ago, in light of both the Covid-19 pandemic and the Brexit transition period, they report top priorities were cutting costs (44%) and dealing with economic uncertainty (43%). Now though, they are prioritising improvements in profitability (67%) and productivity (62%). Dealing with economic uncertainty remains top of the agenda for over half (61%) of engineering employers.



2. Current workforce needs

Beliefs on where skills gaps lie, responding to skills shortages and improving skills.

The current workforce profile

The workforce profile has changed significantly when compared to the 2020 survey. Then, a third (33%) reported a high skilled workforce with slightly fewer (30%) reporting an intermediate skilled one. Fewer in 2020 worked at a firm with a range of skills levels (22%) with the same proportion having a mostly lower skilled workforce (14%).

Skills shortages

The proportion of businesses experiencing difficulties in recruitment has remained consistent over the past few years. Almost half (47%) of those surveyed in 2020 or 2019 (48%) were experiencing difficulties in the skills available to them in the external labour market when they try to recruit and in 2021 this proportion had held steady at 49%.

Over a quarter (27%) say the greatest skills gaps in their organisation are in high skilled roles (university level or higher) with more (31%) finding them in intermediate roles (A-Level, NVQ 3 Level, apprenticeships).

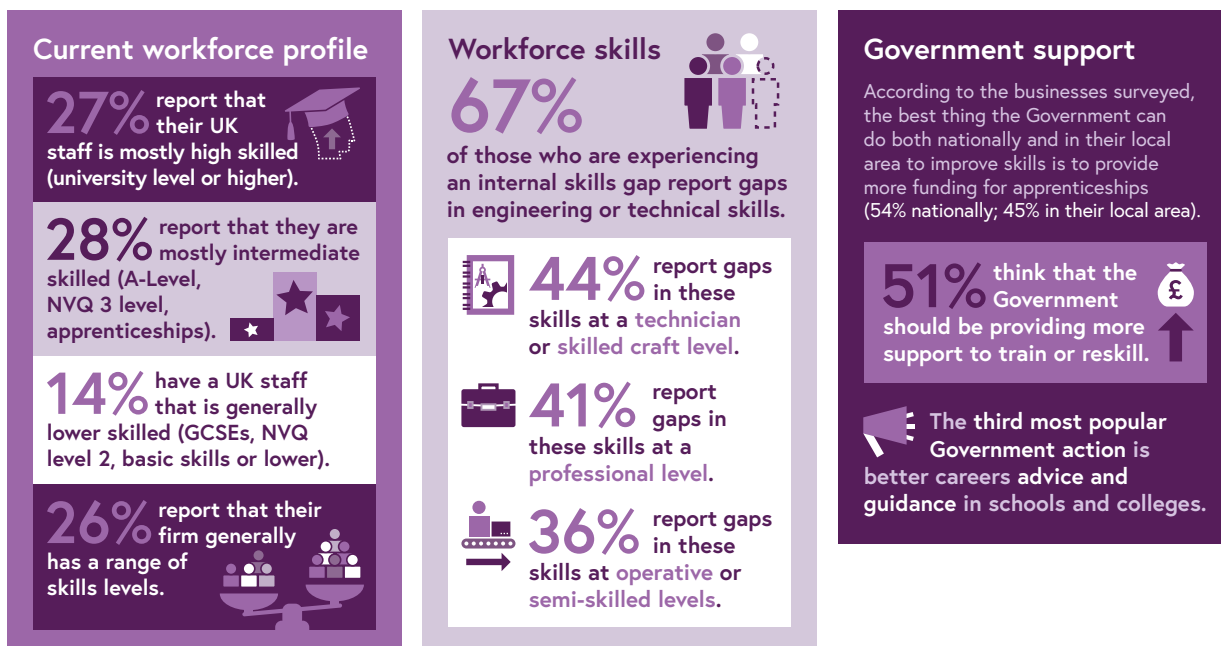
Responses to skills shortages

When faced with a skills shortage, the most common responses continue to be upskilling or retraining existing employees (40%) and hiring new employees with those skills (39%). Other common responses include increasing contingent labour (25%), recruiting apprentices/graduates and training them up (24%) and outsourcing tasks to another organisation (22%).

Government support

According to the businesses surveyed, the best thing the Government can do both nationally and in their local area to improve skills is to provide more funding for apprenticeships (54% nationally; 45% in their local area).

When asked what one single action would have the biggest impact on their businesses' ability to meet its skills needs, the most commonly selected are more support to train or reskill in priority areas and grants or loans given to businesses for training programmes or reskilling (both 19%).



3. Gaining skills

Recruitment difficulties, skills applicants lack and improving the diversity of engineering talent.

Recruitment

Almost all (96%) engineering employers who had identified a skills shortage within applicants say that this skills deficit impacts their business in some way. Two-fifths of employers who noticed a skills gap said that it negatively impacts productivity (40%) – and this particular impact may have ramifications for business' larger goals as over half of engineering employers say increasing productivity is a key priority (62%).

Applicants lacking technical skills remain the main difficulty seen by engineering employers (42%). Most engineering employers who think applicants are lacking in technical skills say that it is specialist skills/knowledge needed for the role that is likely to be lacking (63%).

Training

The most common form of training by far is currently on-the-job training – currently used by two-thirds of engineering employers (66%). However, half offered this two years ago (52%) and a similar proportion intends to offer it in two years' time (52%).

Employers are less assured that pandemic-related challenges will have a long-term benefit – only two fifths think the new skills learnt will benefit the organisation (45%).

Diversity

Around a third of engineering employers have taken some action to increase the diversity of their engineering, IT, and technical workforce in terms of gender (33%) or ethnicity (30%).

The most common forms of activity cited by engineering employers who are working to increase the diversity of their technical staff are flexible/part-time working (40%), offering equal pay/transparency of policies (38%), and staff training/diversity ambassadors (35%).

Applicant's skills

63%

of employers who think applicants lack technical skills continue to say they are missing specialist skills/knowledge.



49%

of employers who think applicants do not have soft skills continue to think they lack teamwork.



71%

of engineering employers who think applicants are lacking in technical skills say that it is specialist skills/knowledge needed for the role that is likely to be lacking.



33%

say that complex problem-solving skills specific to the situation are the concern.



Diversity in the workforce

3 in 10

have taken action to improve the diversity of their engineering/technical workforce across gender (33%) or ethnicity (30%).



4. Skills for sustainability

Beliefs on achieving net zero, barriers to lowering environmental impact and skills needed to deliver sustainability strategies.

Sustainability strategies

Most (89%) are aware of the UK Government's target to bring all greenhouse gas emissions to net zero by 2050.

In total, 51% of businesses surveyed have a sustainability strategy with large businesses much more likely to have one. Two-thirds (67%) of large businesses have one with only 11% definitely saying that they do not.

Actions

Most firms are taking some kind of action to lower their environmental impact; only 13% say they are definitely not taking any action.

Skills are a factor in lowering environmental impact; 20% are upskilling their current workforce to improve their sustainability and 12% are recruiting new employees with the relevant skills to do so.

Skills needed

Of those with a sustainability strategy, four-fifths (81%) think their organisation needs additional skills in order to deliver it. Medium sized businesses are especially likely to need new skills with 86% of respondents citing this as a barrier compared to 76% of small businesses and 80% of large businesses.

As in 2020, employers are split on what type of skills they need to deliver their strategy and there have been no significant shifts in the proportions requiring each. Around three-fifths name each as necessary; 60% need innovative thinking to create new technologies (62% in 2020), 60% need management or strategic skills to implement new processes (60% in 2020), and 59% need agility to adapt to new technologies and implement new processes (60% in 2020).

Reaching for net zero

50%

think it is achievable for their organisation to be net zero by 2050.

CO₂



38%

think this is unachievable.

Environmental attitudes

64%

think sustainability will become more important to their organisation in the next five years.

37%

However, think sustainability is embedded in their organisation's work.

Barriers to sustainability

Of those with a sustainability strategy,



81% think their organisation needs additional skills in order to deliver it.



Only **20%** of businesses are upskilling their current workforce to improve their sustainability.

5. Looking to the future

Skills needed in the future, the impact of missing skills and ways the education system can be engaged.

Growth and skills

When engineering employers are asked what skills they anticipate being important areas for growth in their sector over the next five years, over a third say design and manufacturing skills (36%). This is closely followed by energy and environmental sustainability skills (35%), which is considered the top future skill by engineering employers with a sustainability strategy (46%).

Slightly fewer anticipate needing artificial intelligence (AI)/machine learning skills (29%), data analytics (28%), or manual dexterity (26%) skills over the next five years.

New entrants to the workforce

Thinking about the workforce pipeline and the skills new entrants bring with them, engineering employers are divided – around half believe young people entering the workforce have the technical skills required (48%) to work in their industry with slightly fewer (45%) thinking they have the soft skills required, but a similar proportion believe that young people do not have the necessary

skills (46% technical, 46% soft). In fact, only a small minority believe that new entrants to the workforce have all the skills necessary to work in their industry (6% technical, 5% soft).

Around half of the engineering employers who think young people do not have necessary technical skills say they are lacking time/project management skills (52%), business knowledge (50%), or specialist skills/ knowledge needed for the role (49%). Two-fifths think that new entrants are missing complex problem-solving skills (41%) or leadership skills (40%), while a third say they are missing reading/writing skills (38%) or numerical skills (35%).

As in 2020, there is a mismatch between the desire for increased employer engagement to help young people obtain relevant work experience and the actual amount of employer engagement with the education system. A quarter (26%) of engineering employers do not do anything with schools, colleges, or universities.

Areas of growth

A third of engineering employers say the following skills are important for future growth in the next five years:

Design and
manufacturing

36%



Energy and
environmental
sustainability

35%

Impact of missing skills

Of those who think
young people lack skills,

45%

provide
additional
training.



However,

25%

recruit fewer
apprentices/graduates
as a result.



New entrants

Many employers think young people
entering the workforce do not have the
skills needed to work in their industry:

Have few/none of the necessary
technical skills

46%



Have few/none
of the necessary
soft skills

46%



6. Conclusions

Disruption due to the Covid-19 pandemic has greatly affected businesses of all sizes with some staff switching to working from home, some becoming ill and having to self-isolate, and others being furloughed or made redundant, not to mention site closures and decreases in sales. There are also impacts caused by Brexit. This survey found around half of the respondents have experienced difficulties importing/exporting and a quarter claimed that leaving the EU has caused a shortage of labour/skills.

However, eight in ten are confident about their economic prospects and are beginning to turn their attention to upskilling their workforces, both for reducing the skills gap as well as preparing themselves for net zero carbon emissions by 2050. Around half of the respondents call on the UK Government to provide more funding for apprenticeships and better careers advice in schools as well as business grants for training and reskilling programmes to help them hit these targets.

One of the long-term impacts of the pandemic is skills related. Three-in-ten have experienced a decreased headcount over the last 12 months (31%) and half attribute this directly to Covid-19. Looking to improve profitability and productivity with less staff than before means having key skills within their workforce is paramount for many.

Young people entering the workforce is often a valuable pipeline of new skills, but many engineering employers have concerns. Just under half think that young people do not have the technical skills or soft skills they need (both 46%). While some are prepared to offer training to supplement these skills (45%), others do not have the resources and instead do not recruit from this pipeline (25%). Given the importance of getting new skills into the industry, employers who lend their expertise have the opportunity to shape the future workforce.

Overall, the results of this survey suggest that businesses are recovering from the uncertainty of last year. However, there is also a cautionary note in that engineering employers should be conscious of the skills they will need in the near future, building resilience and preparedness into their current strategies.

7. Recommendations

Engineering employers are aware that they are responsible for providing training to upskill their workforces as well as improving diversity. However, there are some barriers that must be overcome. Based on the results of this survey, we have highlighted the following key action areas:

Current workforce needs

- 1. Investment in upskilling employees should be a priority**
 Engineering employers should ensure that they have a formal workforce development strategy and upskilling programs.
- 2. Apprenticeships should be leveraged both internally and externally**
 Apprenticeships can be used to grow talent among current employees, equipping individuals with new skills and knowledge to address skills shortages.

Gaining skills

- 3. Training can build resilience, but preparedness is key**
 Employers should be forward-looking and ensure employees are well-trained throughout their employment, before the point of crisis.
- 4. Engineering employers should champion multiple areas of diversity in their workforce**
 Diverse employees bring with them a variety of perspectives and skillsets. While some progress has been made, more can be done – particularly in an environment where engineering employers are looking towards recruitment to address their skills gaps.

Skills for sustainability

- 5. Sustainability should be embedded within current workforce planning**
 As employers recognise that sustainability will grow in importance over the next few years, the skills needed for sustainability should be central to any current recruitment strategy.

Looking to the future

- 6. Future skills need addressing now**
 Improving skills within the workforce should be addressed in the current moment to avoid employers becoming uncompetitive or unprepared to deal with future challenges.
- 7. Employers should work with educators to improve the skills pipeline**
 Employers who engage with educators have the opportunity to shape the skills pipeline for the industry.

For further information and to read our full survey, visit
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