



Labour Market Intelligence Study

Quarrying, mineral products and mining

October 2016

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1. Executive summary

This research was commissioned by MP Futures to provide reliable and up-to-date labour market intelligence (LMI) on the quarrying, mineral products and mining sector.

The research consisted of an online survey of relevant companies in the sector. Over 330 contacts were provided by MP Futures, the British Aggregates Association (BBA) and the Mineral Products Association (MPA). An additional c.1,370 contacts were sourced by Pye Tait from a reputable national database¹. All contacts were emailed a link to the online survey and invited to participate.

In total 106 completions were received, with 101 unique responses.

1.1 Industry profile and workforce

The majority of survey respondents (58%) are involved in the quarrying of stone, sand and clay, 24% also construct roads and railways, with a further 18% mining gravel, sand, clay, gypsum, chalk, slate and kaolin.

The 101 companies responding to the survey employ a total of 22,691 individuals, with the average company employing three workers. Most of the workforce is employed full time (over three quarters) and the majority of employees (55%) are over 45 years of age. The sector is dominated by male workers, representing over 90% of all employees.

Over a tenth (12%) have employed overseas migrants in the past. Well over half (59%) currently have staff vacancies, however the sector has a fairly low level of employment churn with an average of 10% staff turnover annually, factors which, taken together, indicate potential growth. Indeed, over 40% of respondents expect their workforce to grow in the next 18 months.

Employers report a number of difficulties however when recruiting, particularly in attracting those with technical, operational and engineering skills and those involved in driving. The most difficult-to-recruit roles include professional occupations (85% of employers experiencing problems), followed by 'process, plant and machine operatives' (78%).

Causes of hard-to-fill vacancies include a lack of interest in the types of roles, low numbers of applicants with the required skills and a lack of workers with appropriate work experience.

1.2 Skills and training

In general, employers rate the skill-levels of their employees fairly highly. On a scale of 1 to 10 (where 1 is 'unskilled' and 10 is 'perfectly skilled'), most employers rate their staff between 6 and 8

¹The database was filtered for companies operating in the relevant Standard Industrial Classification (SIC) codes. The code descriptions are listed Appendix 1 under 'Respondent profile'.

on a range of different skills. Skills in health and safety and in LGV operations are rated most highly, with 'marketing' and 'design' receiving the lowest ratings.

The area of greatest training demand however is for mobile plant operators, with almost a quarter of respondents identifying an urgent need. Supervisory and, leadership and management training are also highlighted. Areas of the lowest predicted demand include worker participation/engagement and geotechnical.

In terms of future skills needs, 62% of employers identify 'general IT skills' as becoming more important in future. A relatively high proportion of generic skills are also identified as having high future importance, including health and safety and, planning and organisation skills. The importance of technical skills appears to be remaining the same.

The extent to which employers currently provide training varies by occupation. Roles most typically receiving training on a regular basis include 'process, plant and machine operatives' followed by 'associate professionals and technical occupations'.

Most training is delivered in-house, but there is a great deal of variation by job role when it comes to the method of training delivery. For example, whilst in-house training is most common for 'elementary occupations', using a local private training provider is most popular amongst employers when training 'professional occupations'. Just under half of employers will use provision offered by a trade body or professional institute for 'managers, directors and senior officials'. Of all occupational groups, 'process, plant and machine operatives' benefit from the greatest variety of provision.

Most employers do not offer accredited vocational training. Of those that do, Level 2 qualifications are most typical, accounting for 70% of all achievements.

When it comes to satisfaction with training, employers report the highest levels of satisfaction with in-house training. In terms of external provision, employers are most satisfied with local, private training providers. Employers have mixed views of large, national private training providers.

Accredited sector-specific vocational qualifications – where they are used – tend to be viewed positively, with just under half of employers suggesting these qualifications have helped to upskill their employees. MP awards' qualifications are viewed slightly more positively than other AOs' in this regard.

Although employers generally experience little difficulty in finding the training they need, they do face barriers in terms of being able to release staff from the business (77% of employers) and with the cost of training (39%).

1.3 Careers, young people and schools

Just over half of employers (52%) have recruiting a young person in the last three years, however many more (77%) would consider doing so in future. This suggests there are barriers preventing them from taking on younger workers.

Employers report difficulty in attracting people into job roles in the sector, and they also experience particular challenges when it comes to young people. The most common problems include:

- Age restrictions on insurance;
- Lack of maturity/self-awareness of young people;
- Lack of appropriate experience.

Just under a quarter (22%) of employers currently engage with schools and colleges to attract young people in the sector, meaning that as many as three quarters have no engagement at all with education.

Of those who do, offering work experience and placements is the most typical form of engagement, with some involved in national initiatives, and a small number offering on-site events or visits.

Despite these relatively low levels of contact, at least three quarters of employers are interested in some form of future involvement with schools and colleges; for example 77% would be willing to provide work experience or traineeships, 39% promoting jobs and careers in their company to young people and, 37% helping to raise awareness of the sector to teachers.

Employers have low levels of awareness of other schemes and programmes available nationally. Only 17% have previously heard of the MP Futures map of sites for school visits, and only 15% are aware of the STEM ambassador scheme. A very small proportion are registered with the STEM ambassador scheme: only 2% of respondents. An equal number currently participate in MP Futures' initiatives.

1.4 Apprenticeships

The take-up of apprenticeships is fairly reasonable: 58% of employers have previously employed an apprentice. Of those who have not, the main barriers appear to be apprenticeships being perceived as inappropriate for their company and concerns regarding age restrictions and insurance.

Employers are also uncertain about the future of apprenticeships. Just under half (47%) intend to employ an apprentice in future, however 28% are unsure of their plans. Reasons for this uncertainty are not clear. This may be a reflection of fears about the fitness-for-purpose of the current sector-specific apprenticeships: most employers with knowledge of apprenticeships rate their fitness-for-purpose at 5 out of 10.

Trailblazer apprenticeships – first introduced by Government in 2014 and currently being rolled-out in England – are not well known about. Under a third of employers are aware of these new apprenticeships, and 10% suggest they are not applicable to their business.

Of those with knowledge of Trailblazers, there are divergent views as to how the new model will impact on future quality. Equal numbers suggest quality will stay the same, it will increase, or they do not know. Only 9% predict it will decrease.

Many employers are also unaware of the move from apprenticeship frameworks to apprenticeship standards in England. However, those who do have knowledge of the change largely view this negatively. For example, equal numbers (33%) suggest it will lead to confusion amongst employers and that it will lead to multiple standards in the UK.

Accompanying the change in the way apprenticeships are set (i.e. the use of ‘standards’) is the introduction of an apprenticeship Levy on all UK employers with a pay bill over £3 million a year. Findings from this survey indicate that under a third (30%) anticipate being required to pay the Levy, however exactly a third (33%) do not know whether or not it will apply to them. Findings also suggest the introduction of the Levy will not necessarily incentivise employers to take on more apprentices in future (only 24% agreed with this proposition).

Employers were however slightly most positive when it came to receiving a benefit from the Levy, with 60% suggesting they would be able to utilise all the apprenticeship Levy money paid in training new apprentices.

2. Introduction

2.1 Overview of the research

This research has been commissioned by MP Futures in order to provide reliable and up-to-date labour market intelligence (LMI) that fully captures and represents the quarrying, mineral products and mining sector. This results of this LMI survey are intended to help inform policy and funding decisions made by Government departments and agencies, including the Department for Business, Energy and Industrial Strategy (BEIS), Department for Education (DfE), the UK Commission for Employment and Skills (UKCES) and the Skills Funding Agency.

Previous LMI spanning minerals, mining and quarrying has produced widely varying statistics in recent years. Examples of recent LMI for the sector include the following:

- Research commissioned by ProSkills in the late 2000s estimated there to be 86,000 people employed in the UK extractive and mineral processing, across 10,000 workplaces²;
- As part of its 2013 Employer Skills Survey, the UK Commission for Employment and Skills (UKCES) listed the mining and quarrying industry as employing 56,000 people across 1,712 organisations³; and
- More recently in 2015, the Natural Environment Research Council (NERC) estimated the UK construction minerals workforce alone as employing 35,000 people directly with an additional 35,000 jobs in supporting companies⁴.

Data from the Office for National Statistics (specifically section B of the SIC code system - 'mining and quarrying') reveal a contraction from 1,310 enterprises in 2013, to 690 in 2015⁵. The decline and ultimate demise of deep coal mining will be a contributory factor. This contraction is further supported by the UK Commission's recent Sector Insights research for the Energy sector as a whole which noted falling overall employment within mining and extraction operations.

² Warwick Institute for Employment Research (2010), *Extractive and mineral processing*

³ UKCES (2013), *Employer Skills Survey*

⁴ NERC (2015), *Sustainability in the UK construction minerals industry*

⁵ ONS UK (2015), *Activity Size and Location*

Despite this, 210 million tonnes of minerals was still extracted from the UK landmass for sale in 2014, with a further 89.7 million tonnes, consisting mainly of oil, gas, marine-dredged sand and gravel extracted from the UK Continental Shelf⁶.

Data published by the Mineral Products Association (MPA) puts the amount of aggregate production in Great Britain as 149m tonnes in 2014 (an increase of 11% on 2013 production), with sales of asphalt, ready-mixed concrete and domestic concrete totalling 46m tonnes in the same year⁷.

The quarrying, mineral products and mining sector supports the building of 180,000 homes, maintenance of 230,000 roads and 10,000 miles of rail networks each year. It is also supporting a £1 billion hospital building programme and a £1.6 billion school and university improvement programme⁸.

According to the British Aggregates Association (BAA) there are some 230 independent quarrying businesses across the UK, employing around 20,000 people directly and a similar number indirectly.

2.2 Research methodology

The report has been informed by an online survey developed by MP Futures and refined by Pye Tait Consulting.

Over 330 contacts were supplied by MPQC, the British Aggregates Association (BAA) and the Mineral Products Association (MPA). An additional c.1,370 contacts were sourced by Pye Tait from a reputable national database⁹.

Each of the c.1,700 contacts was sent a personalised, secure link to the online survey and invited to take part on behalf of their organisation. The survey was launched and email invitations sent on 23rd June 2016, with three subsequent email reminders.

To encourage responses, Pye Tait conducted two rounds of follow-up telephone calls: the first to 269 MPQC members; the second round of calls contacted an additional 70 MPA and BBA members (i.e. those who did not also appear on the MPQC list).

One, final email reminder containing the survey link was sent by the Chief Executives of MPQC, the BBA and the MPA directly to their respective members.

The survey was closed on 31st August with a total of 101 unique responses.

⁶ Minerals UK (2016), *United Kingdom mineral statistics*

⁷ Mineral Products Association (2016) *Summary Sustainable Development Report 2015, Progress and momentum... a continuing commitment*

⁸ British Aggregates Association (2016), *The Quarrying Industry*

⁹The database was filtered for companies operating in the relevant Standard Industrial Classification (SIC) codes. The code descriptions are listed Appendix 1 under 'Respondent profile'.

2.3 Report structure

This report is structured thematically. Chapter 3 presents the sector profile, with data on workforce size, key roles and recruitment practices and challenges, such as hard-to fill-vacancies. The following chapters (4 and 5) deal with skills and training needs, and the use and availability of training provision. Section 6 focuses on careers, young people and engaging with schools, with apprenticeships covered in Section 7.

A summary of key findings can be found in Section 8.

The appendix contains information on the respondent profile, with a breakdown by industry sub-sector (categorised by Standard Industrial Classification) and region. A list of respondent job roles is also provided.

3. Industry profile

3.1 Industry sector and workforce

The survey gathered a range of data on industry profile, including the size of the workforce, the balance of employment (full and part time) and information on workforce demographics.

Of the 101 survey respondents, the vast majority (58%) are involved in the quarrying of stone, sand and clay, 24% also undertake construction of roads and railways, with a further 18% mining gravel, sand, clay, gypsum, chalk, slate and kaolin. Respondents are also involved in various other activities to lesser degrees such as manufacturing (e.g. cement, clay, building products, glass) construction of utilities and support services (Figure 35, appendix).

Respondents also operate across the UK, with the largest presence in Scotland (32%), 26% of all respondents also have a presence in the East Midlands, 25% in the South East and 25% in the East of England.

Workforce size

In total, companies responding to the survey employ a combined workforce of 22,691 individuals; with employee numbers ranging from 1 to 7,162. A small number of very large companies account for the bulk of employees; most companies responding to the survey employ three workers (mode average).

Employed status

Full time employees account for over three quarters of the workforce, with more than 10% of the remaining workers employed as contractors.

Age and gender

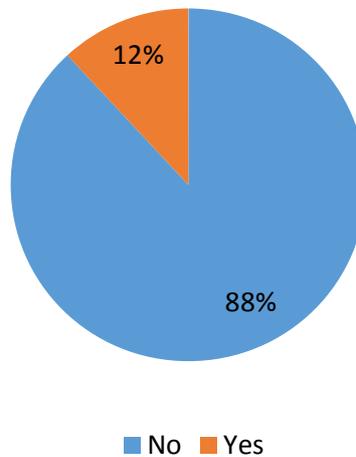
Survey results reveal an aging workforce, with the majority (55%) of employees being over 45 years of age. Young workers – those aged 18 to 34 – constitute just 17% of all workers.

The workforce is also dominated by males, with men representing, on average (mode), 90% of all employees.

Overseas workers

Only a very small proportion (12%) of companies has recruited overseas migrants in the past (Figure 1).

Figure 1: 'Have you recruited overseas migrants?'



Base: 100 respondents

Of those recruiting overseas migrants, a small number provided examples of job roles. While there are no common themes here, the responses demonstrate that migrants work in a variety of different roles, ranging from engineers to plant operators and LGV drivers through to administrators and senior managers.

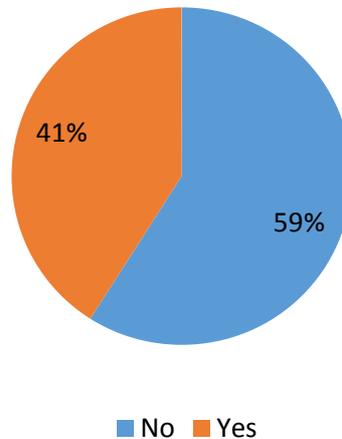
New roles

In addition to migrant worker roles, respondents were also asked about any new or emerging roles that their company might require in five to ten years' time. A variety of different answers were given, covering sales, management, engineering and LGV drivers. One emerging theme is the need for roles relating to technology. A number of respondents believe that IT roles, or those related to robotics/drones, will be required in the near future.

Vacancies

Of those responding to the survey, well over half (59%) the companies in the sector currently have staff vacancies (Figure 2).

Figure 2: Does your company have any vacancies?



Base: 99 respondents

Of those that do (38 respondents) the number of vacancies varies by size of company with the largest reporting over 200 vacant positions.

The most common (mode average) number of vacancies per company is two. A quarter of companies plan to recruit soon, regardless of whether or not they currently need staff at present.

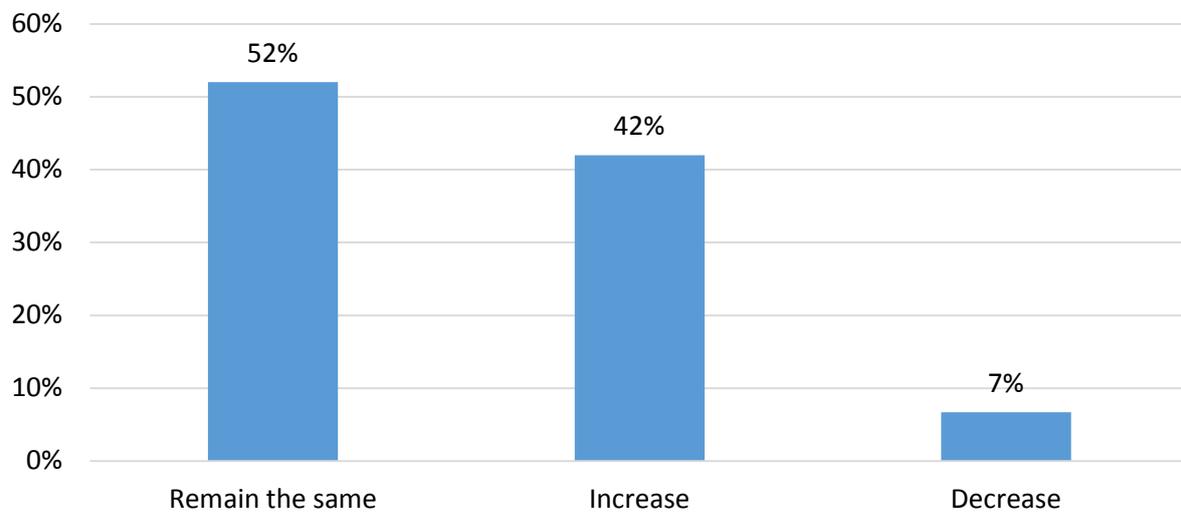
Staff turnover

In terms of staff turnover rates, the sector benefits from a fairly low level of churn, with employers reporting – on average – a rate of c.10% turnover annually. Despite a low average, rates vary by company, with one reporting a rate as high as 70% turnover.

Workforce growth

When it comes to future change in terms of employment growth, the picture is generally one of consistency, with some optimism. For example, although just over half of respondents predict workforce levels will stay the same, over 40% expect to see their workforce grow in the next 18 months (Figure 3). Only a small minority (7%) predict a decline.

Figure 3: Workforce growth expectations over the next 18 months

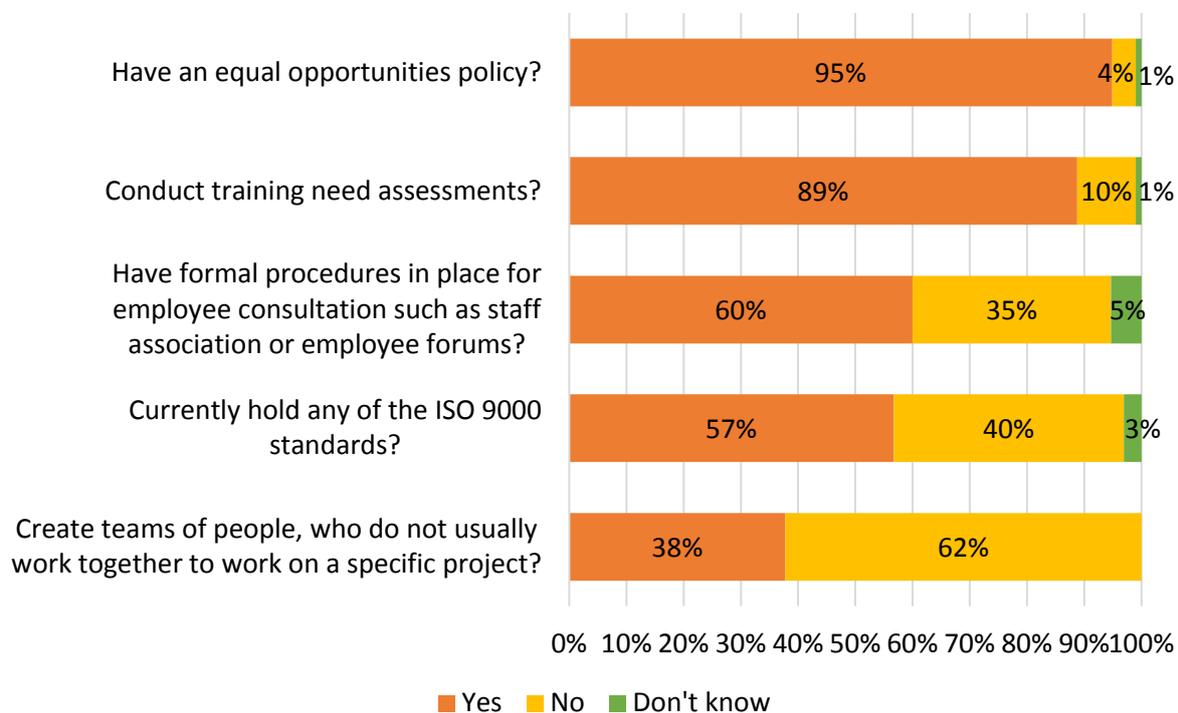


Base: 100 respondents

Company policies and procedures

The existence of company policies and procedures varies quite considerably, most likely due to the range of company sizes responding to the survey. For example, the majority (95%) have in place an equal opportunities policy, and most (89%) conduct training needs assessments of their workforce. In terms of procedures and ways of working however, a much smaller proportion (38%) create teams of people who will work together on a specific project. This reflects the dominance of small companies in the respondent base (Figure 4).

Figure 4: Existence of company policies and procedures



Base: 95-98 respondents

3.2 The challenges of recruitment

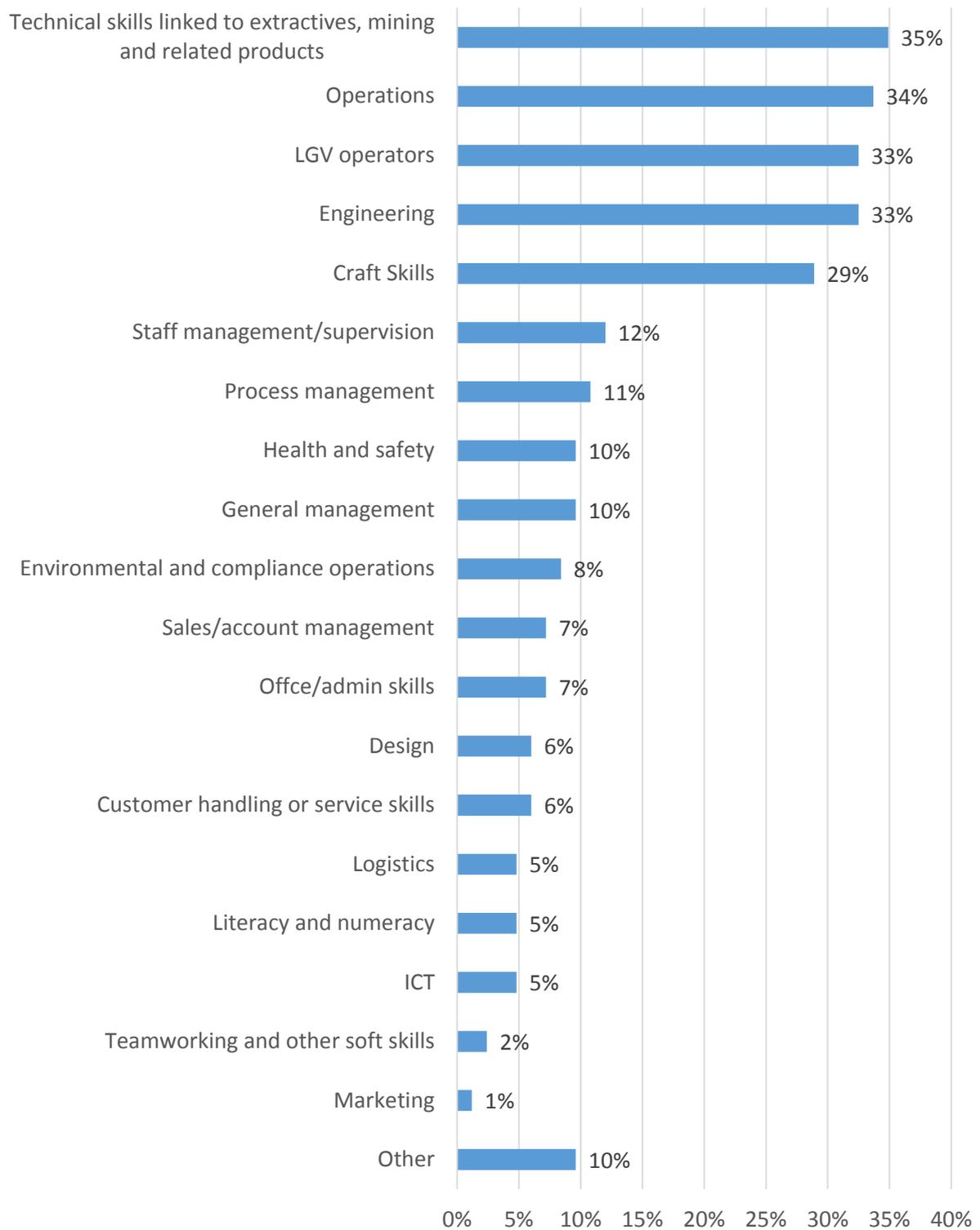
When recruiting, employers face difficulties in a number of areas, particularly when attracting those with technical, operational and engineering skills and those involved in driving – specifically LGV drivers. Over a third of employers experience difficulties recruiting to each of these roles (Figure 5).

Fewer employers reported difficulties with recruiting to more generic roles, for example management/supervision (12%), process management (11%), health and safety (10%), general management (10%).

Of those who stated ‘other’, nine respondents elaborated further. Of this group, two experience difficulty when recruiting mechanics. A further two companies identified plant as an area of difficulty. Other answers varied and included: earthmoving plant operators, HGV drivers, masters and mates for cargo vessels, surfacing operatives and technical skills for the cement business.

Figure 5: Areas where it is difficult to find skilled people

(Percentage total exceeds 100% as respondents could select more than one answer)



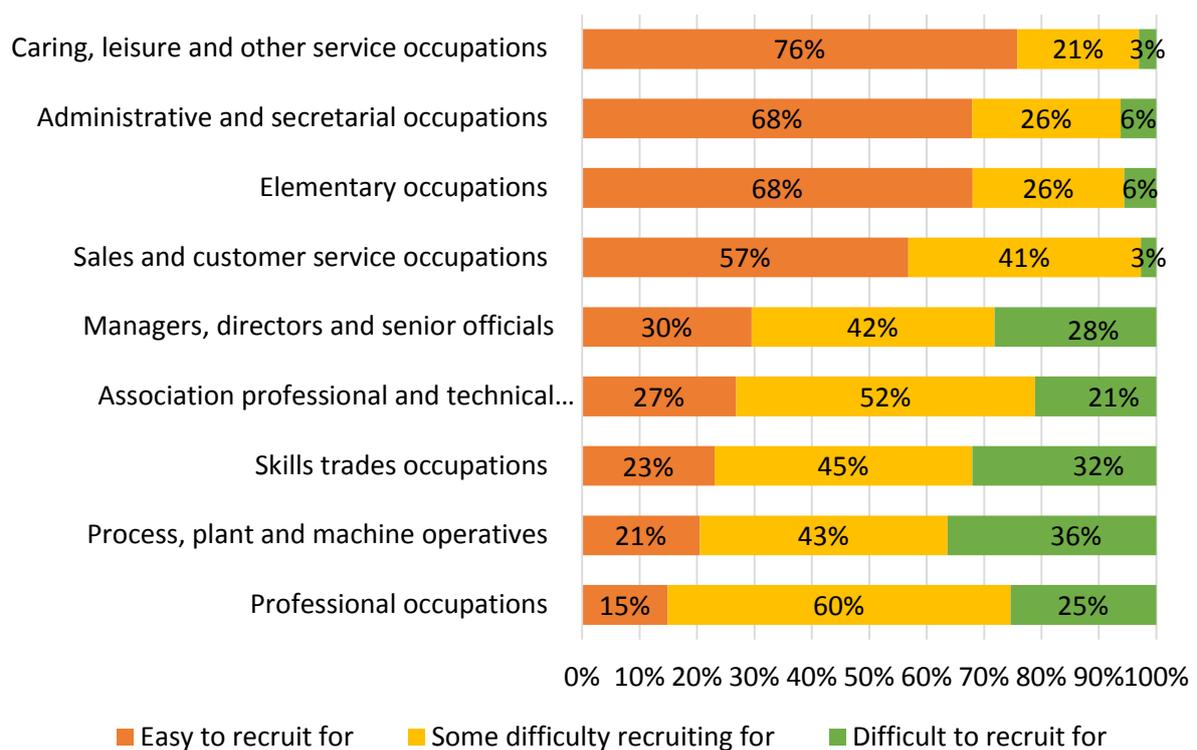
Base: 83 respondents

The survey also asked employers to indicate the level of difficulty when recruiting to certain, broad job roles or categories, covering a variety of levels ranging from professional, to technical, to skilled, administrative and so on.

Those considered easiest to recruit mainly consist of lower level roles such as caring, leisure and service occupations (for example, cleaning), followed by administrative and secretarial, and elementary occupations (Figure 6).

Employers experience most difficulty when recruiting to professional occupations (85% finding these difficult or experiencing some difficulty recruiting to), followed by 'process, plant and machine operatives' (78%) and skilled trades occupations (77%). Other managerial roles are also considered fairly difficult to recruit to (70%).

Figure 6: The level of difficulty when recruiting for generic job roles

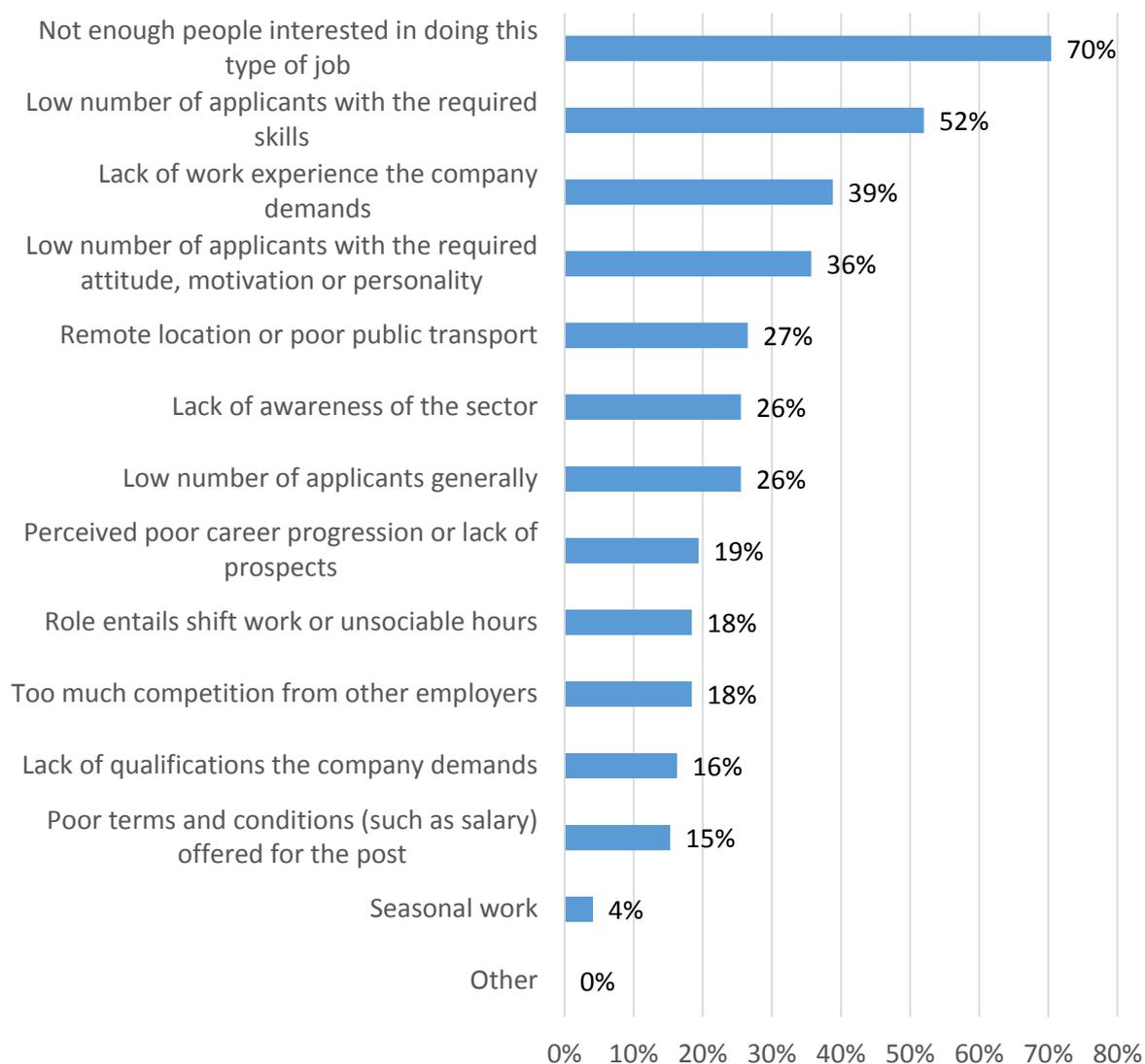


Base: 675 responses

The cause of hard to fill vacancies is varied, with the majority (70%) of employers putting this down to a lack of interest in the type of roles in question (Figure 7). Other reasons, likely linked to this, include low numbers of applicants with the required skills (52%) and a lack of workers with appropriate work experience (39%).

Figure 7: Causes of hard to fill vacancies

(Percentage total exceeds 100% as respondents could select more than one answer)



Base: 198 responses

The findings suggest – as is the case with other, related, sectors such as construction – an issue with sector image, promotion of industry careers and, potentially, a lack of appropriate careers guidance. A low number of applicants with the required skills could also point to a lack of appropriate skills training or qualifications for those who are interested in a career in quarrying, mineral products and

mining. However answers to other questions indicate a lack of appropriate qualifications may be less of an issue suggesting those with the appropriate skills may simply not be attracted to the industry.

4. Skills and training needs

The survey went on to focus on workforce skill levels, future skills needs, as well as demand for training.

Respondents were asked to rate – on a scale of 1-10 (where 1 is ‘unskilled’ and 10 is ‘perfectly skilled’) – the level of skill within their workforce in a number of different areas (Table 1).

On the whole, respondents rated the skill levels fairly highly, with a mean average for each skill of between 6 and 8. Skills areas receiving the highest average ratings of c. 8 out of 10 were (highest rating first):

1. Health and Safety
2. LGV Operators
3. Office/admin skills

The lowest ratings were given to technology-related skills and those in ‘non-technical’ areas such as ICT, marketing and design.

4.1 Current skills and training needs

Table 1: Staff skill level

	Count	Sum	Mean	Median	Mode	Minimum	Maximum	Range
Health and safety	88	729	8	8	8	5	10	5
LGV operators	58	471	8	8	8	3	10	7
Office/admin skills	82	663	8	8	8	5	10	5
Operations	79	636	8	8	8	5	10	5
Sales/account management	72	570	8	8	8	3	10	7
Technical skills linked to extractives, mining and related products	68	535	8	8	8	3	10	7
General management	81	636	8	8	8	4	10	6
Literacy and numeracy	72	558	8	8	8	4	10	6
Environmental and compliance operations	72	556	8	8	9	2	10	8
Engineering	62	478	8	8	8	3	10	7
Customer handling or service skills	75	574	8	8	8	3	10	7

Process management	64	481	8	8	8	1	10	9
Craft skills	62	461	7	8	8	1	10	9
Staff management/supervision	74	546	7	7	7	4	10	6
Logistics	58	427	7	7.5	7	3	10	7
Teamworking and other soft skills	69	496	7	7	7	4	10	6
ICT	62	436	7	7	7	1	10	9
Marketing	62	411	7	7	8	1	10	9
Design	48	315	7	7	8	1	10	9
Other	2	12	6	6	5	5	7	2

Respondents cited two 'other' skills in response to this question, these include:

- 'Geotechnical' skills; and
- 'Wider Knowledge of the sector and the use of the products in the market'.

Despite the lowest level of skill being reported for 'non-technical' and generic roles (marketing and design), these are not typically flagged by employers as a priority for training. This is likely because these roles and skills are not core to, or considered crucial for, the business.

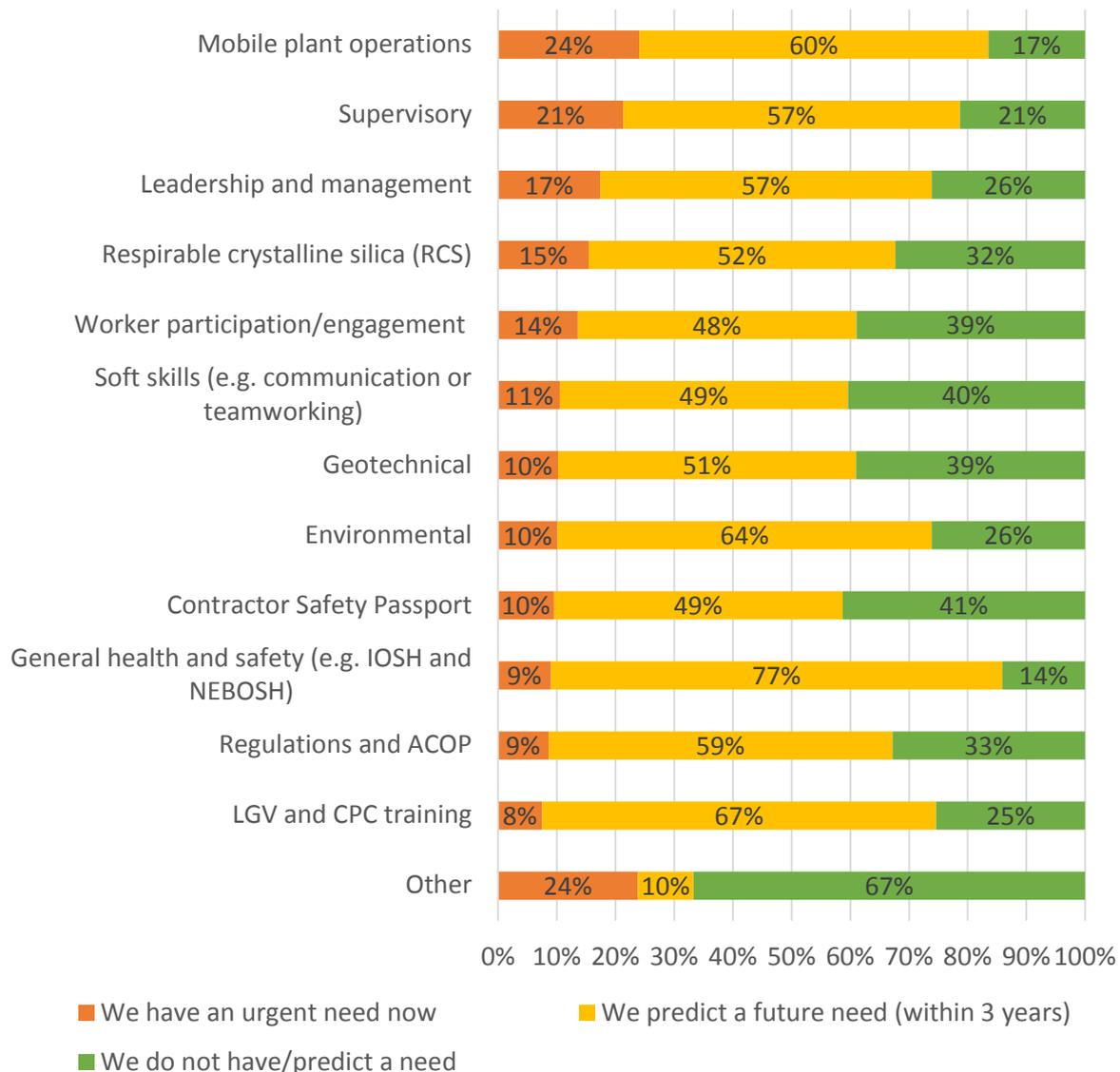
The area of greatest training demand is for mobile plant operators, with almost of quarter of respondents identifying an urgent training need. A further 60% anticipate a need in the next three years (Figure 8).

A good number of employers also identify a need for supervisory and, leadership and management training: 21% and 17% respectively highlighting an urgent requirement.

Just over two-thirds of employers point to a need for training in respirable crystalline silica (RCS)¹⁰, either urgently, or in the next three years. This may reflect the recent (May 2016) addition of RCS to a list of 13 cancer-causing chemicals in the workplace covered by the Carcinogens and Mutagens Directive (2004/37/EC).

¹⁰ Information taken from EU Commission Press Release 'Commission proposed better workers' protection against cancer-causing chemicals', 13 May 2016, here: http://europa.eu/rapid/press-release_IP-16-1656_en.htm

Figure 8: Demand for training by area



Base: 58-79 respondents

Areas with the lowest predicted demand (i.e. no current or predicted need) include:

- Contractor Safety Passport (41%)
- Soft skills (e.g. communication or teamworking) (40%)
- Geotechnical (39%)
- Worker participation/engagement (39%)

The majority of ‘other’ responses suggest no demand for training. A couple of respondents stated a need for apprentices and graduates. The remainder of responses varied, ranging from ‘stone miners’ through to ‘plant operators’.

4.2 Future skills needs

When comparing current skill levels and future skill needs certain requirements for potential training and upskilling are apparent.

For example, in terms of current skill levels those for ICT are rated as fairly low (an average of 6 out of 10), with 62% of employers suggesting 'general IT skills' will become more important in future (Figure 9).

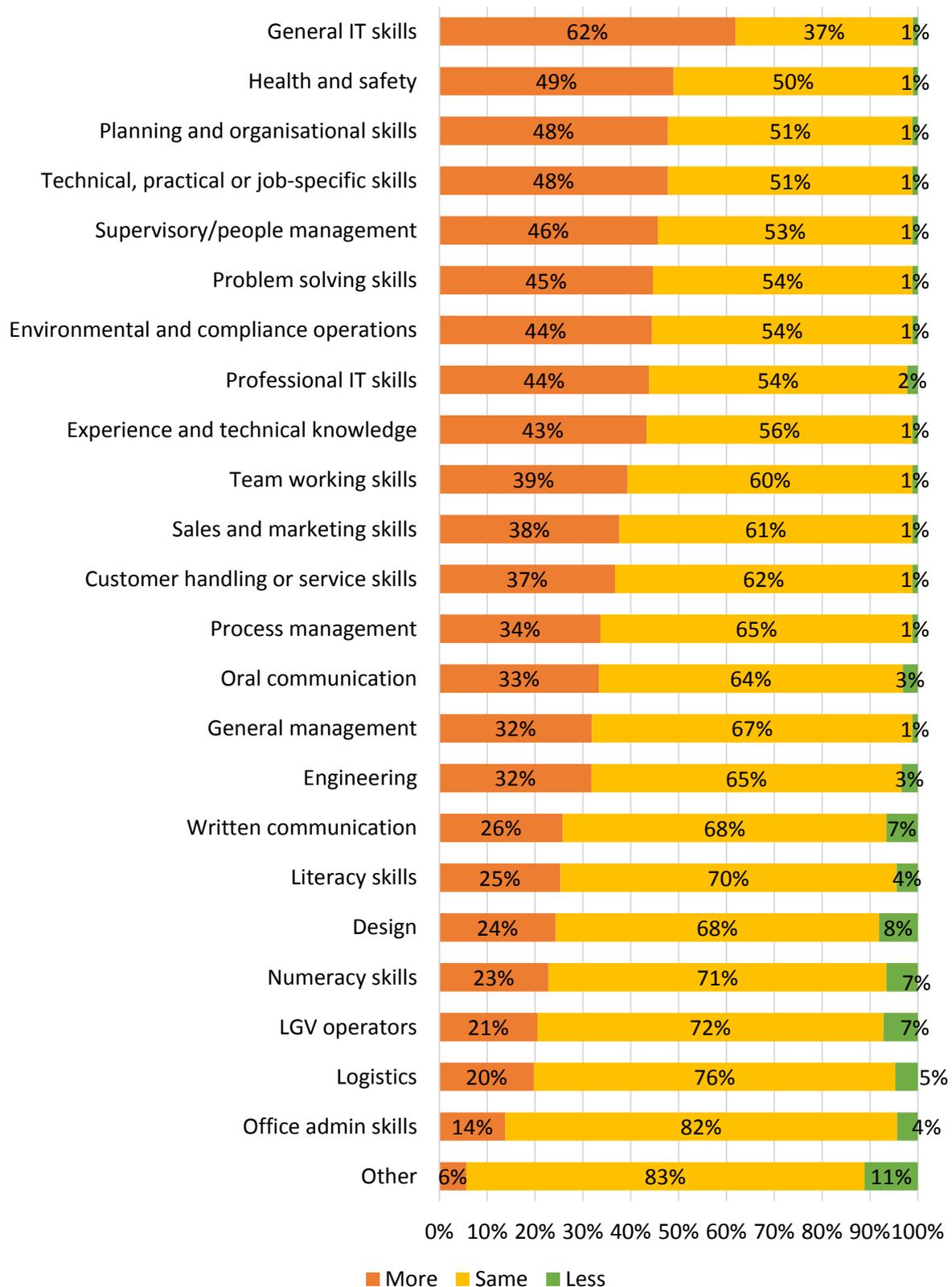
A relatively high number of respondents also identify other generic skills areas as potentially increasing in importance in future; these include: health and safety and, planning and organisation skills. Supervisory skills are also predicted by just under half of all employers to become more important, with over three quarters also identifying a training need in this area (either urgent or in the next three years (Figure 8).

The importance of technical skills is generally envisaged to remain the same. These types of skills considered most important in future include 'technical, practical or job-specific skills' (identified by 48% of employers as being 'more important' in future) and 'environmental and compliance' (44%).

Very few skills were predicted to become less important in future; those identified include 'design' (8%), 'written communication' (7%), 'numeracy' (7%) and 'LGV operators' (7%) (Figure 9).

Four 'other' answers were provided, including: 'New developments', 'Plant', 'Possible overseas growth' and 'Project management'.

Figure 9: How important skills will be in the future



Base: 18-98 respondents

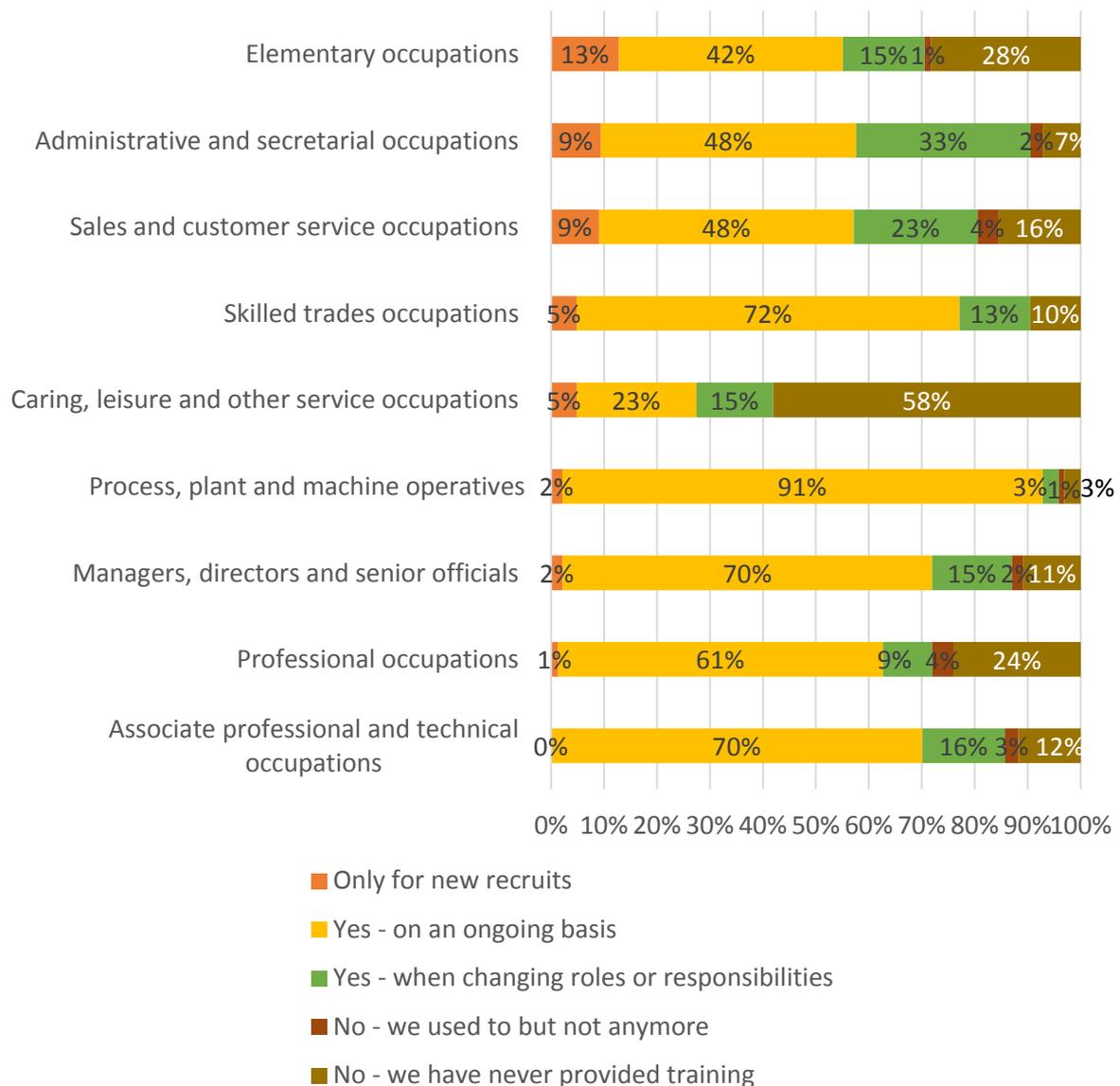
5. Training provision

5.1 How training is provided

Overall, training is currently provided to all levels of staff in the workforce, however the extent and the nature of that training provision varies substantially (Figure 10).

Occupations most typically receiving training on a regular basis include 'process, plant and machine operatives' (91% receiving training on an ongoing basis) 'associate professionals and technical occupations' (70%) and 'managers, directors and senior officials' (70%).

Figure 10: Training currently provided



Base: 62-97 respondents

Those receiving the least, or no, training include lower level, arguably lower skilled, jobs. For example, for 'caring, leisure and other service occupations' (such as cleaning staff) 58% of employers have never provided training; 28% of employers have also never provided training for 'elementary occupations'.

Those most likely to receive training when changing roles include 'administrative and secretarial occupations' (33%) and 'sales and customer service occupations' (23%).

A small number of employers have recently stopped providing training for certain roles; roles for where this is most common include 'sales and customer service occupations' (4%) and professional occupations (4%) (Figure 10).

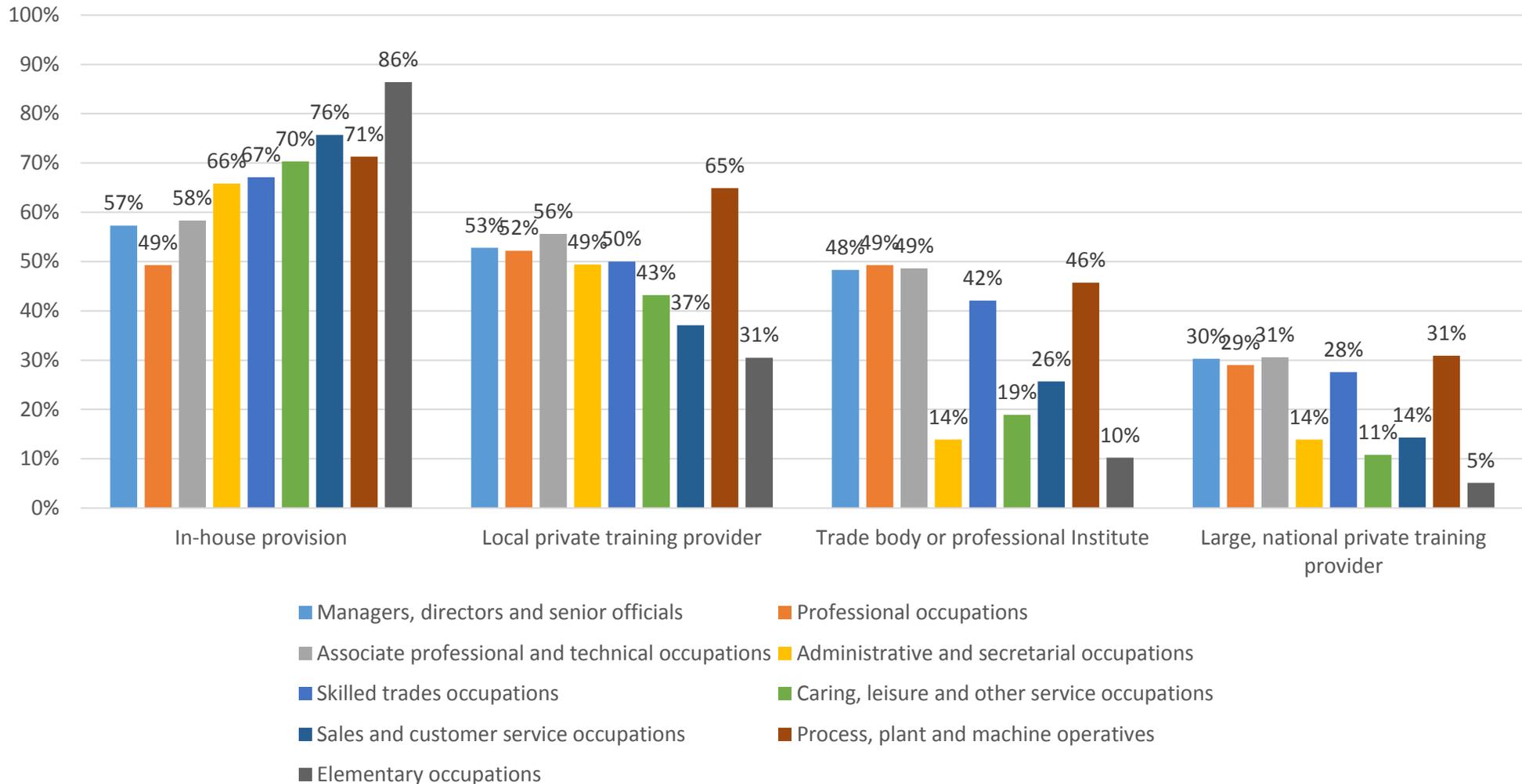
5.2 Types of training provision used

The survey went onto ask employers about the way in which staff training is provided, whether in-house or delivered via a training provider (independent or Further Education College), University or other type of provider (Figures 11 and 12).

In-house training is the most popular method, with a great deal of variation by job role. For example:

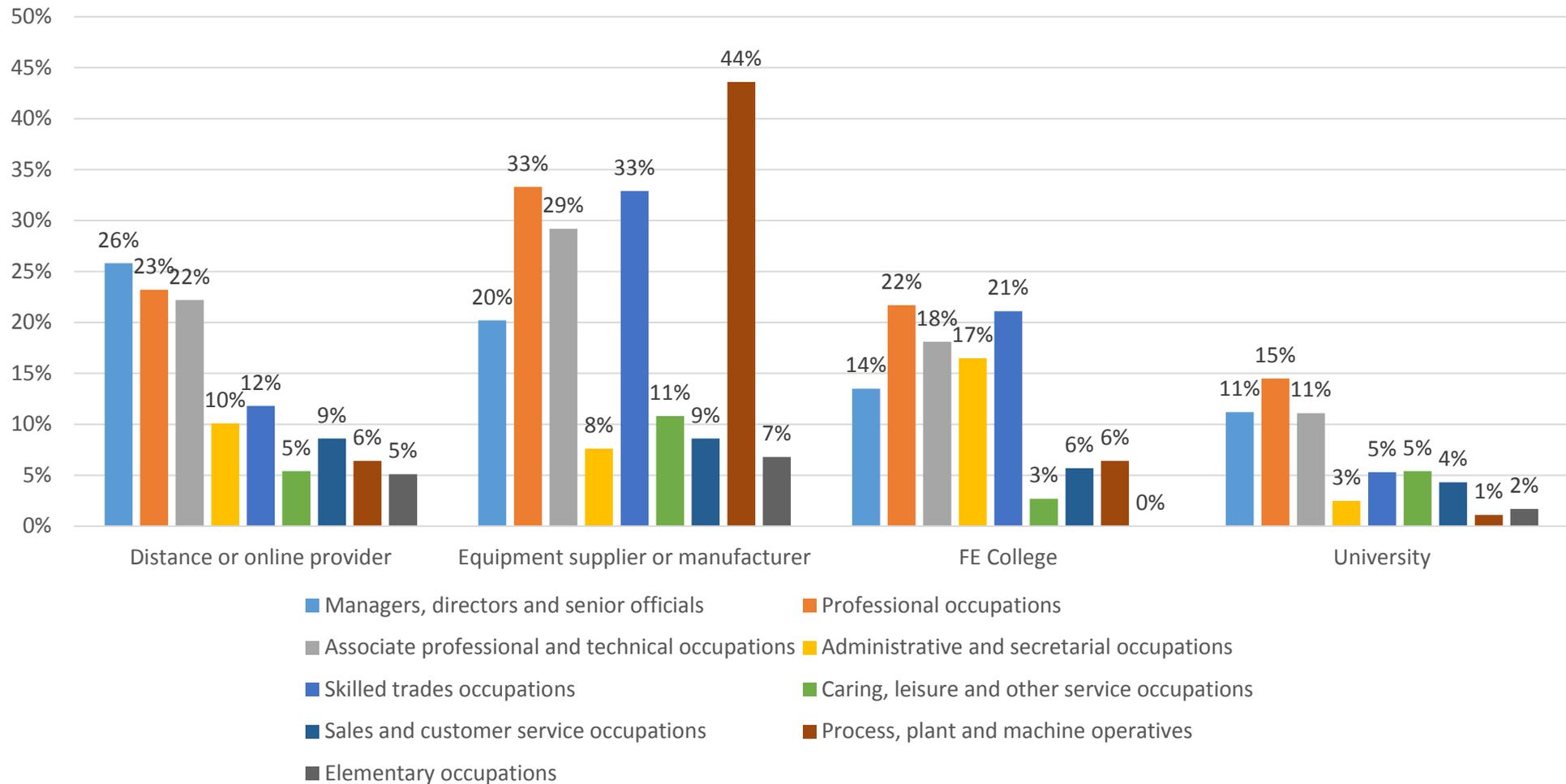
- In-house training is the most common type of training for 'elementary occupations' (86% of employers offering this type of training), followed by 'local, private training provision' (31% of employers).
- Process, plant and machine operatives account for the most training delivered by local, private training providers (65% of employers choosing this method), but the majority of training for this job role is conducted in-house (71%).
- The only job role for which in-house training is not most common is 'professional occupations'. Just under half of employers will deliver training in-house to this group, however 52% of employers will use a local private training provider.
- Trade body or professional institute training is also fairly popular. Just under half of employers will use this type of provision for managers, directors and senior officials; professional occupations; associate professionals and technical occupations and process, plant and machine operatives.
- University courses are the least common type of provision.
- Across the occupational groups, process, plant and machine operatives benefit from the greatest variety of provision. They are the largest group receiving training from each of local, private training providers, trade bodies and professional institutes, large, national providers and equipment suppliers and manufacturers.

Figure 11: Type of training provided by job type



Base: 37-94 respondents

Figure 12: Type of training provider by job role (continued)



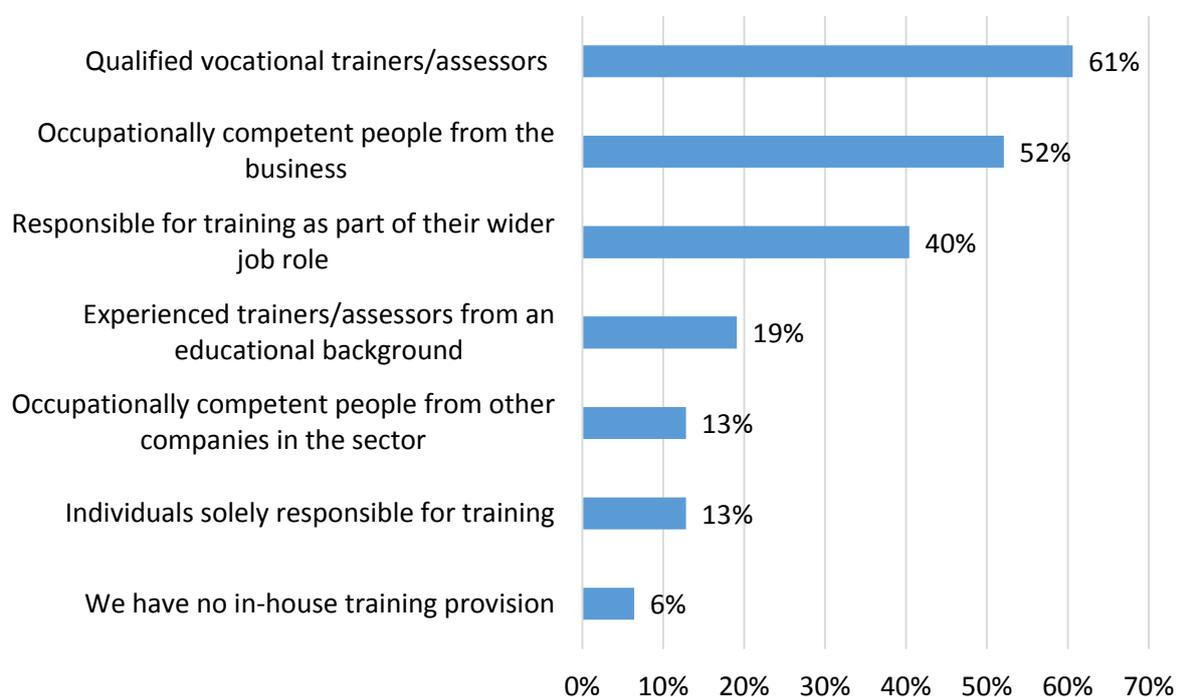
Base: 37-94 respondents

Where training is delivered in-house, 61% of employers will employ a qualified vocational trainer or assessor, 52% will deliver this training via occupationally competent people from the business (Figure 13).

The results indicate these individuals provide training as part of their job role, with only 13% of companies employing a member of staff solely responsible for training.

Figure 13: Types of trainers used to delivery in-house training

(Percentage total exceeds 100% as respondents could select more than one answer)



Base: 94 respondents

5.3 Achievement of vocational qualifications

The achievement of vocational qualifications is hugely varied across the sector with larger employers accounting for the bulk of NVQ achievements – the largest of which seeing over 200 achievements in the 12 months preceding the survey (Table 2).

Most employers do not report any vocational qualification achievements (the mode average).

Table 2: Number of employees achieving a Vocational Qualification in the last 12 months

Count	Sum	Mean	Median	Mode	Minimum	Maximum	Range
78	830	11	2	0	0	207	207

Level 2 qualifications are most typical in the sector, accounting for 70% of all achievements. Level 4 qualifications are the second most common, accounting for 13% of all achievements (Table 3).

Table 3: Number of employees achieving a Vocational Qualification in the last 12 months (by level)

Level	Count	Sum	Mean	Median	Mode	Minimum	Maximum	Range
Level 2/SCQF Level 5	32	421	13	5	2	1	95	94
Level 3/SCQF Level 6	14	77	6	3	2	1	17	16
Level 4/SCQF Level 7	11	78	7	4	1	1	35	34
Level 5/SCQF Level 8	3	5	2	2	2	1	2	1
Level 6/SCQF Level 9-10	4	17	4	5	5	1	6	5
Level 7/SCQF Level 11	1	7	7	7	7	7	7	0
Level 8/SCQF Level 12	0	0	0	0	0	0	0	0

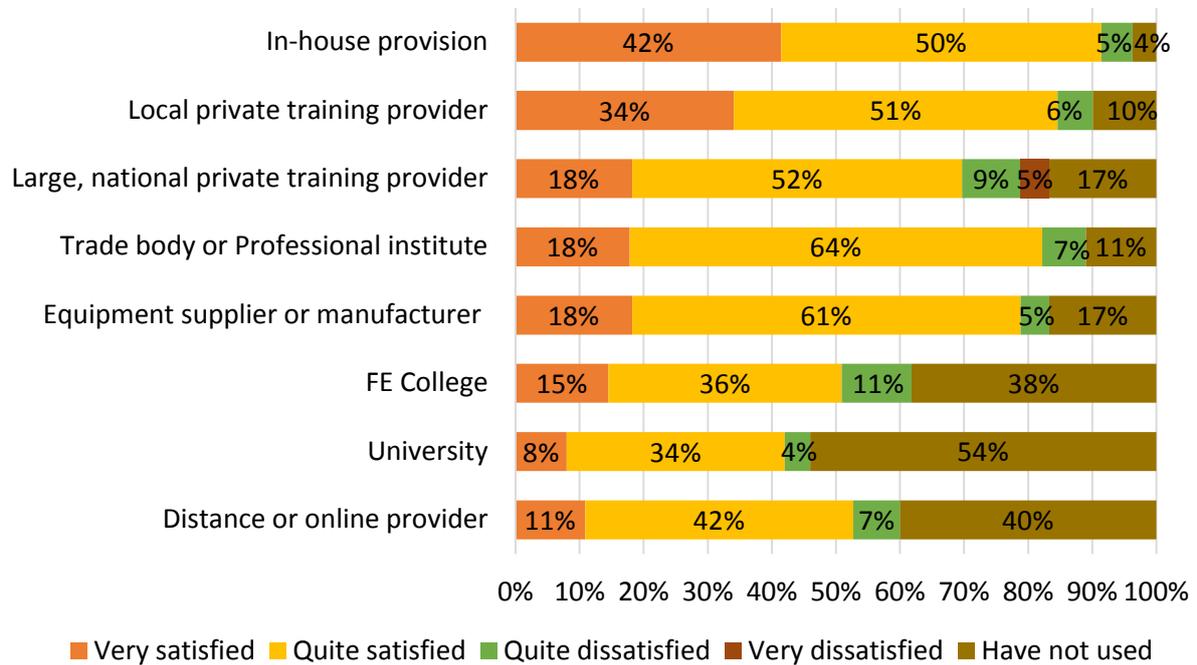
5.4 Satisfaction with training provision

In-house training is viewed most favourably, with 92% of respondents satisfied (either ‘very’ or ‘quite’) with this form of provision. When it comes to external provision, respondents report the highest levels of satisfaction with ‘local private training providers’ – with 85% either ‘very’ or ‘quite’ satisfied – followed by ‘trade body or professional institute’ (82% of respondents either ‘very’ or ‘quite’ satisfied).

Employers have mixed views of large, national private training providers. Although 18% rate their company as being ‘very satisfied’ and 52% are ‘quite satisfied’ with this form of provision, large, national training providers also attracted the highest negative ratings: 9% being ‘quite dissatisfied’ and 5% very dissatisfied.

The least used form of provision is ‘University’ (54%), followed by distance learning or online providers (40%) (Figure 14).

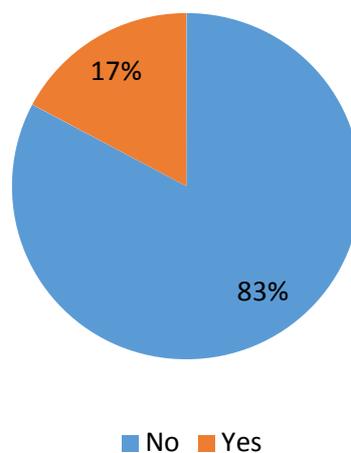
Figure 14: Satisfaction with different types of training provider



Base: 538 responses

The range of provision available in terms of subject areas/occupational coverage appears, generally, to meet the needs of employers. However, 17% suggest they experience some difficulty finding the right training (Figure 15).

Figure 15: Are there any subject areas/occupations where it is difficult to find the right training?



Of those responding to this question, nineteen elaborated further. Three employers have experienced difficulties finding appropriate apprenticeships, with one citing ‘new trailblazers’ as presenting a particular gap.

The remaining answers are listed below (verbatim comments):

<i>“Dimension Stone miners and stone sawyers in the factory”</i>
<i>“Earthmoving plant operating”</i>
<i>“Engineers”</i>
<i>“Health and safety training for changing heavy goods vehicles wheels. This is not manual handling training. Inflation of heavy goods vehicles wheels”</i>
<i>“HGV drivers within the planing business”</i>
<i>“Kiln burner”</i>
<i>“Limited training providers for our tar squad and low loader drivers”</i>
<i>“Mining specific tasks”</i>
<i>“Mining ventilation”</i>
<i>“NVQ L3/4 for supervisory staff”</i>
<i>“Road planing and surfacing machines”</i>
<i>“Specialist service provider within industrial bulk materials handling”</i>
<i>“Working in a quarry environment”</i>

In addition to these challenges in terms of area/occupational coverage, employers also identified a number of barriers which prevent them from offering staff training (Figure 16).

The most prevalent obstacle, experienced by 73% of employers, is ‘releasing staff from the business to attend training’. As one respondent commented: *“Training courses take place in-week only, therefore you need cover to send people on training, compounding the shortage problem”*.

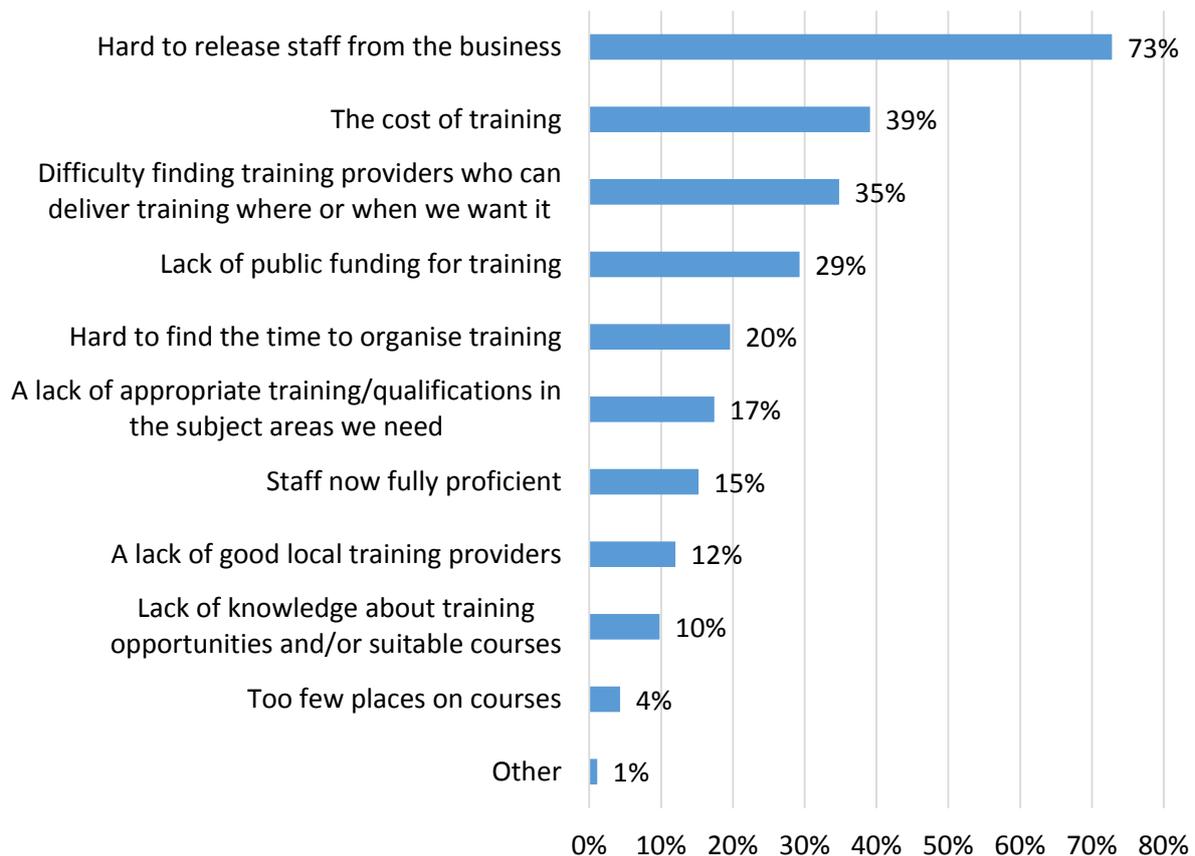
This suggests providers may not be offering flexible enough provision.

Employers also experience a range of other barriers, although to lesser degrees: the second most common issues being the ‘cost of training’ (39% of employers), followed by ‘difficulty finding training

providers who can deliver training where or when we want it' (35%). The capacity and quality of relevant providers does not appear to be a concern, however.

Figure 16: Barriers preventing staff training

(Percentage total exceeds 100% as respondents could select more than one answer)



Base: 92 respondents

Only one respondent chose to provide more information, suggesting they only employ staff with a minimum of two years' prior experience, therefore negating the need for additional training.

In terms of accredited qualifications on offer in the marketplace, not all employers have prior experience of them: 29% are not familiar with, or have not used, qualifications accredited by MP Awards; 25% are not familiar with, or have not used, qualifications accredited by other awarding organisations (AOs) (Figure 17).

The remaining employers however tend to view sector-specific vocational qualifications positively, with similar numbers suggesting MP Awards' and other AO's qualifications have helped to upskill their employees (43% and 40% respectively).

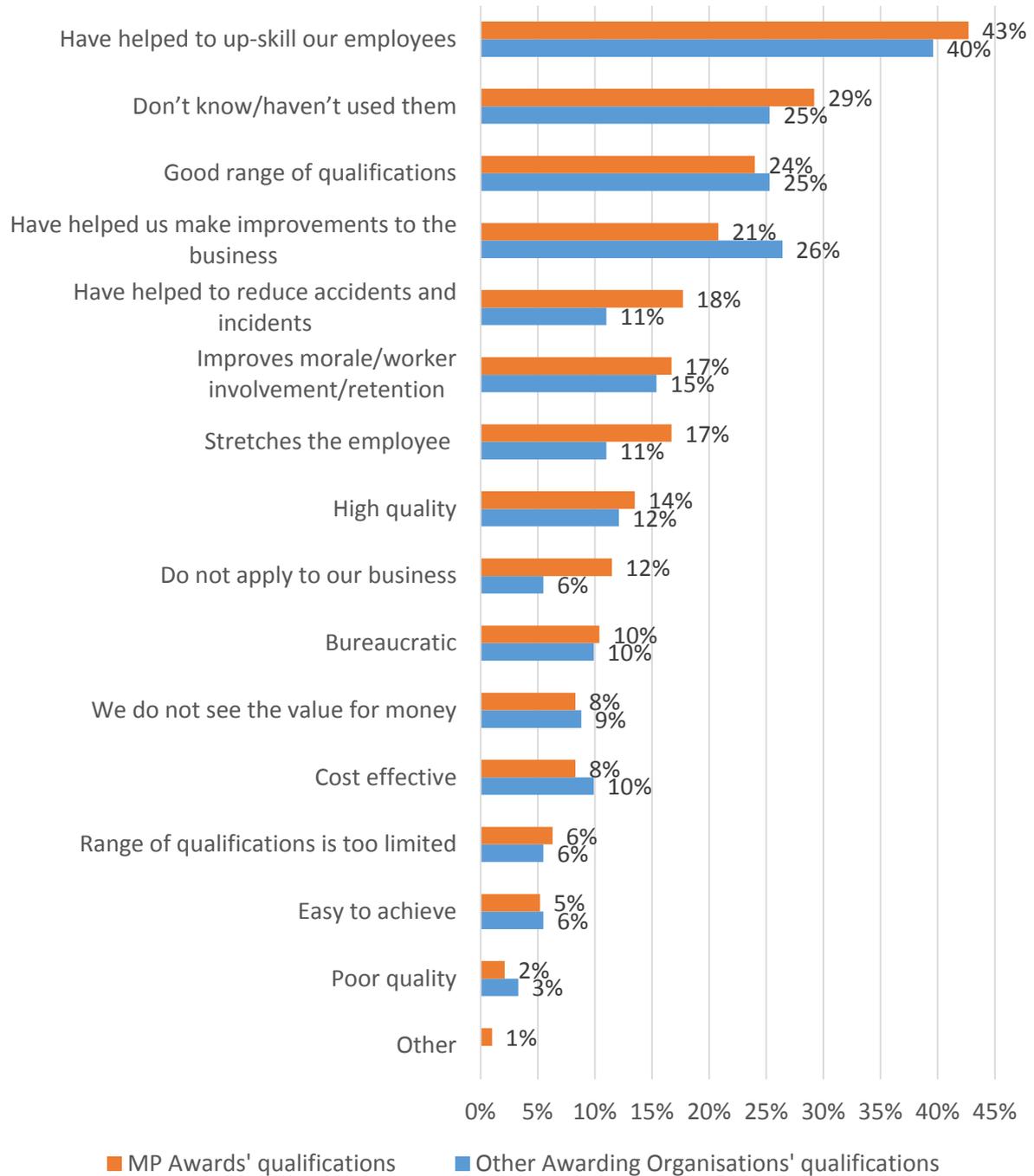
Statements which employers associate more with MP Awards' qualifications than those offered by other AOs include:

- 'Have helped reduce accidents and incidents'
- 'Stretches the employee'
- 'High quality'

There are a small number of areas where MP Awards' qualifications are viewed less positively than other AOs. These areas relate to the range of qualifications, and their cost effectiveness (although only selected by a small number of employers) (Figure 17).

Figure 17: Businesses' views on sector specific vocational qualifications

(Percentage total exceeds 100% as respondents could select more than one answer)



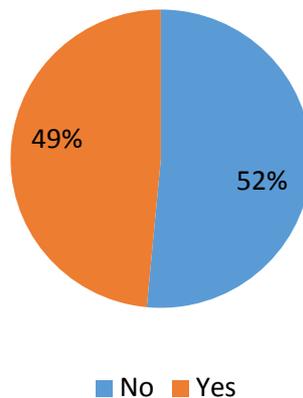
Base: 89-93 respondents

6. Careers, young people and engaging with schools

6.1 Employing young people

Recruiting young people is not standard practice in the quarrying, mineral products and mining sector, with less than half of employers having done so in the three years preceding the survey (Figure 18).

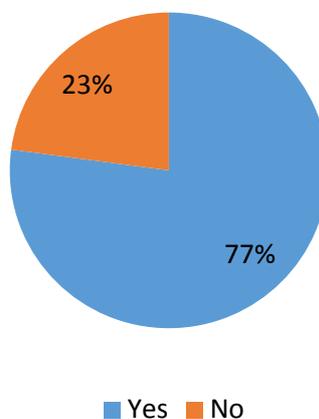
Figure 18: Have you recruited young people in the last three years?



Base: 100 respondents (percentages total more than 100% due to rounding)

The majority (77%) of employers would consider taking on a young person in future, however. The findings suggest therefore that, despite their willingness, there are barriers preventing companies from employing younger workers. This may, in part, be due to a lack of interest from this age group, for example, findings presented in Chapter 3 report the greatest cause of hard to fill vacancies as being 'not enough people interested in doing this kind of job' (Figure 7).

Figure 19: Would you consider employing young people in the next three years?



Base: 100 respondents

Respondents also cited a number of more practical barriers to taking on young workers, generally related to issues such as age restrictions, health and safety requirements and insurance. The following answers were given (verbatim comments):

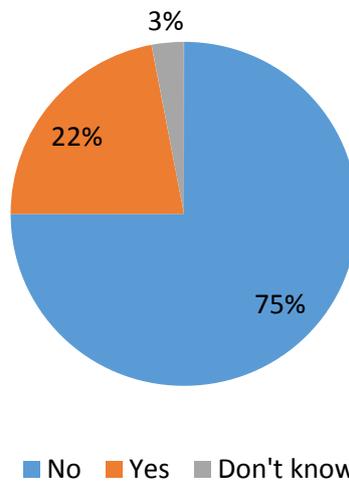
<i>"Age restriction on insurances"</i>
<i>"Cannot get insurance for them to drive the vehicles"</i>
<i>"Decline in industry"</i>
<i>"Due to the high risk operations and environment in which we operate, we seldom have suitable positions. However, if a young person applied for such a role and demonstrated a mature attitude, they would be considered equally"</i>
<i>"Lack of self-awareness and personal responsibility"</i>
<i>"No time to train most not interested"</i>
<i>"Not allowed on site due to age"</i>
<i>"Not needed and not enough staff to train"</i>
<i>"We require experienced operators"</i>
<i>"Site age limit is 18"</i>
<i>"The lack of experience in using extra-large plant"</i>

6.2 Participation in engagement initiatives

Although most companies have an interest in employing young people, less than a quarter actively engage with schools and colleges to either inform young people about the sector or actively seek to recruit them into their workforce (Figure 20).

The vast majority of sector employers (75%) have no contact with educational establishments.

Figure 20: Do you currently engage with schools and colleges?



Base: 99 respondents

Of those who do engage with schools and colleges, a small number elaborated on how they go about this with the majority providing work placements/experience. Others are involved with national initiatives such as the Inspiring Futures Ambassador programme. A small number of respondents also offer on-site events or visits. Verbatim comments are provided below.

“Career Fairs, Work Experience, Recruited 3 school leavers as part of a raising career aspiration initial, school visits”

“Close work with xxx College for Engineering and HGV mechanical apprentices”

“Events on sites”

“In discussion with local University regarding Knowledge Transfer Partnership arrangements and appropriate secondments”

“[Links with] Leicestershire Education Business Company (LEBC)”

“Local engineering students tour”

“Mentoring, Work Experience Opportunities, Community Initiatives”

“Ongoing engagement initiatives at national and site level”

“We actively participate in school events as part of our customer relations procedures”

“We are working with xxx UTC and xxx college to attract individuals to the business”

“We have been involved in Institute and Professional Bodies initiatives for schools but the curriculum is too focused on results not all round knowledge”

“We have STEM and inspiring futures ambassadors. We also attend school careers events, host school visits to our sites and engage with local schools on helping young people improve their skills on finding work, i.e. cv writing / interview skills”

“We provide work experience placements to all local schools”

“Work experience placements, and strong communication with local college about graduating students”

“Work placements”

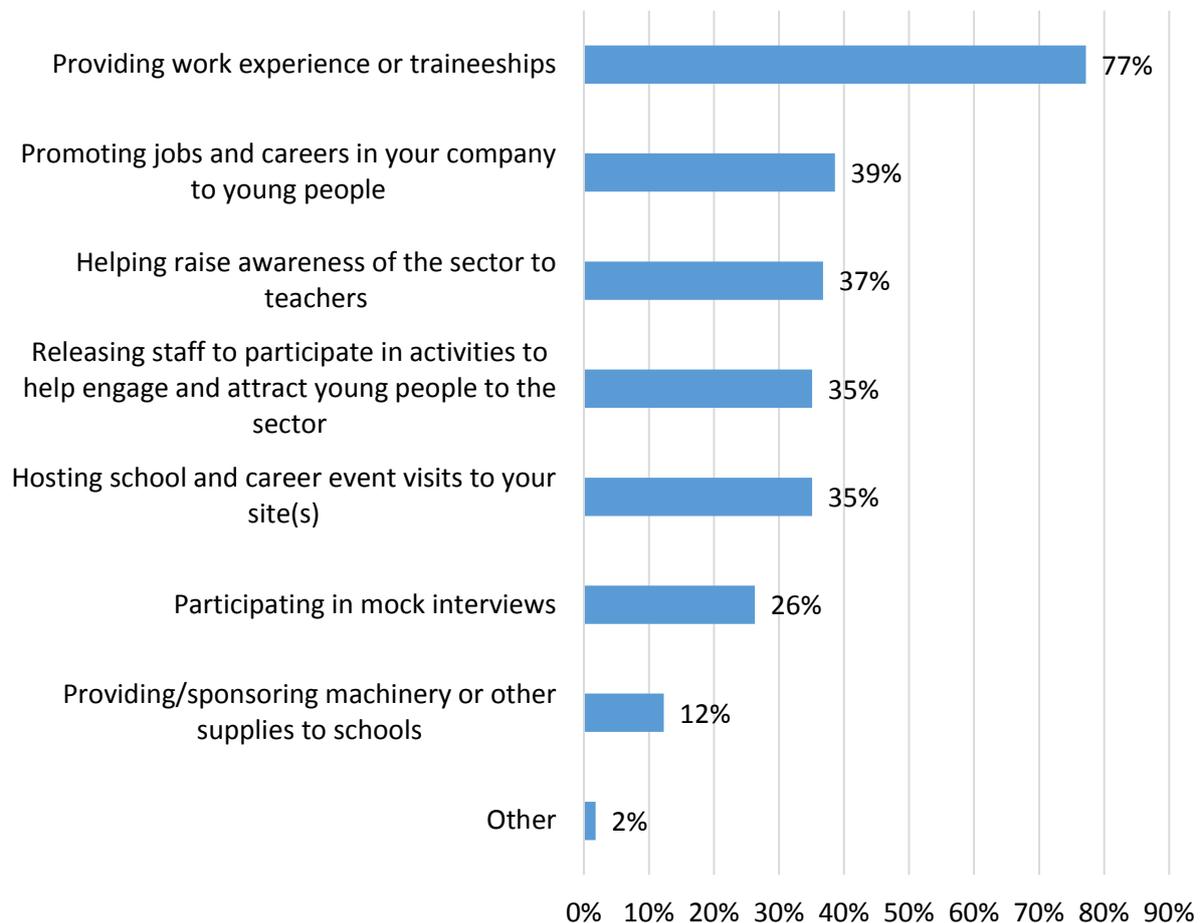
“Work placements available for local school a week each year”

Offering work experience is the most popular way in which businesses would be willing to engage with schools in future, with 77% choosing this option (Figure 21).

Substantially fewer companies would be interested in other types of activity, such as ‘promoting jobs and careers in your company to young people (39%) and ‘helping raise awareness of the sector to teachers’ (37%).

Figure 21: Ways in which businesses would be interested in engaging with schools in the future

(Percentage total exceeds 100% as respondents could select more than one answer)



Base: 57 respondents

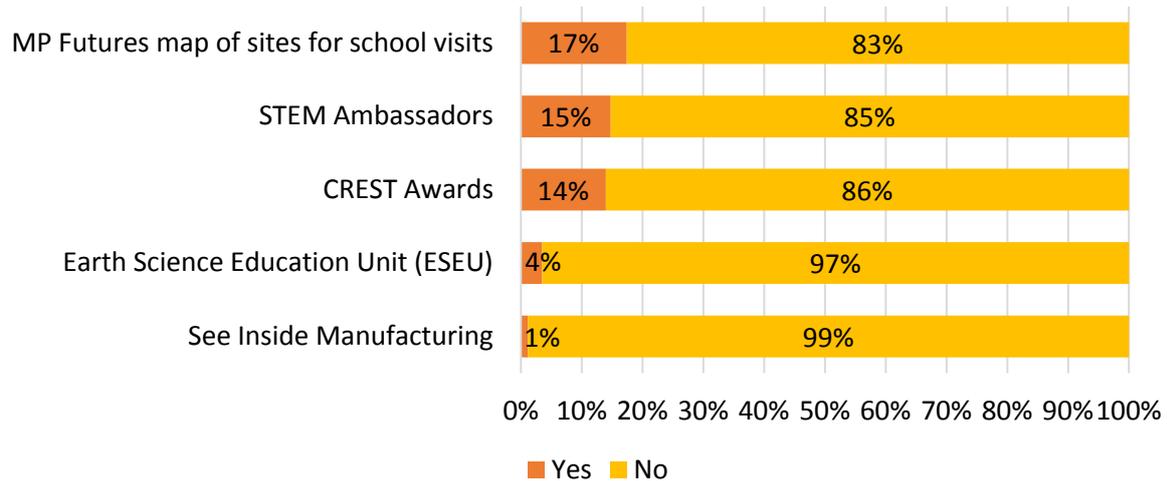
The least popular option is to provide or sponsor machinery or other supplies to schools (12%).

In the UK a number of schemes exist with the aim of improving awareness and knowledge of careers in science, technology, engineering and maths (STEM) related occupations. MP Futures operates one such scheme linking schools with employer sites¹¹.

¹¹ The map of sites for school and career visits, available here: <http://www.mpfutures.co.uk/schools/site-visits-and-attractions/>

The survey gauged employer awareness of a small number of these schemes. On the whole, few employers are familiar with the schemes and programmes on offer, the MP futures map being most known about (17% of employers), followed by the STEM ambassador programme¹² (Figure 22).

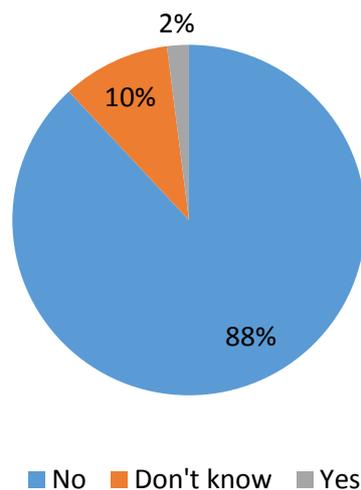
Figure 22: Awareness of schemes and programmes



Base: 82-86 respondents

A very small number of companies (2%) have employees registered as STEM ambassadors (Figure 23), although many more (15%) are aware of the programme (Figure 22).

Figure 23: Businesses with registered STEM Ambassadors

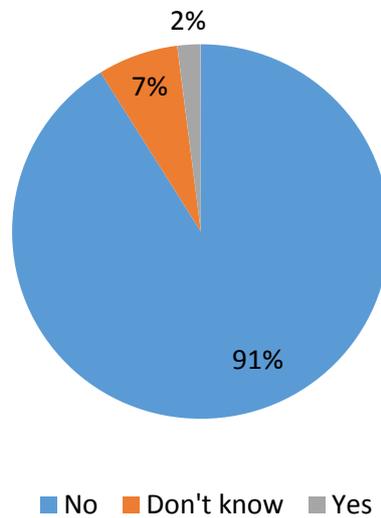


Base: 100 respondents

¹² STEM ambassadors are described as “the link between employers and the workforce of tomorrow”. Their role includes “actively engaging with pupils and supporting teachers in the classroom”. From ‘Becoming a STEM Ambassador, available here: <http://www.stemnet.org.uk/wp-content/uploads/185-STEM04-ambassadors-guide.pdf>

Although a reasonable number of respondents are aware of the MP futures map of sites for school visits, much fewer (just 2%) actively participate in any MP Futures initiatives (Figure 24).

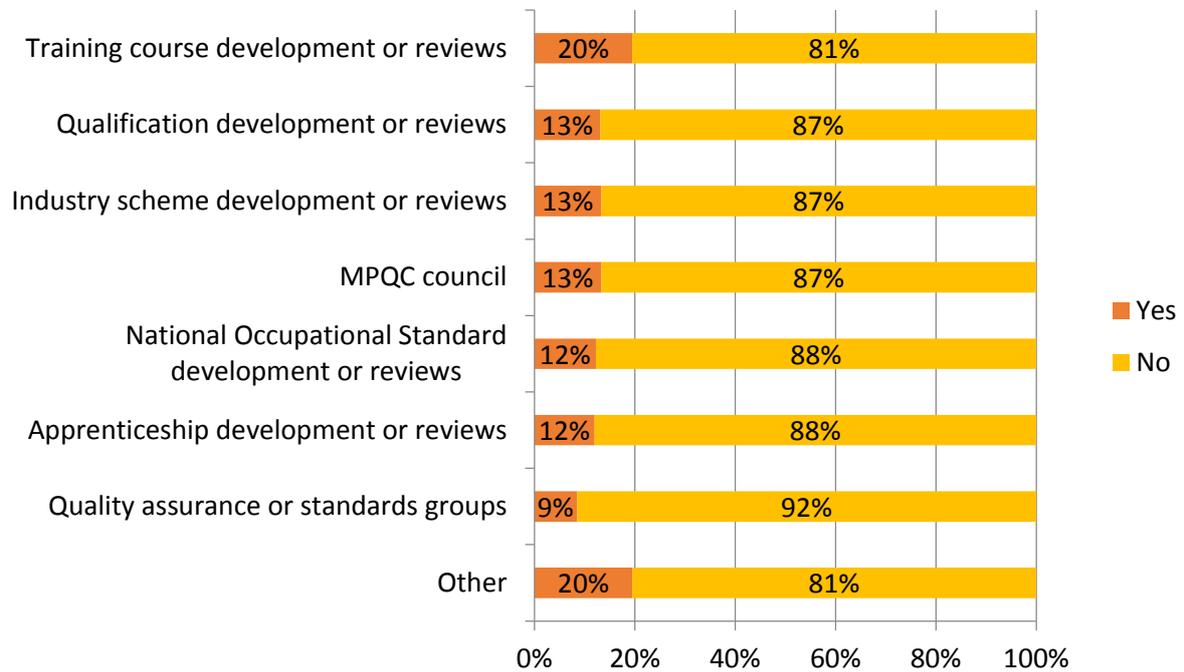
Figure 24: Participation in MP Future's initiatives



Base: 100 respondents

Involvement in other activities and working groups – not only those focused on young people – is more widespread. For example, a fifth of respondents participate in training course development or reviews, with a further 13% contributing to qualification development or reviews. Equal numbers (13%) are also involved in developing/reviewing industry schemes and, in the MPQC council (Figure 25).

Figure 25: Participation in MPQC activities/working groups



Base: 82-87 respondents

'Other' answers include 'Epic Training and VRU', the 'Ground control legislation review', and the 'MPQC Board'.

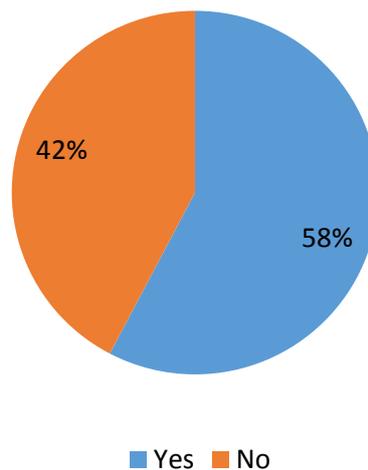
7. Apprenticeships

7.1 Current take-up of apprenticeships

This section of the survey asked different questions depending on whether respondents were based in England, Scotland or Wales to reflect the different apprenticeships and policy developments in each nation. Respondent bases for these questions are therefore lower than for the preceding Chapters of this report.

Although less than half (49%) of employers have recruited a young person in the last three years (Figure 18), well over half (58%) have employed an apprentice (Figure 26). This may suggest a decline in the take-up of apprenticeship in the sector, or that employers tend to take-on older, more mature apprentices.

Figure 26: Have you ever employed an apprentice?



Base: 99 respondents

Of those who have not previously employed an apprentice, most felt they were not appropriate for their company, mainly due to the company size and not having a requirement for additional staff. Concerns around age restrictions and insurance are also notable. Verbatim comments are listed below.

“Age is a problem for using machines”

“Always been able to recruit trained operators”

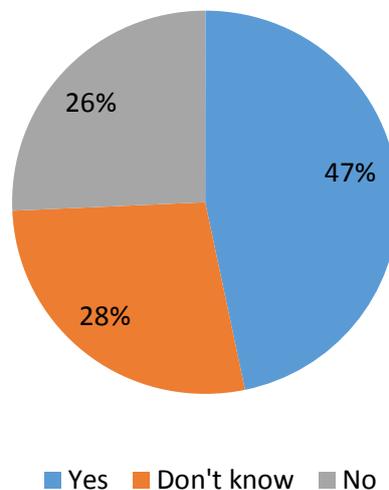
“Cannot get insurance to drive the vehicles”

“The company is too small with limited opportunity”

<i>"Do not have time or resources"</i>
<i>"Have no need for one"</i>
<i>"Haven't recruited in the last few years"</i>
<i>"Insurance issues"</i>
<i>"Lack of appropriate mentors; employee liability insurance restricts minimum age of plant operatives to over 21"</i>
<i>"Lack of knowledge as to how to"</i>
<i>"No requirement for formal trade qualification"</i>
<i>"Not considered it"</i>
<i>"Not something we have thought about but we have been investigating it recently"</i>
<i>"Not the type of operations to suit apprenticeship. Work is not really a trade for life"</i>
<i>"Our main issue is shortage of drivers, you either have a driving licence or you do not"</i>
<i>"Recruit from within our business"</i>
<i>"Site age limit is 18"</i>
<i>"Staff numbers very low, no vacancy"</i>
<i>"We only employ experienced personnel"</i>
<i>"Unsure as to how to go about this. Lack of specific training package"</i>
<i>"We operate very large machines where responsibility is paramount"</i>
<i>"With 2 full time employees, it is difficult to justify an apprenticeship"</i>

When considering future intentions, employers illustrate a fairly high degree of uncertainty with regard to employing an apprentice. For example, over a quarter are unsure as to whether they will do so in future, with just less than half suggesting it features in their plans (Figure 27).

Figure 27: Do you plan to employ an apprentice in the future?



Base: 100 respondents

Reasons for uncertainty are not clear, but they may be related to concerns highlighted above regarding company size, age restrictions and insurance. They may also in part reflect employer perceptions of the fitness-for-purpose of current sector-specific apprenticeships. For example, most employers with knowledge of apprenticeships rated their fitness-for-purpose at 5 out of 10 (on a scale of 1 to 10 where 1 is 'totally unfit' and 10 is 'perfect') (Table 4).

Table 4: Fitness-for-purpose of current sector-specific apprenticeships

Count	Sum	Mean	Median	Mode	Minimum	Maximum	Range
41	229	6	5	5	1	9	8

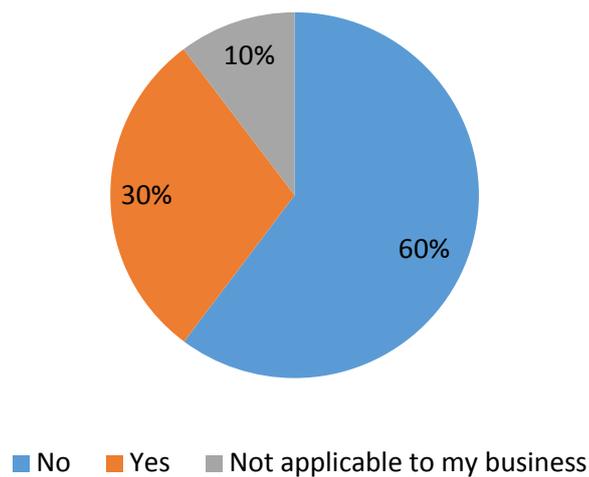
7.2 Trailblazer apprenticeships

Trailblazer standards were first introduced by the Government in early 2014 in response to recommendations of the Richard Review of Apprenticeships (2012).

Since 2014, over 2,000 large and small employers have come together in Trailblazer groups to develop new apprenticeship standards, replacing existing apprenticeship frameworks. Standards have been developed across the full range of industry sectors and occupations from Level 2 to 6.

Awareness of Trailblazer apprenticeship is low amongst employers however, just 30% having heard of them before taking part in the survey. A further 10% expressed little interest in them, deeming them not applicable to their business (Figure 28).

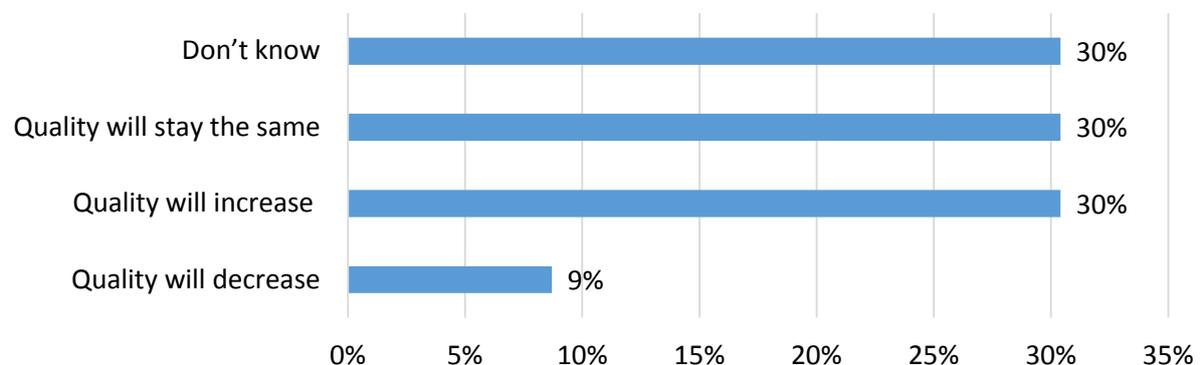
Figure 28: Are you aware of Trailblazers?



Base: 82 respondents

In terms of quality, employers are split on how this will be affected going forward. Of those employers aware of Trailblazers, equal numbers (30%) suggest quality will stay the same, it will increase, or state that they do not know. Only 9% feel that quality will decrease (Figure 29).

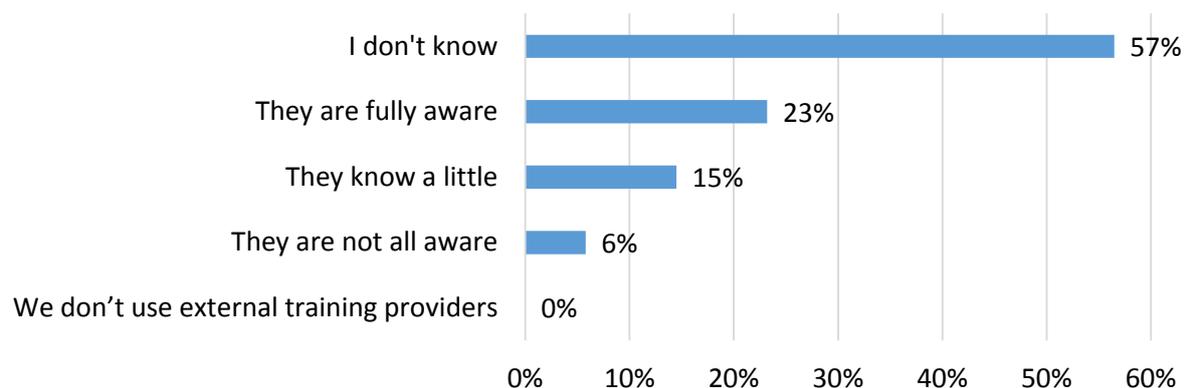
Figure 29: Perceptions of the future quality of apprenticeships



Base: 32 respondents

Employers also have little knowledge about training provider awareness of the new apprenticeships (57%), with 38% suggesting they are either fully aware or they are know a little (Figure 30).

Figure 30: How aware are training providers of the new apprenticeships?



Base: 69 respondents

When asked about government plans (in England) to change the way current apprenticeship frameworks are developed as part of Trailblazers – by no longer requiring them to include a vocational qualification but a simple standard and assessment plan instead – many employers were also unaware of this move (Figure 31).

Most of the other responses were negative, with equal numbers (a third) predicting the change will lead to confusion amongst employers and that it will lead to multiple standards in the UK. A further 30% of employers feel the decision would devalue apprenticeships.

Only very few respondents envision a positive impact, 9% suggesting a new standard will make it easier for the apprentice to demonstrate competence, and 7% predicting it will create flexibility (Figure 31).

Figure 31: Views on the removal of NOS, in favour of a standard and assessment plan

(Percentage total exceeds 100% as respondents could select more than one answer)



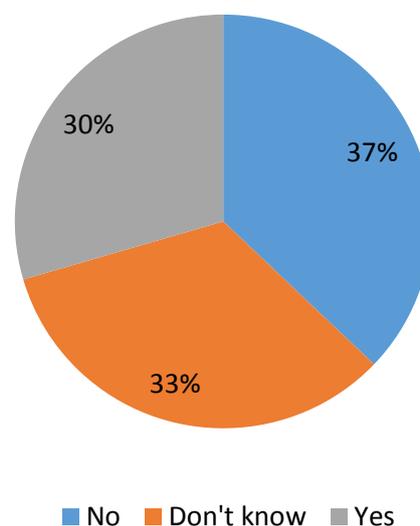
Base: 93 respondents

7.3 Apprenticeship levy

A new apprenticeship Levy is set to be introduced by the Government in spring 2017. The monies generated by the Levy will be used to fund apprenticeships in England, but not all employers will have to pay it. Only companies operating in the UK with a pay bill over £3 million each year will be required to contribute.

Survey respondents are widely split when it comes to whether or not they expect to pay the levy, with a third unsure. The majority (37%) do not expect to pay, which largely reflects the respondent profile, being composed predominantly of small companies (i.e. those with a wage bill below £3m) (Figure 32).

Figure 32: Businesses that expect to pay the apprenticeship levy

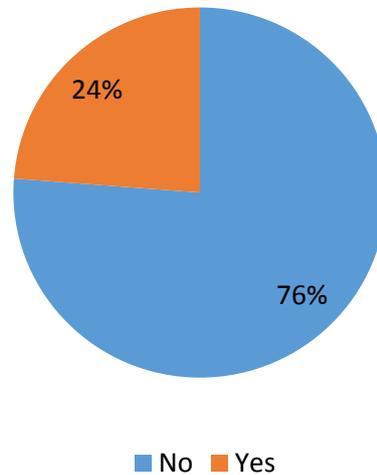


Base: 100 responses

The Government website states that employers “can benefit from this investment by training apprentices”¹³, however less than a quarter of respondents in England think the levy will encourage them to employ more apprentices in future (Figure 33).

¹³ Guidance, Apprenticeship levy: how it will work, available here: <https://www.gov.uk/government/publications/apprenticeship-levy-how-it-will-work/apprenticeship-levy-how-it-will-work>

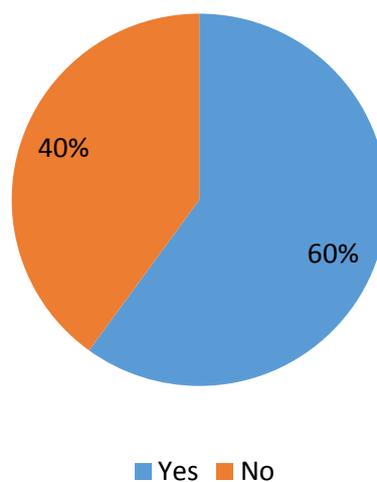
Figure 33: Businesses who believe that the apprenticeship levy will drive them to employ more apprentices in the future



Base: 65 respondents

Employers expecting to pay the levy were also asked whether they expect to utilise all of this money in training new apprentices. Respondents were more optimistic about the outlook in terms of benefitting from the levy, with 60% predicting they would see a return on their investment (Figure 34). *Note: this data should be treated with caution due to the low number of respondents.*

Figure 34: Businesses who believe that they will be able to utilise all the apprenticeship levy money paid in training new apprentices



Base: 15 respondents

8. Summary

A number of themes are apparent in the findings, illustrating a sector characterised by an aging workforce, but benefiting from low staff turnover. Respondents reveal challenges with recruiting to various roles, and identify skills needs in areas relating to technology and IT. Although employers have an appetite to recruit younger workers, many have not done so in recent years and experience barriers to recruiting workers from younger demographics, including apprentices.

8.1 An aging workforce and barriers to recruitment

The sector dominated by an aging workforce, with the majority (55%) of employees aged over 45 years - those aged 18 account for only 17% - and most (90%) are male.

Employers experience a number of barriers when recruiting young workers, including age restrictions for certain occupations, insurance requirements and health and safety considerations. Less than half (48%) have recruited a young person in the last three years.

The issue is compounded by a negative image of the sector: a lack of interest in sector jobs is perceived as the greatest barrier to recruitment and in filling hard-to-fill vacancies. Challenges are in attracting those with technical (linked to extractives, mining and related products), operational and engineering skills and those involved in driving (LGV drivers).

8.2 Future skills needs and training

New and emerging roles are related mainly to 'generic' occupations found across all sectors, including sales and management, perhaps suggesting predicted growth, as well as engineering and LGV drivers. Roles requiring or associated with IT skills are also predicted to emerge and become more important, such as those related to robotics and drones.

Generally, fairly high levels of existing skills are reported across the board with the lowest skill levels identified in areas related to new or emerging jobs, such as ICT skills. Employers also predict these skills needs will become more important in future.

Another predicted area of need is in 'supervision': 78% of employers requiring this skill now or in next 3 years, and over half of employers expect the skill to increase in importance.

The most urgent, current needs however relate to driving skills, particularly those for plant operators.

According to survey findings, upskilling for certain roles and competences is most likely to take place via in-house training if current trends continue: this being the most common form of training for all job roles with the exception of 'professional occupations'.

Of those who do use external providers, satisfaction is varied, with it being highest for local, private training providers. Responses suggest some potential issues with the quality of provision from large, national training providers.

Employers hold generally negative views about the future of apprenticeships, with most predicting a decline in standards and quality in England with the move from apprenticeship frameworks to apprenticeship standards.

8.3 Promoting the industry

Despite less than half of employers not having recruiting younger workers in the last three years, over three quarters would consider taking on a young person in the next three years. Employers are clearly open to the suggestion, however negative views of the sector held by potential new recruits may be preventing them from attracting appropriate individuals, together with legal and regulatory requirements.

Awareness of schemes and programmes for promoting careers in science, technology, engineering and maths (STEM) related occupations is low and very few employers are currently involved with careers-related initiatives, such as STEM ambassadors.

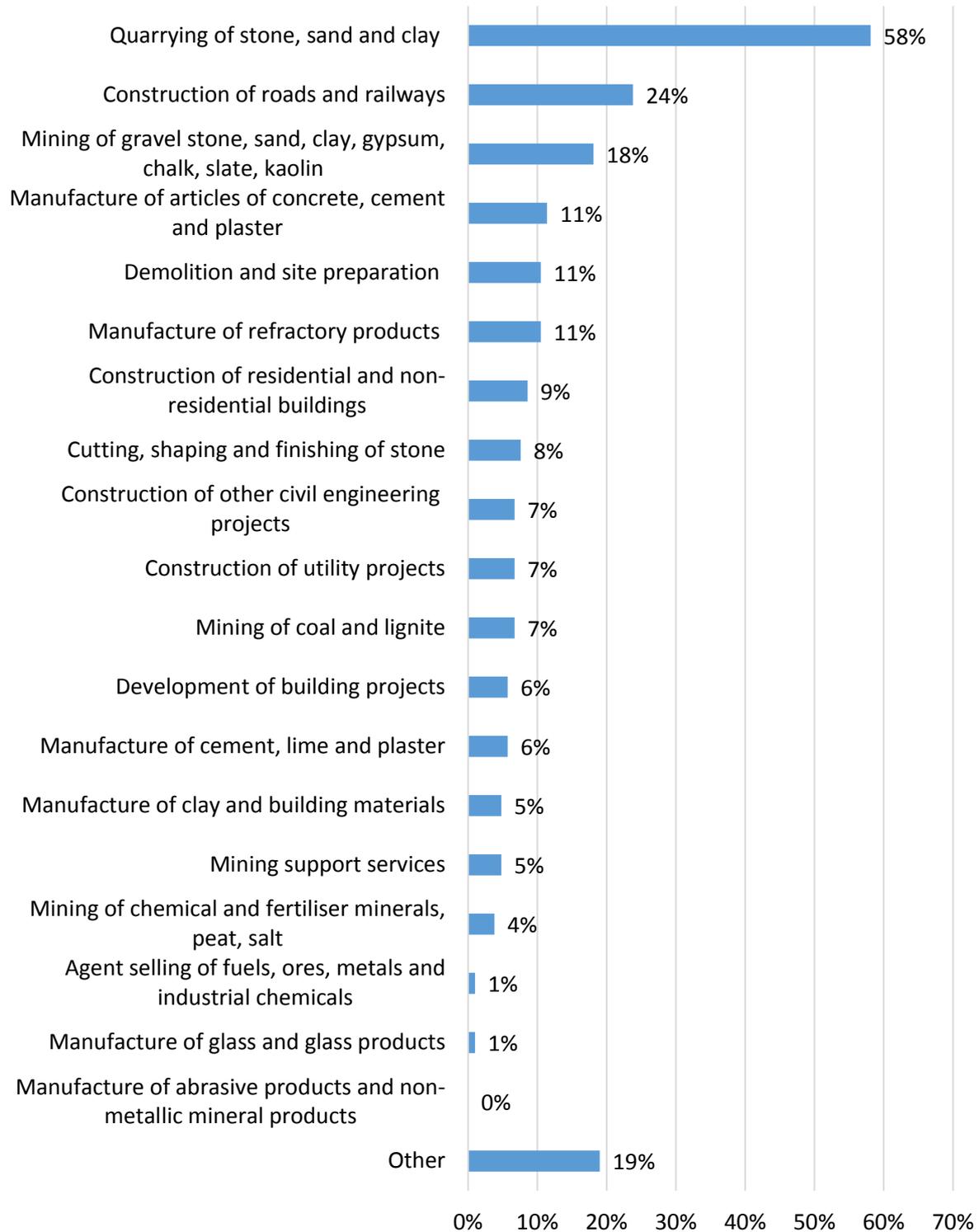
Employers suggest they are generally willing to become involved in promoting the industry to young people – through engaging with schools and colleges – however less than a quarter are currently doing so.

In terms of attracting young people to the sector, employers appear to have an appetite to improve the situation. Most are willing to offer work experience, with 77% suggesting they would be willing to engage with schools and colleges in this way.

Appendix: Respondent profile

Figure 35: Activity within sector categories

(Percentage total exceeds 100% as respondents could select more than one answer)



Base: 101 respondents

Twenty respondents provided additional details, having answered 'other'. Of this group, six they provide some sort of transportation or road maintenance service. Five respondents are engaged in some form of land development and/or restoration work. Included in the overall count were those who provide recycling and disposal services.

A small number were involved in other forms of product extraction or production, including gold, chalk, incinerator ash aggregate and dimensional stones

The remainder of respondents offered a range of services, from staff training to site logistics.

Figure 36: Largest share of business' activity

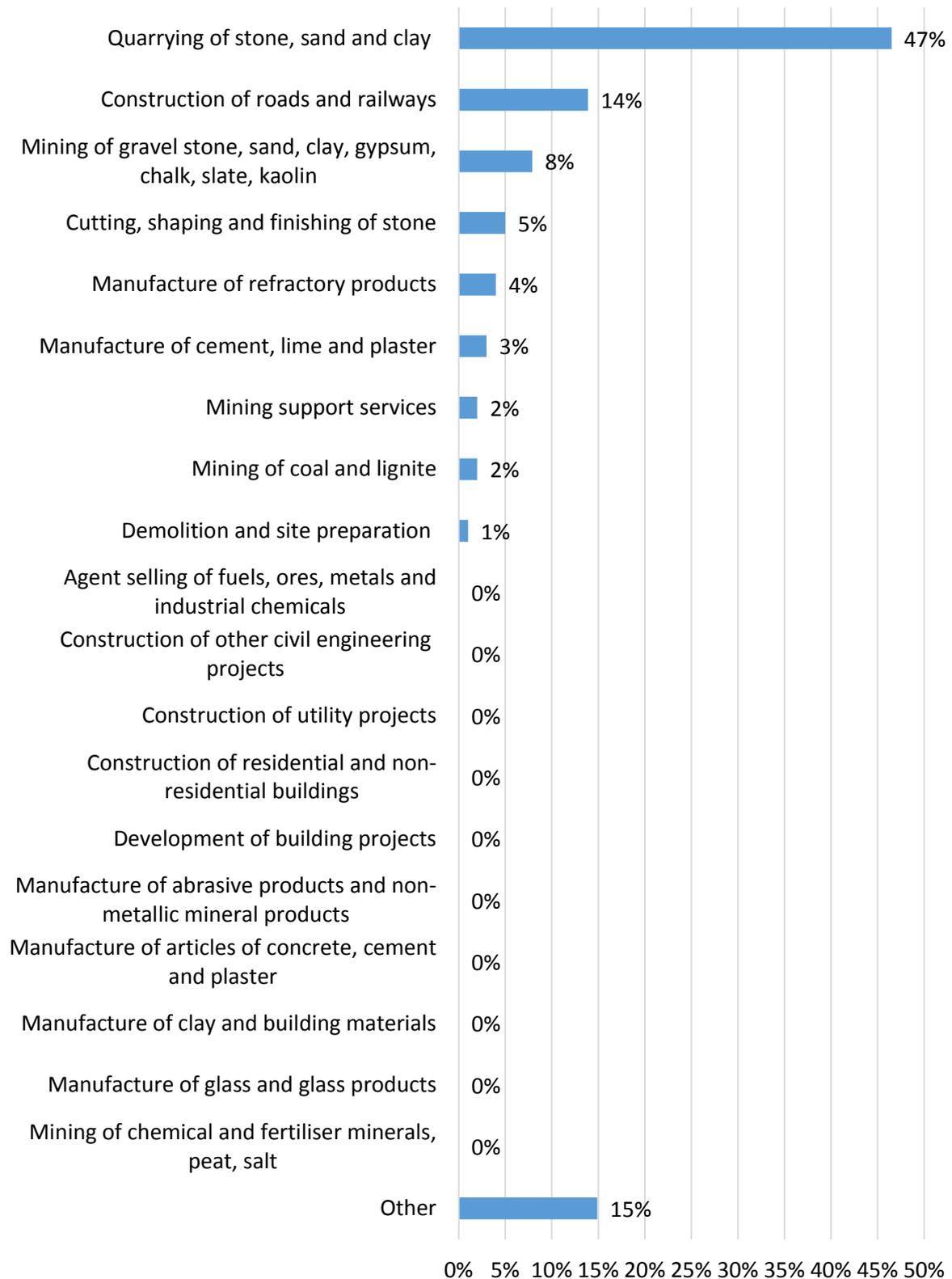


Figure 37: Where companies operate within the UK

(Percentage total exceeds 100% as respondents could select more than one answer)

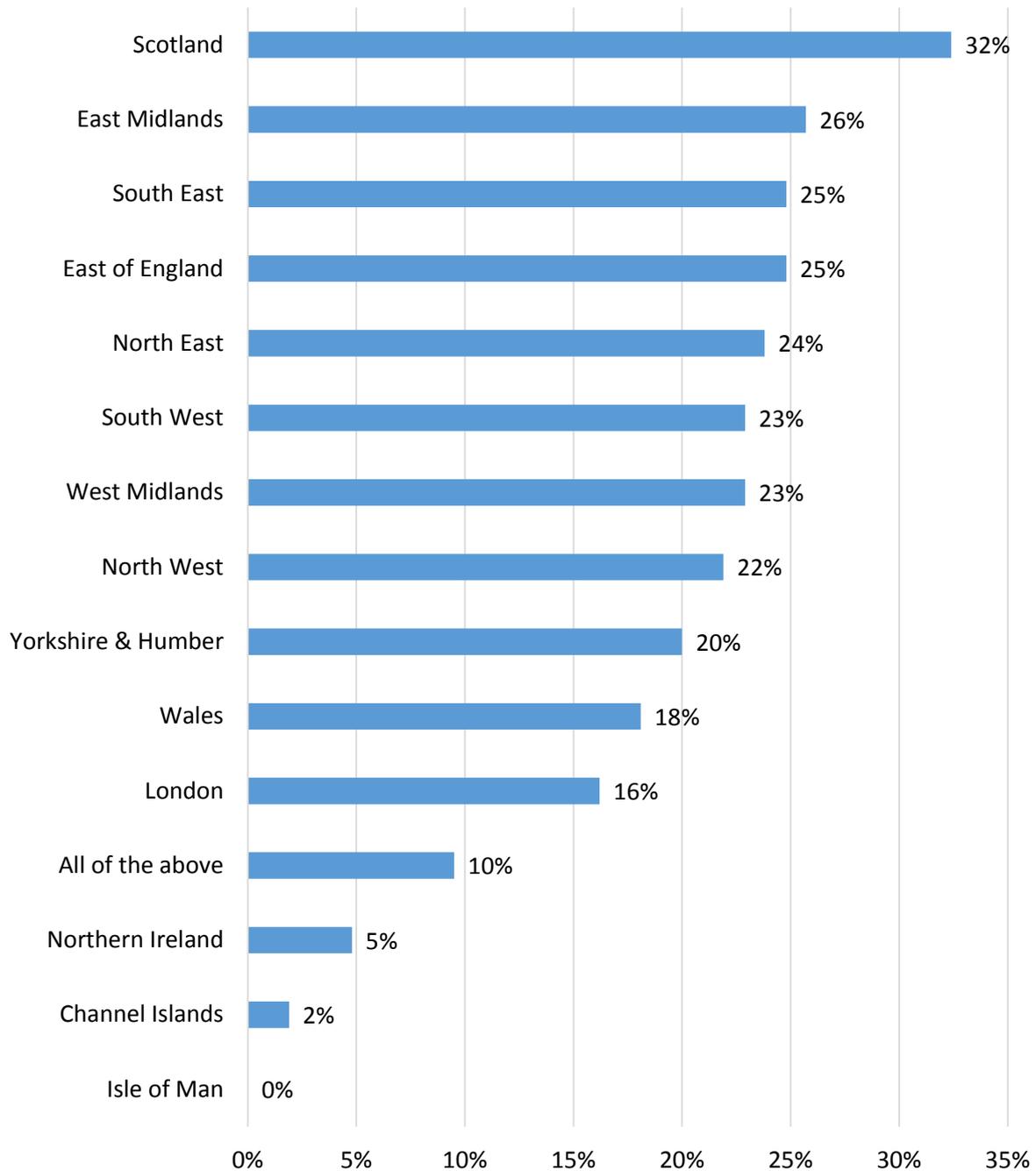


Table 5: Respondent job roles

Accountant
 Administrator
 Chief Executive Officer
 Commercial Director
 Commercial Manager
 Contracts Manager
 Director
 Executive Director
 Extractives Advisor
 Finance and Business Director
 General Manager
 Group Director
 Group HR Advisor
 Group HR Director
 Head of Talent & Development
 Health and Safety Co-ordinator
 Health and Safety Director
 Health and Safety Manager
 Health, Safety & Training Manager
 HR and Payroll Clerk
 HR Business Partner
 HR Manager
 HR Services
 HSEQ Manager
 Manager
 Managing Director
 Mine Manager & Director
 Mining Director
 National Pre-Qualifications Manager
 Office Manager
 Operations Director
 Owner
 Partner
 People Development
 Planning Development & Training Manager
 Quality Manager
 Quarry Manager
 Quarry Operations Manager
 Senior EHS&Q Manager
 Site Engineer
 Training and Competency Manager
 Training Manager