

Onsite Assessment: Capacity research and evaluation of the current model for delivery

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Research prepared by Pye Tait Consulting from a commission by CITB.

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Executive Summary

Introduction

Over the next five years from 2016-2020, total construction output is expected to grow by 2.5% with the highest growth expected in new infrastructure development (6%). The latest CITB/Experian Construction Skills Network (CSN) forecast over the same period anticipates an annual recruitment requirement across the industry of 46,420 individuals¹. While this reflects significant opportunities for growth, it also portends a potential skills crisis in these times of virtually full employment. In particular, the 2015 UKCES Employer Skills Survey showed that skills shortage vacancies in construction more than doubled since 2013, rising from 5,000 to 11,900².

Onsite Assessment (OSAT)³ is aimed at construction workers who have skills, experience and training but no formally recognised qualifications. It helps them achieve the qualifications they need to prove they can do the job effectively, safely, and efficiently. CITB, government agencies, awarding organisations, trade bodies, employers and providers/assessment centres are all involved in developing the OSAT system.

Changes taking place under the Construction Skills Certification Scheme (CSCS) make it all the more important that OSAT is successful. By April 2017 all new CSCS card applications, with the exception of trainees, apprentices and site visitors, will be required to hold an appropriate construction-related qualification.

Research aims and methodology

CITB commissioned Pye Tait Consulting to pursue six key aims:

1. Determining the current volume of onsite assessors available to construction;
2. Establishing whether the current supply of onsite assessors is adequate to meet current needs;
3. Quantifying future demand for onsite assessors by volume and subject;
4. Identifying the key drivers for career decisions amongst assessors;
5. Providing an assessment of the quality of onsite assessment practice, including its efficiency and effectiveness; and
6. Investigating whether there is an alternative model for onsite assessment, training

¹ CITB (2016) *Industry Insights Construction Skills Network Forecasts 2016-2020*

² UK Commission for Employment and Skills (2015) *Employer Skills Survey 2015: UK Results*

³ The term OSAT has historically been defined as 'Onsite Assessment and Training'. For the purpose of this research it has been defined as 'Onsite Assessment' since any aspect of training that goes alongside the assessment process is not in scope.



new assessors and/or upskilling current assessors.

The geographical scope of the work was Great Britain and the main methodology for the research comprised separate surveys of 750 construction employers; 306 centres delivering onsite assessment of construction qualifications; and 304 individual onsite assessors. These were supplemented by in-depth telephone interviews with employers, centres, trade bodies and Awarding Organisations.

Meeting industry demand for onsite assessment

What is the volume of onsite assessors available to construction?

Our modelling of the current market shows a lower-end estimate of at least 10,000+ assessors available to the construction industry. The occupational groups in which most assessors operate are as follows:

Occupational group	Est. total current assessors (GB)
Plant	1,074
Building & Civil Engineering	766
Cavity Wall Insulation, Draught Proofing or Loft Insulation	766
Joinery Manufacture	751
Joinery & Carpentry	728

How many additional assessors will be needed over the next three years?

The industry will need to increase the current total of assessors by at least 500 (plus around 3,300 replacement demand) over the next three years. Highest increases in terms of replacement demand alone (i.e. assessors leaving/retiring) will be needed in the following occupations:

Occupational group	Additional assessors needed (GB)
Plant	354
Building & Civil Engineering	253
Cavity Wall Insulation, Draught Proofing or Loft Insulation	253
Joinery Manufacture	248
Joinery & Carpentry	240

Is the current supply of onsite assessors adequate to meet current needs?

The evidence suggests that supply is not sufficient and modelling produces a probable current shortfall of at least 630 assessors. The picture is mixed across the occupational groups and the main report also discusses geographical issues in terms of the availability of assessors. The current shortfall of assessors appears to be highest with respect to the following occupational groups:



Occupational group	Shortfall of assessors (GB)
Plastering &/or Artexing	134
Bricklaying/Pointing	119
Insulated Rendering/Cladding	55
Wall & Floor Tiling	54
Building and civil engineering	46

Trends in demand (including sub-sectors)

There are mixed views from industry as to whether demand for onsite assessed construction qualifications is growing, static or declining. Growth predictions tend to be predicated strongly on the requirement for CSCS card holders to be qualified, an expansion in work opportunities as a result of new housing and infrastructure projects, and the perceived proliferation of 'claims' made against the industry, i.e. for poor work.

Future demand for onsite assessment is based on the need to "catch up" on the current shortfall in the numbers of assessors and the backlog of employees needing to be assessed, plus higher recruitment to meet growth in the sector and to replace retirees/leavers.

Once the existing backlogs and expansion for growth, etc., are met, the need for onsite assessment will be totally dependent on sector growth (or retrenchment) and replacement recruitment.

Shortages of assessors

Evidence from centres points to a current shortage of assessors which, in certain occupational groups, could be seen as critical.

Onsite assessors in steeple-jacking and lightning protection of buildings are reportedly dividing their time between onsite assessment and the Experienced Worker Practical Route (EWPA). This is leading to concerns that assessors who already work in industry may not be sufficiently independent. Some firms are reluctant to have an assessor on site who works for a competitor organisation.

Plant Operations covers a wide range of machinery and each requires an assessor with specialist knowledge and skills in that piece of equipment, e.g. excavators and dumpers. Meanwhile in roofing, a severe shortage of assessors has been flagged up in certain areas of the country, particularly Yorkshire. Some centres can only assess in a small number of disciplines/materials, such as slating and tiling, and this is inadequate to meet the needs of the wider roofing industry.

Problems finding assessors in niche areas also apply to damp and remedial treatment works, with a trade body commenting that *"there are only two assessors for water proofing and a*



handful in other areas – and they're already saying they're at capacity." Additionally, a trade body in utilities mentioned that their employers generally struggle to find assessors, particularly in power and gas, however help is available through an existing national register of assessors for the energy and utilities sector.

Capacity of centres

Evidence from centres supports the case that there is a shortage of assessors across significant parts of the industry. When questioned about their ability to respond to changes in demand the centres are generally (and probably predictably) confident. Should demand exceed supply, the majority (84%) say they would increase their number of assessors.

These findings should, however, be set against employers' reports of assessor shortages and the critical fact that – while a single centre may currently express confidence in being able to recruit new assessors – the entirety of centres will be competing against each other in what is appearing to be a very restricted pool of potential recruits.

Current approaches for delivering onsite assessment

The vast majority of surveyed centres (more than 90%) report using a variety of different approaches to onsite assessment. The most commonly used approach is direct observations and the least common (used by just under half) is inferring competence where evidence is not available.

More than half of surveyed assessors (58%) work full-time and the remainder part-time. On the whole, centres say they do not endorse individual assessors working across multiple occupational groups unless they have the proven experience and qualifications to match. Looking towards the future, the use of digital technologies such as video evidence and use of associated software such as Skype is becoming increasingly important as part of assessment practice.

Assessor qualifications and CPD

Individual assessors hold at least one qualification relevant to their role, with the most common being the A1 or A2 qualification, followed by the D32 or D33 awards. A wide range of CPD activities take place, with the vast majority of assessors (more than 90%) reporting that they attend standardisation meetings, read trade magazines/articles, and keep up to date with technological and process developments in industry. Just over 40% of assessors experience barriers in undertaking CPD, most commonly that they find it too time-consuming and too expensive.

Quality and effectiveness of onsite assessment

For employers, onsite assessment is valued for its convenience, flexibility and the speed with which qualifications can be achieved. Onsite (as opposed to offsite) assessment entails



minimal disruption or 'downtime' as learners are not taken away from their onsite role. In addition, several trade bodies emphasised that onsite assessment is the only way to replicate the real world of work, especially conditions which are difficult to reproduce in a classroom setting.

The most commonly mentioned barrier experienced by industry is being able to access the assessors they need, when and where they need them. This can lead to delays in learners completing their qualification and obtaining an industry card (examples were given of several months' delay). This is a particular concern in the roofing sub-sector. Other issues include assessors seeming to lack sufficient expertise in the occupational area they are assessing and logistical difficulties coordinating and scheduling onsite assessment, i.e. so that the learner will be available on site as planned, with access to the necessary tools/equipment.

Micro-firms (i.e. those with fewer than 10 staff) are currently the least knowledgeable about onsite assessment and there are lower incidences of participation among these organisations compared with small, medium and larger businesses, respectively. Similarly, the proportion of firms claiming a CITB grant following completion of onsite assessment increases by size of organisation. The main reasons given for not claiming the grant are that they haven't had time, have not looked into it, don't know what grants are available, and are unaware how to obtain grant funding.

On a scale from 1 'not at all effective' to 10 'highly effective', surveyed centres and individual assessors were asked to rate the effectiveness of specific approaches to onsite assessment. The feedback on this question falls into roughly three broad 'types' of approach:

- Best: direct observations, oral questioning and professional discussions;
- Good: product evidence via photography etc., written questions and answers, and recognising prior experience, etc; and
- Least effective: witness testimony and inferring competence.

There appears to be a lack of consistency in the nature and frequency of external verification of centres by awarding organisations (AO) and several centres mentioned the lack of fixed and clearly defined Standards.

CITB's Consolidated Assessment Strategy for the Built Environment (which provides principles and guidance for AOs) is generally viewed by AOs as fit for purpose. That said, there are calls for it to be updated and reviewed through a collaborative effort, including more detail on types of evidence that may be considered, as well as more guidance on which assessment approaches are most/least suitable for different types of learners.

A wide range of responses were given by centres when asked what specific skills and knowledge of individual onsite assessors they would prioritise for improvement. These issues (explored further in section 4.5) include:



- Knowing how to interpret the assessment criteria;
- Better record-keeping and administration skills;
- Making more effective use of multi-media equipment as part of the assessment process;
- Improving skills in report-writing;
- Keeping up to date with knowledge of National Occupational Standards;
- Keeping up to date with technological change in the industry, such as use of lasers on plant equipment blades; and
- Engaging and communicating effectively with learners.

Recruitment and retention of onsite assessors

On average, centres employ 50% of assessors directly and 50% indirectly, i.e. contractors or agency staff. Centres that employ assessors directly believe this helps to achieve better consistency, higher quality and improved standardisation. Centres that use contracted assessors find this approach is necessary to cope with volatility in demand and means staff are not being paid when there is insufficient regular work.

The main motivations for assessors entering the role include health and lifestyle reasons (e.g. additional income during retirement or when no longer able to perform physical work in construction); natural progression through an existing job (either in construction or in a teaching capacity) and wanting to “give something back” to the industry.

Some centres report facing challenges recruiting and retaining assessors, including applicants lacking suitable qualifications and/or relevant industry knowledge and experience. A widely reported concern is that many potential assessors earn more money in industry, which can make it difficult for centres to compete and attract the best talent into the role. Indeed 63 out of 306 surveyed centres (21%) have experienced losing one or more assessors back to industry over the past two years.

Future delivery of onsite assessment

Just under a quarter of surveyed employers believe that onsite assessment could be improved although a third felt unable to comment on assessment issues.

Of those employers who mentioned the perceived lack of availability of assessors, this was often supplemented with comments on the issue of distance (one claimed that an assessor needed to travel 150 miles to perform an assessment), or on the length of time waiting for an assessor appointment. The next most frequently cited improvement concerns the perceived lack of quality in the assessors themselves. A number of respondents also flagged up a need, as they see it, for greater rigour in the assessments, arguing that the use of tick-box documentation is not sufficient to assess real-world competence

The vast majority of centres (90%) do not feel that there is a realistic alternative to onsite



assessment, although some mentioned alternative approaches such as independent external assessment through AOs.

With respect to the impending introduction of Trailblazers neither the centres nor the assessors themselves appear to be confident of their levels of preparedness. Around 40% of centres say that they do not intend to provide end-point assessments and 30% say they are not prepared.

Future support needs

Several research participants pointed out that salaries and fees are a major factor in determining whether a person becomes an assessor. Some also argued that “CITB are not paying enough – so are driving down quality”. A good number of respondents called for more rigour in the selection and appointment of assessors

The majority of centres said that they were getting good levels of support from awarding organisations (many spoke highly of CSkills) but asked for more CPD provision and more direct contact on a more regular basis.

Conclusions

- 1. Shortages of onsite assessors affect many occupational areas, with the key result that assessors with the right skills are not ‘available’ when and where employers need them.**

A key issue is the ‘availability’ of assessors, defined in terms of long waiting times for learners to undergo assessment, leading to delays in qualifications and cards being obtained, as well as insufficient assessors in highly specialised or ‘niche’ areas. This applies particularly to the numerous discrete disciplines within roofing, as well as specific types of plant machinery and equipment.

- 2. Disparities exist between the perceptions of employers and centres as to the current availability of assessors**

Whilst industry has raised concerns (some serious) about being able to find sufficient and suitable assessors, the majority of centres are generally confident that they can respond easily to increased levels of demand by recruiting or contracting-in assessors as needed.

- 3. Onsite assessment practice is generally considered fit for purpose, although the perception is that it can lack rigour and clearly defined Standards**

The onsite assessment route is highly valued by industry and will be vital for continuing to support the industry going forward. Its main strengths are enabling learners to become qualified based on their performance in a real world environment, minimising down-time



given that they don't need to be released from site, and the overall convenience this brings to employers.

There are issues needing to be tackled on an industry-wide level concerning its rigour, particularly based on concerns from industry that assessors are not all working to a clearly defined and consistent set of Standards and that many are 'box-ticking' without genuine application of quality criteria.

4. Current assessors generally enjoy many aspects of the role, however an aging workforce and more attractive pay and opportunities in industry are causing recruitment and retention problems

Onsite assessors tend to enter the role in later in their careers, with just over half (58%) working full-time in the role and the remainder commonly holding parallel positions in industry, teaching or lecturing. The problem is that the assessor role and perceived benefits that go with it are weighted towards the older workforce, making it even more important to attract new assessors from the widest possible talent pool and to ensure the career opportunities are clear.

Upturns in construction performance mean that demand for qualifications and onsite assessment are going up, yet this is also when wages in the industry start to increase and there is the increased risk of losing those assessors back to the sector.

5. Employers' main concerns are that existing approaches to onsite assessment should be strengthened and more assessors made available, rather than the need for developing a new model

Less than a quarter of employers (23%) believe that onsite assessment could be improved, but a third felt that they didn't know. Micro-sized firms employers have more limited knowledge and experience of onsite assessment yet they make up the vast majority of employers. What employers need most is more information about the benefits, process and funding arrangements that go with onsite assessment.

Recommendations

More detailed information against each recommendation is provided in the main report.

1. Work with awarding organisations to develop clearer Standards and assessment criteria, in simpler language and with less repetition.
2. Review and update the Consolidated Assessment Strategy so that the requirements are clearer and more prescriptive.
3. Build up a national register of assessors, fully searchable by occupational specialism, location, centre and (potentially) individual named assessors.



4. Draw on the national register and work with existing partners to encourage a more joined up network of assessors available to the industry as a whole. This should include those currently working as full time assessors and those based in industry who may be available to the sector when needed (but bearing in mind methods of avoiding conflicts of interest and the need to ensure commercial confidentiality).
5. Optimise the recruitment and use of industry-employed part-time assessors by developing a standard non-disclosure agreement and code of practice.
6. Review existing CITB grant arrangements and consider providing more funding to help the industry meet the costs of onsite assessment.
7. Look at providing some form of financial incentive to encourage more occupationally competent people in the sector to undertake an onsite assessor qualification.
8. Consider supporting cross-skilling of assessors to boost the capacity of the existing assessor pool – focused specifically in occupational areas that are closely matched and where there are particular shortages.
9. Investigate the use of innovative approaches designed to improve the efficiency of onsite assessment
10. Look at offering and/or funding dedicated CPD workshops which might help to consolidate learning and assist those who have said they prefer face-to-face rather than online approaches.
11. Develop better careers guidance materials relating to the role of onsite assessor and promote the benefits of an assessment career more widely.
12. Provide more and better information tailored to micro-businesses – in particular the grants that can be obtained (how much, when and how), along with an idea of the typical costs associated with onsite assessment, what to check for when seeking out a centre/assessor, and who to contact for further support.
13. Work closely with awarding organisations (as part of the existing Built Environment Awarding Body Forum or a new group) to understand more about current approaches to external verification of centres and good models and best practices that could be more widely adopted.



1. Introduction

1.1 Rising to the skills challenge

Construction is a volatile and hyper-cyclical sector. For a number of mainly macro-economic reasons it responds very quickly to periods of recession and recovery – often described as ‘first in’ and ‘first out’. The first half of 2016 has exemplified these characteristics, as external political and economic factors have created volatility in output, with periods of contraction, growth, then further contraction in new housing and infrastructure⁴. In 2016 the major factors underlying this volatility have been quantitative easing and public sector budget cuts combined with the vote to leave the EU.

Relatively short-term fluctuations such as these can potentially affect employers’ demand for skills, and their willingness and ability to invest in training and development.

Over the next five years from 2016-2020, total construction output is expected to grow by 2.5% per year with the highest annual average growth expected in new infrastructure development (6%), driven by large scale projects such as the Thames Tideway, Hinkley Point, Wylfa, and HS2. Public non-housing work is expected to grow in output terms by 2.8% per year through sizeable projects in the pipeline at several universities, including Bath, Cambridge, Northampton, University College London, and UMIST. While new public housing work is expected to contract, modest annual average output growth of 1.9% is expected in the private housing sector. The Government’s announcement of a target of 400,000 new affordable homes to be built between 2015 and 2020 represents an important stimulus in this area⁵.

The latest CITB/Experian Construction Skills Network (CSN) forecast for 2016-2020 anticipates an annual recruitment requirement across the industry of 46,420 individuals⁶. While this reflects significant opportunities for growth, it also portends a potential skills crisis in these times of virtually full employment. The 2015 UKCES Employer Skills Survey showed that skills shortage vacancies in construction more than doubled since 2013, rising from 5,000 to 11,900⁷. The Q3 2015 Construction Trade Survey report pointed out that, while increased hiring by construction firms sends a signal that growth is expected to accelerate, difficulties in recruiting skilled labour persist, with 63% of large contractors struggling to recruit bricklayers, along with difficulties finding skilled carpenters, and plasterers⁸. As a consequence, if the sector fails to overcome current skills shortages it risks not being able to meet demand and achieve output expectations.

The skill issue is at the centre of concerns in most economic sectors at present but it is

⁴ Office for National Statistics (2016) *Construction output in Great Britain – Mar 2016*

⁵ CITB (2016) *Industry Insights Construction Skills Network Forecasts 2016-2020*

⁶ CITB (2016) *Industry Insights Construction Skills Network Forecasts 2016-2020*

⁷ UK Commission for Employment and Skills (2015) *Employer Skills Survey 2015: UK Results*

⁸ Construction Products Association (2015) *Construction Trade Survey*



exacerbated in construction due to the twin problems of generally low public perceptions (underpinning its low status among potential job-seekers) and the reality of a significantly-increased technology-content in almost all occupations in the industry. CITB and employers in general are battling to show potential recruits the massively different career opportunities in what is effectively a very different industry to that of even a decade ago.

There are virtually no 'unskilled' jobs in modern construction but there are many operatives and even managers whose undoubted skills are not evidenced through recognised qualifications; hence the intense focus in recent years on ensuring that skills are recognised through qualifications and cards throughout the sector.

For mainly health and safety reasons, approved cards have been required for many years in order for an employee to be permitted access to large construction sites. In recent years, the 'card system' has been completely reviewed and strengthened to include a mandatory qualification element.

The Construction Skills Certification Scheme (CSCS) mandates that the workforce must be suitably qualified in order to be granted the appropriate CSCS card. (Further details about the CSCS system are provided in section 1.3). Employers, too, are increasingly required to demonstrate proof of the competence of their workforces as part of public sector procurement requirements and there is an increased recognition, especially among large organisations, of the need to commit to investing in training for their workforce. Onsite assessment processes have been developed in the industry to increase the opportunities for qualifications to be gained in recognition of nationally-recognised standards of performance. The approach also reduces costs of training and qualifying employees across an extremely large industry.

Other drivers of demand for qualifications involving onsite assessment include health and safety legislation (particularly when working at height in occupations such as scaffolding and roofing) and technological change, resulting in more complex equipment, techniques, design requirements and greater precision in build tolerances.

Multi-skilling is also expected to increase qualifications demand. Previous research by UKCES has identified how 'Modern Methods of Construction (MMC)', including offsite manufacture and subsequent onsite assembly of construction components, are key contributors to a more multi-skilled workforce. For these types of projects, a more holistic appreciation is needed of how materials and processes interact, such as to ensure air tightness and energy efficiency for the whole building system⁹. Whilst MMC and offsite construction was not particular focus of this research, anecdotal evidence suggests that there may be demand in the future for qualifications and onsite assessment in this area.

CITB has a remit to support the construction sector in developing and retaining the skills and knowledge necessary to respond to and capitalise upon opportunities for industry growth. Its

⁹ UKCES (2013) *Technology and skills in the UK construction industry*



strategic priorities for 2015-2017 focus on a) creating the right environment for the sector by understanding future change and what it means for businesses; b) supporting the industry to access the products and services it needs; and c) providing appropriate financial support, primarily using the industry Levy. At the core of its drive to upskill and qualify its sector CITB is working to enhance and improve both the scope and efficiency of the onsite assessment system.

1.2 Onsite assessment – an overview

Onsite Assessment (OSAT)¹⁰ is targeted at construction workers who have skills, experience and training but no formally recognised qualifications. It helps them achieve the qualifications they need to prove they can do the job effectively, safely, and efficiently. OSAT is the route for unqualified, but skilled and competent, construction workers to turn their existing skills and experience, or their recent training, into a nationally recognised qualification such as an NVQ or the Scottish equivalent qualification SVQ¹¹.

CITB, government agencies, awarding organisations, trade bodies, employers and providers/assessment centres are all involved in developing the OSAT system. The main intended benefits of OSAT are that:

- Employees of all ages and abilities can be trained for a nationally-recognised qualification;
- Employers benefit from productive work while training and assessment is in progress and increased productivity once completed;
- Existing skills, tasks and relevant, up-to-date training with successful assessment to measure competence – are used as evidence for qualifications;
- Workers are able to protect themselves, their fellow workers and the public in terms of health and safety; and,
- The qualifications base of the workforce is enhanced and the approach ensures construction employers meet their qualification and quality targets¹².

Clearly, therefore, any shortage of onsite assessors would be detrimental to the industry's ability to demonstrate the quality of the workforce through qualifications, at a time when the sector is trying to attract new entrants and upskill the existing workforce. There is also the added dimension that OSAT is particularly important for small and micro firms seeking to

¹⁰ The term OSAT has historically been defined as 'Onsite Assessment and Training'. For the purpose of this research it has been defined as 'Onsite Assessment' since any aspect of training that goes alongside the assessment process is not in scope.

¹¹ An alternative to OSAT is the Experienced Worker Practical Assessment (EWPA) route which is characterised by being delivered in an offsite environment.

¹² Source: UCATT – the trade union for workers in the construction industry.



qualify their workforce, particularly as a convenient means of not having to release workers to an external assessment centre. Any shortage of onsite assessors could therefore be disproportionately detrimental to these smaller companies.

However, industry growth and anecdotal concerns about the quality of onsite assessment activity and the extent to which assessors are equipped to meet the requirements of new apprenticeship Trailblazers¹³ (expected to come on stream over the next few years) have prompted CITB to conduct a thorough review of the OSAT process.

1.3 Changes to the Construction Skills Certification Scheme

Changes taking place under the Construction Skills Certification Scheme (CSCS) make it all the more important that OSAT is successful. The key objective of CSCS cards is to provide evidence that individuals working on construction sites have the required qualifications for the type of work they carry out. By April 2017 all new CSCS card applications, with the exception of trainees, apprentices and site visitors, will be required to hold an appropriate construction-related qualification.

The key changes are:

- The Construction Leadership Council (CLC) has taken the decision that the industry should only accept cards carrying the CSCS logo and that these cards should only be issued to individuals who hold the correct qualification for their occupation;
- The Construction Related Occupations (CRO) card is being phased out and will no longer be issued after 31st March 2017. CRO cardholders will need to register for a construction-related qualification prior to the expiry of their card in order to obtain the appropriate CSCS card. Those who do not register for a construction-related qualification by 30th September 2017 will be unable to obtain a CSCS card;
- As of 31st March 2016, CSCS has closed the Profiled Route for obtaining a manager's card (i.e. for managers with experience but no formal qualifications). Individuals can still apply for a Construction Site Manager card but will be required to complete the relevant construction management level qualification.

The Experienced Worker card will continue to be available to experienced workers with at least one year of on-the-job experience in the last three. However, the card is only valid for one year and cannot be renewed. It is issued on a temporary basis while a relevant construction qualification is being achieved and is expected to be replaced by a skilled five year card on achievement of a construction-related N/SVQ at Level 2 or higher.

¹³ New apprenticeship Standards, called Trailblazers, are being developed by groups of employers in certain areas of construction. These intend to give employers confidence that their apprentices can develop the skills needed to make a meaningful contribution to their company. Apprentices will complete a rigorous end-point assessment (EPA) which tests occupational competence and academic learning.



1.2 Research aims and summary of methodology

Against the background of the increasing importance of OSAT processes to the sector and the anecdotal evidence of restrictions in the supply, and possibly the quality, of assessors, CITB commissioned Pye Tait Consulting to pursue six key aims:

1. Determining the current volume of onsite assessors available to construction;
2. Establishing whether the current supply of onsite assessors is adequate to meet current needs;
3. Quantifying future demand for onsite assessors by volume and subject;
4. Identifying the key drivers for career decisions amongst assessors;
5. Providing an assessment of the quality of onsite assessment practice, including its efficiency and effectiveness; and
6. Investigating whether there is an alternative model for onsite assessment, training new assessors and/or upskilling current assessors.

The research set out to quantify demand and supply for onsite assessment (OSAT) across 81 different occupational groups defined by CITB. (See Appendix 1 for detail on selection and sampling strategy for the employer survey).

The geographical scope of the work was Great Britain and the main methodology for the research comprised:

- A detailed telephone survey of 750 construction employers¹⁴;
- A telephone survey of 306 centres delivering onsite assessment of construction qualifications¹⁵;
- A combined telephone/online survey of 304 individual onsite assessors¹⁶; and,
- In-depth telephone interviews with 10 employers, 38 centres, 11 trade bodies and 8 Awarding Organisations (including two external verifiers).

¹⁴ The target for the employer survey was 730 responses.

¹⁵ The target for the survey of centres was 300 responses.

¹⁶ The target for the survey of assessors was 300 responses.



2. Meeting industry demand for onsite assessment

2.1 Quantifying demand and supply

In total, 2.6 million people work in the construction sector in Great Britain¹⁷ in 149,390 firms¹⁸. The Construction Skills Network (CSN) forecast defines the sector as using 28 occupational categories and forecasts average annualised employment growth at 1.1% up to 2020.

The remainder of this chapter provides current and future employment numbers as well as the current and anticipated future numbers of onsite assessors required by the industry over the next three years.

The information provided is at a much more granular level than the CSN, using a total of 81 occupational groups, defined by CITB based on main activity classifications of firms within its Levy Register.

As many of the occupational groups do not align with official sector/occupational classifications such as SIC and SOC¹⁹ codes, workforce calculations have been difficult. However, data have been acquired based on official sources and through, the Levy Register, and other routes – for example, trade bodies and other CITB research, The results are provided in Tables 1 to 3.

Assessor requirement

Across all 81 occupational groups in scope of this research, total GB employment stands at just over 1.76 million people²⁰. Employment in these groups is forecast to grow by approximately 4.5% over the next three years (just over 78,700 people) to reach 1.84 million.

The top five occupations within scope, by total current employment are:

- Building repair and maintenance;
- Joinery and carpentry;
- Painting and decorating;
- Plant;
- Building and civil engineering.

¹⁷ CITB (2016) Industry Insights Construction Skills Network Forecasts 2016-2020

¹⁸ BIS (2015) *Business Population Estimates for the UK and Regions*

¹⁹ Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes are taxonomies used in many official datasets to define industry sectors and occupations in the UK.

²⁰ The difference between the figure of 2.6 million total employment (CSN) and 1.76 million total employment in the occupational groups within scope of this research, may be explained by the exclusion of certain occupations from this research, including: non-construction professionals, technical, IT, and other office-based staff, plumbing and HVAC trades, electrical trades, architects and surveyors.



Tables 2 and 3 show current and forecast future employment for all 81 occupational groups in Great Britain. For most occupations (Table 1 only) it has also been possible to estimate the current and estimated future volume of assessors.

The top 20 occupations based on total additional assessors needed over the next three years (to cover losses and retirement) are listed in Table 1, below.

Table 1 Total assessors needed (next three years) to cover losses/retirement (top 20 occupations)

Occupational group	Add. assessors needed to cover loss/retirement
Plant	354
Building & Civil Engineering	253
Cavity Wall Insulation, Draught Proofing or Loft Insulation	253*
Joinery Manufacture	248
Joinery & Carpentry	240
Bricklaying/Pointing	167
Insulated Rendering/Cladding	161*
Building Repair & Maintenance	148
Painting & Decorating	136
Curtain Walling/Structural Glazing	124*
Plastering &/or Artexing	115
Wall & Floor Tiling	87
Roof Sheeting & Cladding	78
Facade Preservation	74*
Dry Lining	70
Dry Lining or Partition	60
Term Maintenance - Roads	59*
Road Surface Treatments	59*
Scaffolding	58
Floor Covering	56*

* Data for occupational groups marked with an asterisk are based on five or fewer surveyed firms.



Table 2 Demand and supply for onsite assessment (by occupational group)	PART 1: Current and future employment						PART 2: Current and future assessors						Notes
	1	2	3	4	5	6	7	8	9	10	11	12	
	No. of surveyed firms	Avg. staff per surveyed firm	No. of GB firms	Est. GB staff current	Annual avg. growth rate	Est. GB staff (next 3 yrs)	Centres (England only)	Est. total assessors (England only)	Est. total assessors (GB - current)	Est total assessors (GB next 3 yrs due to growth)	Add. assessors needed next 3 yrs due to growth	Add. assessors needed next 3 yrs to cover loss/retirement	
Access Equipment	1	5	2	12	6.4%	15	22	66	76	91	15	25	
Asbestos Removal	5	5	186	968	2.0%	1,028	12	12	14	15	1	5	
Bricklaying/Pointing	16	3	2,469	71,950	3.4%	79,641	205	441	507	561	54	167	See Note 1
Building & Civil Engineering	67	110	19,436	77,760	1.1%	80,357	162	666	766	791	25	253	See Note 1
Building Repair & Maintenance	45	46	7,283	389,621	1.4%	405,671	119	391	450	469	19	148	
Cavity Wall Insulation, Draught Proofing or Loft Insulation	5	5	8,405	537	2.0%	569	74	666	766	813	47	253	
Concrete Flooring	5	10	62	596	1.3%	619	30	30	35	36	1	11	
Concrete Repair	5	51	30	1,519	2.9%	1,655	30	105	121	132	11	40	
Conservatories	1	9	35	313	0.0%	313	3	6	7	7	0	2	
Curtain Walling/Structural Glazing	5	19	114	2,169	0.3%	2,191	82	328	377	381	4	124	
Demolition	10	17	878	14,583	2.7%	15,782	17	89	102	111	9	34	
Diamond Drilling & Sawing	5	7	305	2,198	3.2%	2,416	16	128	147	162	15	49	
Directional Drilling	1	3	17	52	0.0%	52	1	4	5	5	0	2	
Dry Lining	13	7	333	2,302	4.3%	2,613	79	184	212	240	28	70	
Dry Lining or Partition	8	6	918	5,624	2.2%	5,996	79	158	182	194	12	60	
Facade Preservation	1	5	10	50	0.0%	50	28	196	225	225	0	74	
Flat Glass-Glazing/Emergency Boarding Up	5	13	2,345	30,500	0.8%	31,241	70	105	121	124	3	40	See Note 1
Floor Covering	3	4	6,320	26,830	0.0%	26,830	37	148	170	170	0	56	See Note 1
Hard Metal Roofing	1	5	41	205	4.2%	232	69	69	79	90	11	26	See Note 3



Table 2 (continued)	PART 1: Current and future employment						PART 2: Current and future assessors						Notes
	1	2	3	4	5	6	7	8	9	10	11	12	
	No. of surveyed firms	Avg. staff per surveyed firm	No. of GB firms	Est. GB staff current	Annual avg. growth rate	Est. GB staff (next 3 yrs)	Centres (England only)	Est. total assessors (England only)	Est. total assessors (GB - current)	Est total assessors (GB in 3 yrs)	Add. assessors needed next 3 yrs due to growth	Add. assessors needed allowing for loss/retirement	
Insulated Rendering/Cladding	5	18	134	2,385	3.0%	2,609	85	425	489	534	45	161	
Interior Fit-Out	10	7	1,146	7,567	0.7%	7,733	41	82	94	96	2	31	
Joinery & Carpentry	51	13	20,281	273,300	2.8%	296,578	241	633	728	791	63	240	See Note 1
Joinery Manufacture	25	7	3,851	28,654	1.1%	29,572	241	653	751	776	25	248	
Land Drilling	5	20	57	1,164	-0.2%	1,156	5	13	15	15	0	5	
Lead Roofing	5	3	65	181	1.1%	187	1	2	2	2	0	1	
Netting & Rigging	5	8	60	488	0.8%	500	22	22	25	26	1	8	
Painting & Decorating	45	11	10,367	114,050	1.3%	118,644	186	359	413	429	16	136	See Note 1
Passive Fire Protection	5	6	132	737	1.9%	779	12	12	14	15	1	5	
Piling	5	10	122	1,265	2.7%	1,370	16	77	89	96	7	29	
Plant	30	22	N/A	83,920	0.3%	84,638	170	934	1,074	1,084	10	354	See Note 2
Plastering &/or Artexing	35	12	3,959	49,250	0.8%	50,424	173	302	347	356	9	115	See Note 1
Preparing/Fixing Stone for Building, including Stonemasonry	8	5	826	4,132	-0.4%	4,080	28	56	64	64	0	21	
Road Planing	1	70	17	1,216	3.1%	1,333	78	130	150	164	14	49	
Road Safety Marking	8	12	72	864	1.1%	891	78	117	135	139	4	44	
Road Surface Treatments	5	25	102	2,523	1.3%	2,620	78	156	179	186	7	59	
Roof Sheeting & Cladding	15	5	336	1,680	0.7%	1,714	36	72	83	85	2	27	See Note 3
Roofing inc Slate & Tile	40	7	6,825	45,970	1.0%	47,303	67	127	146	150	4	48	See Note 1
Scaffolding	27	5	5,400	24,220	0.7%	24,757	36	84	97	99	2	32	See Note 1



Table 2 (continued)	PART 1: Current and future employment						PART 2: Current and future assessors						Notes
	1	2	3	4	5	6	7	8	9	10	11	12	
	No. of surveyed firms	Avg. staff per surveyed firm	No. of GB firms	Est. GB staff current	Annual avg. growth rate	Est. GB staff (next 3 yrs)	Centres (England only)	Est. total assessors (England only)	Est. total assessors (GB - current)	Est total assessors (GB next 3 yrs)	Add. assessors needed next 3 yrs due to growth	Add. assessors needed allowing for loss/retirement	
Site Preparation or Groundworks	15	18	2,774	49,939	1.0%	51,445	4	14	16	17	1	5	
Steeplejack or Lightning Conductor Engineering	6	26	196	4,999	1.0%	5,148	22	22	25	26	1	8	
Term Maintenance - Buildings	1	22	17	382	0.7%	391	41	41	47	48	1	16	
Term Maintenance - Roads	2	680	84	57,374	0.6%	58,402	78	156	179	183	4	59	
Tunnelling	5	18	7	134	1.1%	138	7	98	113	116	4	37	
Underpinning	1	7	22	156	0.0%	156	3	6	7	7	0	2	
Wall & Floor Tiling	8	3	1,241	3,412	4.1%	3,852	88	229	263	297	34	87	
Window Film Application	1	5	27	136	2.9%	149	70	140	161	175	14	53	
TOTALS	750	14	124K	1.76m	4.5%	1.84m	3,101	8,808	10,129	10,642	513	3,343	

Note 1: For these occupations, the figure for total GB firms was sourced from ONS (2015 Construction Tables). Total employment was sourced from the CITB/Experian 2016-2020 Construction Skills Network (CSN) Forecast

Note 2: For Plant, the figure for total GB firms was calculated from the survey. Total employment was sourced from the CITB/Experian 2016-2020 Construction Skills Network (CSN) Forecast

Note 3: For these specialist roofing occupations, the figures for total GB firms were obtained from the National Federation of Roofing Contractors. Total employment was sourced from the survey.

Additional explanations: Column 11 shows the total number of additional assessors that will be needed over the next three years to meet employment growth. This is the difference between total current assessors (column 9) and the estimated total future assessors (column 10). Column 12 presents a more realistic estimate of the total number of assessors needed over the next three years, to cover losses and retirement. This is based on a 10% increase per annum on total current assessors (column 9), compounded to 33% over three years.

Tables 1 and 2 should be read in conjunction with Appendix 1 which explains some of the modelling approaches.



Table 3 Demand for onsite assessment (non-matching occupations)	PART 1: Demand for onsite assessment						PART 2: Explanatory notes concerning supply
	No. of surveyed firms	Avg. staff per surveyed firm	No. of GB firms	Est. GB staff current	Annual avg. growth rate	Est. GB staff (next 3 yrs)	
Access Flooring	1	2	40	79	10.9%	108	No suitable proxy & survey of centres did not identify coverage in this specific area
Alteration to a Building/Part of a Building	10	16	1,571	24,662	3.4%	27,253	Cross cutting and relevant to various trades
Architectural Steelwork Installation	5	3	166	565	0.9%	581	No suitable proxy & survey of centres did not identify coverage in this specific area
Artexing	2	3	2	7	1.3%	8	See Plastering &/or Artexing
Asphalt & Tar-Spraying	7	9	799	7,306	0.9%	7,497	See Road Surface Treatments
Construction Labour Agencies	5	77	355	27,254	1.1%	28,164	No suitable proxy & survey of centres did not identify coverage in this specific area
Damp Proofing	5	7	377	2,791	0.9%	2,864	See Cavity Wall Insulation + Draught Proofing or Loft Insulation + Insulated Enclosures + Insulated Rendering/Cladding
Developers	15	42	2,042	86,322	0.7%	88,034	No suitable proxy & survey of centres did not identify coverage in this specific area
Erecting/Dismantling Exhibition Stands	1	4	50	199	0.9%	204	See Interior Fit-out
Felt Roofing	5	8	417	3,419	2.7%	3,703	No suitable proxy & survey of centres did not identify coverage in this specific area
Fibrous Plastering	1	4	32	129	1.9%	137	See Plastering &/or Artexing
Fitted Kitchen/ Bedroom Installation	15	25	1,995	50,411	0.3%	50,867	Cross cutting and relevant to various trades
Garage Door Installation	1	1	50	50	10.9%	68	No suitable proxy & survey of centres did not identify coverage in this specific area
Hard Flooring	8	3	1,037	2,853	2.1%	3,033	See Floor Covering
Hard Landscaping & Paving	5	13	442	5,919	1.5%	6,190	Closest proxies: See Concrete Flooring + Road Surface Treatments
Holding Company	3	71	104	7,365	0.7%	7,532	No suitable proxy & survey of centres did not identify coverage in this specific area
Insulated Enclosures	1	5	27	136	0.0%	136	See Cavity Wall Insulation + Draught Proofing or Loft Insulation + Insulated Enclosures + Insulated Rendering/Cladding
Liquid Waterproof Systems	5	41	30	1,209	0.7%	1,235	No suitable proxy & survey of centres did not identify coverage in this specific area
Mastic Asphalt	5	3	141	481	3.0%	526	No suitable proxy & survey of centres did not identify coverage in this specific area



Table 3 continued	PART 1: Demand for onsite assessment						PART 2: Explanatory notes concerning supply
	No. of surveyed firms	Avg. staff per surveyed firm	No. of GB firms	Est. GB staff current	Annual avg. growth rate	Est. GB staff (next 3 yrs)	
Open-Cast Coal Mining	1	600	7	4,467	0.0%	4,467	No suitable proxy & survey of centres did not identify coverage in this specific area
Paving	3	11	352	3,994	2.2%	4,265	Closest proxies: See Concrete Flooring + Road Surface Treatments
Powered Access	1	4	32	129	3.6%	143	See Plant
Rail Plant Hire & Repair	1	55	60	3,300	2.1%	3,509	See Plant
Railway Contracting	1	8	40	318	0.0%	318	No suitable proxy & survey of centres did not identify coverage in this specific area
Reinforced Concrete	5	62	248	15,485	0.7%	15,821	See Concrete Flooring + Concrete Repair
Relocatable Partitioning	10	6	166	1,047	0.1%	1,052	See Interior Fit-out
Resin Flooring	8	3	82	235	2.0%	250	See Concrete flooring
Sealant Application	5	4	176	740	0.8%	757	Cross cutting and relevant to various trades
Shopfitting	15	7	1,293	8,705	1.3%	9,052	See Interior Fit-out
Single Ply Roofing (See Note 3)	5	11	529	5,819	2.0%	6,169	No suitable proxy & survey of centres did not identify coverage in this specific area
Suspended Ceiling Installation	15	4	901	3,183	1.9%	3,365	See Interior Fit-out
Suspended Platform Installation	1	3	5	15	2.5%	16	See Netting & Rigging
Swimming Pool Construction	2	6	94	566	1.9%	599	No suitable proxy & survey of centres did not identify coverage in this specific area
Tool & Equipment Hire	1	8	22	179	3.6%	198	No suitable proxy & survey of centres did not identify coverage in this specific area
Utilities (See Note 4)	5	75	2,590	101K	1.3%	105K	Cross cutting and relevant to various trades

Note 4: For Utilities, the figure for total GB firms was taken from the ONS UK Business, Activity Size and Location (SIC code 35). Total current employment was sourced from EU Skills and is based on the total electricity, gas, water and utility contractor workforce



2.2 Trends and patterns in demand

There are mixed perceptions across the industry as to whether demand for onsite assessed construction qualifications is growing, static or declining. Rationales for the various directions in demand include:

- Growth – Heavily driven by the requirement for CSCS card holders to be qualified; an expansion in work opportunities as a result of new housing and infrastructure projects (making it even more important to be competitive); and the perceived proliferation of ‘claims’ made against the industry, i.e. for poor work..
- No change – This is put down to the fact onsite assessment is not an on-going activity, i.e. once staff are fully qualified then the process won’t be needed again unless those staff need to be replaced.
- Falling demand – This is put down to a lack of funding (one civil engineering firm stated that “no-one can afford to do NVQs”).

“Construction employers say they want to train and that that they think it’s important to have a skilled workforce. But the reality is, unless there’s a business driver such as a card to get onsite, or something that affects their bottom line, they’re not going to do it.”

Trade body

It would seem, however, that the consensus is that demand for onsite assessment will grow but there are slight differences in emphasis between some of the sub-sectors.

In civil engineering, a trade body mentioned from speaking with its own employers that they are struggling to find ground workers, highways maintenance, plant (crane operatives) and steel fixers – occupations which were reportedly hard hit by the recession. One centre working in this area mentioned experiencing a rise in demand for slingers, signallers, excavators and muck shifters.

In the brickwork sub-sector, there is a growing need for more highly skilled craftsmen, including bricklayers, blocklayers and stonemasons.

In roofing, the volume of new work is growing considerably, with eleven separate disciplines, each requiring specialist skills in assessment. Large increases in demand are expected in relation to sheeting and cladding, including rain screens which help to reduce the amount of water coming into contact with a building’s main wall assembly. Tiling is also expected to be in big demand (not least to help meet the Government’s 2020 new build housing target), whilst single ply roofing is becoming an alternative to felt roofing. Other examples include roofing skills for traditional buildings, such as thatching, and increasing demand for green (vegetative) roofing, particularly in London.



There are mixed experiences around how demand is changing for onsite assessment in Plant Operations. Several centres commented that the EWPA route is preferable due to logistical and practical difficulties undertaking site-based observations, and one mentioned that demand in Plant “*dropped from 200 learners in 2014 to 18 learners in 2015*”.

A trade body in the equipment hire sub-sector commented that construction industry card schemes are not a key driver for qualifications attainment since the workforce generally works offsite. Here the focus is on equipment maintenance.

Several centres mentioned that demand is growing for construction management qualifications (one mentioned a 40% increase over the past year) – a view echoed by a civil engineering trade body. Others referenced bricklaying, carpentry, joinery and plastering (driven especially by a rise in new building housing projects), while formwork, steel fixing and concrete finishing is also reported to be on the rise (driven by an increase in large infrastructure projects as reflected in the latest CSN Forecast).

Looking ahead, there is uncertainty among centres as to how demand for onsite assessment will be influenced by the new Apprenticeship Levy, the introduction of new Trailblazer apprenticeships (including whether or not they will feature NVQ qualifications), as well as the UK’s decision to leave the European Union.

2.3 Demand and supply issues

Please note that purple shading used in the Tables within this section denotes the top 20 ranked occupational groups in that list.

Lost opportunities for qualifying the workforce

The research has shown that large numbers of employees have not been able to achieve a qualification due to factors outside their employer’s control.

Table 4 reveals the proportion of the workforce (by occupation) that would have undertaken a qualification involving onsite assessment over the past two years but have not done so due to issues or barriers encountered. Further detail on the barriers experienced are presented in section 4.5.

For three occupations expected to see largest employment numbers over the next three years, more than 10% of the workforce has encountered prohibitive barriers to onsite assessment. These are:

- Plastering and/or artexing (43%);
- Bricklaying/pointing (26%);
- Alteration to a building/part of a building (11%).



Table 4 Workforce not completing an onsite assessed qualification over the past two years due to issues/barriers encountered (top 20 occupations)

Total survey respondents	No. surveyed firms	Est. total current GB employment	% staff needing OSAT but unable to access it
Garage Door Installation	1	43	100.0%
Railway Contracting	1	272	100.0%
Hard Metal Roofing	1	117	60.0%
Swimming Pool Construction	2	485	50.0%
Tool & Equipment Hire	1	153	50.0%
Plastering &/or Artexing	35	49,250	43.0%
Underpinning	1	134	42.9%
Roof Sheeting & Cladding	15	5,336	34.1%
Hard Flooring	8	2,445	27.3%
Cavity Wall Insulation, Draught Proofing or Loft Insulation	5	460	26.1%
Bricklaying/Pointing	16	71,950	26.0%
Interior Fit-Out	10	6,485	22.7%
Wall & Floor Tiling	8	2,924	22.7%
Preparing/Fixing Stone for Building, including Stonemasonry	8	3,541	20.0%
Concrete Repair	5	1,302	17.3%
Lead Roofing	5	155	14.3%
Demolition	10	12,498	13.9%
Term Maintenance - Buildings	1	328	13.6%
Resin Flooring	8	202	13.0%
Asphalt & Tar-Spraying	7	6,261	12.5%

NB: A full version of this table spanning all occupational groups is presented in Appendix 2.

Other specific skills were mentioned by individual employers for which onsite assessment has been needed but difficult to access. These may or may not represent 'national' needs and include.

- Canopy glazing;
- Cherry picking;
- Concrete jack-up systems;
- Forklift driving;
- Hot roll and pitch training;
- Land surveying;
- Lifting and pulley systems;
- Lorry loading;
- Paints and varnishes – different types;
- Resin lining;
- Timbers – different types;
- Steel decking;



- Stone conservation;
- Suspended/floating floors and ceilings; and
- Welding.

Shortages of assessors

By using data from the employer survey, coupled with estimates of total assessors in Great Britain, one can estimate:

- the total number of assessors per 100 staff; and
- the current shortfall in assessor numbers for Great Britain (based on the percentage of current staff needing but unable to access assessment).

The evidence suggests that supply is not sufficient and modelling produces a probable current shortfall of at least 630 assessors. A breakdown of shortfalls by occupation (where calculations have been possible) are presented in Table 5 and ranked from highest to lowest shortfall.

The current shortfall of assessors appears to be highest with respect to the following occupational groups:

- Plastering and/or artexing;
- Bricklaying/pointing;
- Insulated rendering/cladding;
- Wall and floor tiling;
- Building and civil engineering.

As these calculations are based on survey data with variable base numbers for each occupation, they should be treated with caution. An explanation of the methodology for making the calculations is given in Appendix 1.

Table 5 Shortfalls in current assessors to meet current demand

Occupational group	Est. total employment (GB current)	% staff needing OSAT but unable to access it	Est. total assessors (GB current)	Assessors per 100 staff	Est. GB assessor shortfall
Plastering &/or Artexing	49,250	43.0%	348	0.71	134
Bricklaying/Pointing	71,950	26.0%	507	0.71	119
Insulated Rendering/Cladding	2,385	12.4%	489	20.49	55
Wall & Floor Tiling	3,412	22.7%	263	7.71	54
Building & Civil Engineering	77,760	6.7%	766	0.98	46
Hard Metal Roofing	205	60.0%	79	38.71	43
Joinery Manufacture	28,654	5.9%	751	2.62	40
Roof Sheeting & Cladding	1,680	34.1%	83	4.93	25



Occupational group	Est. total employment (GB current)	% staff needing OSAT but unable to access it	Est. total assessors (GB current)	Assessors per 100 staff	Est. GB assessor shortfall
Concrete Repair	1,519	17.3%	121	7.95	19
Interior Fit-Out	7,567	22.7%	94	1.25	19
Curtain Walling/Structural Glazing	2,169	4.2%	377	17.39	14
Demolition	14,583	13.9%	103	0.70	13
Preparing/Fixing Stone for Building, including Stonemasonry	4,132	20.0%	64	1.56	12
Joinery & Carpentry	273,300	1.3%	728	0.27	9
Roofing inc Slate & Tile	45,970	6.2%	146	0.32	8
Term Maintenance - Buildings	382	13.6%	47	12.34	6
Dry Lining or Partition	5,624	2.0%	182	3.23	3
Road Surface Treatments	2,523	1.6%	179	7.11	3
Underpinning	156	42.9%	7	4.41	3
Land Drilling	1,164	11.8%	14	1.23	2
Netting & Rigging	488	9.8%	25	5.18	2
Painting & Decorating	114,050	0.3%	413	0.36	1
Plant	83,920	0.1%	1074	1.28	1
Asbestos Removal	968	0.0%	14	1.43	0
Building Repair & Maintenance	389,621	0.0%	450	0.12	0
Concrete Flooring	596	0.0%	35	5.79	0
Conservatories	313	0.0%	7	2.21	0
Diamond Drilling & Sawing	2,198	0.0%	147	6.69	0
Directional Drilling	52	0.0%	5	8.83	0
Dry Lining	2,302	0.0%	212	9.21	0
Flat Glass-Glazing/Emergency Boarding Up	30,500	0.0%	121	0.40	0
Floor Covering	26,830	0.0%	170	0.63	0
Lead Roofing	181	14.3%	2	1.27	0
Passive Fire Protection	737	0.0%	14	1.87	0
Piling	1,265	0.0%	88	6.98	0
Road Planing	1,216	0.0%	150	12.29	0
Road Safety Marking	864	0.0%	135	15.58	0
Site Preparation or Groundworks	49,939	0.0%	16	0.03	0
Steeplejack or Lightning Conductor Engineering	4,999	0.7%	25	0.50	0
Term Maintenance - Roads	57,374	0.0%	179	0.31	0

The figure of 630 could be higher if reliable estimates for other job roles and the qualifications they might use towards CSCS cards can be developed. The picture is mixed



across the occupational groups and there are also geographical issues in terms of the local availability of assessors (discussed later in this chapter and also in section 4.5).

Shortages of assessors – qualitative discussion

Onsite assessors in steeple-jacking and lightning protection of buildings are reportedly dividing their time between onsite assessment and the Experienced Worker Practical Route (EWPA). This is leading to concerns that assessors who already work in industry may not be sufficiently independent, and that some firms are reluctant to have an assessor who works for a competitor organisation on site.

Plant Operations covers a wide range of machinery and each requires an assessor with specialist knowledge and skills in that piece of equipment, e.g. excavators and dumpers. Current high levels of demand mean the assessor can effectively “name their price” (an example was given of an assessor charging £10k to assess four workers), making onsite assessment a potentially expensive route. It was also noted in this sub-sector that the application process for experienced workers to become assessors is often a paper-based exercise, leading to concerns that the competence of assessors themselves may be lower than those they ultimately assess. Exceptions include concrete pumpers and crane operators where it was noted that highly experienced and skilled workers tend to be known in the industry.

In roofing, a severe shortage of assessors has been flagged up in certain areas of the country, particularly Yorkshire. Some centres can only assess in a small number of disciplines/materials, such as slating and tiling, and this is inadequate to meet the needs of industry. An example was given of only one assessor being available to cover liquid, single ply and cladding, and there is now a focused need to find assessors who are multi-skilled.

Problems finding assessors in niche areas also applies to damp and remedial treatment works, with a trade body commenting that *“there are only two assessors for water proofing and a handful in other areas – and they’re already saying they’re at capacity.”*

A trade body in utilities mentioned that their employers generally struggle to find assessors, particularly in power and gas, however help is available through an existing national register of assessors for the energy and utilities sector. This includes details of each assessor’s occupational specialisms.

Specific occupations/skills mentioned by individual centres as suffering a shortage of assessors in construction include:

- Brickwork – particularly level 3;
- Fenestration;
- Fibrous plastering;
- Lifting operations;
- Mobile and tower crane operations;



- Painting and decorating;
- Plant – knowledge of different machines
- Streetworks (including service pipes and meter housing installations)
- In-depth knowledge of all pathways in the NVQ in Construction Contracting Operations, including estimating, buying, surveying, planning and site technical support.

2.4 Capacity of centres

Evidence from surveyed centres supports the case that there is a shortage of assessors across large parts of the industry, which could be seen as critical. For 16 occupational groups, at least a fifth of centres report that demand for onsite assessment already exceeds what they are able to supply (Table 6).

Table 6 Centres' capacity to meet future industry demand

Occupational area	No. surveyed centres offering onsite assessment in this area	Percentage reporting that demand already exceeds supply
Construction Labour Agencies	1	100.0%
Diamond Drilling & Sawing	1	100.0%
Hard Metal Roofing	1	100.0%
Lead Roofing	2	50.0%
Road Safety Marking	2	50.0%
Fitted Kitchen/ Bedroom Installation	3	33.3%
Road Planing	3	33.3%
Road Surface Treatments	3	33.3%
Utilities	3	33.3%
Roof Sheeting & Cladding	7	28.6%
Dry Lining	12	25.0%
Demolition	4	25.0%
Shopfitting	4	25.0%
Roofing inc Slate & Tile	18	22.2%
Interior Fit-Out	5	20.0%
Site Preparation or Groundworks	5	20.0%
Floor Covering	6	16.7%
Painting & Decorating	73	13.7%
Plastering &/or Artexing	79	11.4%
Building & Civil Engineering	10	10.5%
Joinery & Carpentry	134	10.4%
Bricklaying/Pointing	125	10.4%
Wall & Floor Tiling	9	10.0%
Building Repair & Maintenance	21	9.5%



Occupational area	No. surveyed centres offering onsite assessment in this area	Percentage reporting that demand already exceeds supply
Plant	107	8.4%
Joinery Manufacture	24	8.3%
Piling	5	0.0%
Access Equipment	3	0.0%
Asbestos Removal	3	0.0%
Scaffolding	3	0.0%
Concrete Flooring	2	0.0%
Concrete Repair	2	0.0%
Dry Lining or Partition	2	0.0%
Flat Glass-Glazing/Emergency Boarding Up	2	0.0%
Insulated Rendering/Cladding	2	0.0%
Land Drilling	2	0.0%
Preparing/Fixing Stone for Building, including Stonemasonry	2	0.0%
Cavity Wall Insulation, Draught Proofing or Loft Insulation	1	0.0%
Conservatories	1	0.0%
Curtain Walling/Structural Glazing	1	0.0%
Directional Drilling	1	0.0%
Facade Preservation	1	0.0%
Netting & Rigging	1	0.0%
Passive Fire Protection	1	0.0%
Paving	1	0.0%
Railway Contracting	1	0.0%
Steeplejack or Lightning Conductor Engineering	1	0.0%
Term Maintenance - Buildings	1	0.0%
Term Maintenance - Roads	1	0.0%
Tool & Equipment Hire	1	0.0%
Tunnelling	1	0.0%
Underpinning	1	0.0%
Window Film Application	1	0.0%

When questioned about their ability to respond to changes in demand the centres are generally (and probably predictably) confident. Should demand exceed supply, the majority (84%) say they would increase their number of assessors. Less than half would invest in greater training and CPD for existing assessor staff, while just over a fifth would decline work that exceeds existing resourcing levels and/or refer this to another organisation.

These findings should, however, be set against the employers reports of shortages of assessors and the critical fact that – while a single centre may currently express confidence in being able to recruit new assessors – the entirety of centres will be competing against



each other in what is appearing to be a very restricted pool of potential recruits.

The findings (Table 7) are very similar by type of centre.

Table 7 Actions if demand exceeds capacity

Action	All respondents	FECs	Independent training providers	Others
Base	306	92	173	32
Increase the number of assessors	84.3%	81.5%	86.4%	81.6%
Invest in greater training and CPD for existing assessment staff	46.7%	42.4%	47.7%	52.6%
Decline work that exceeds existing resourcing levels	20.9%	17.4%	19.9%	34.2%
Take no action	3.6%	4.3%	2.8%	5.3%
Other	5.2%	6.5%	3.4%	10.5%

Further information about approaches to recruiting and making use of assessors is provided in the next chapter.



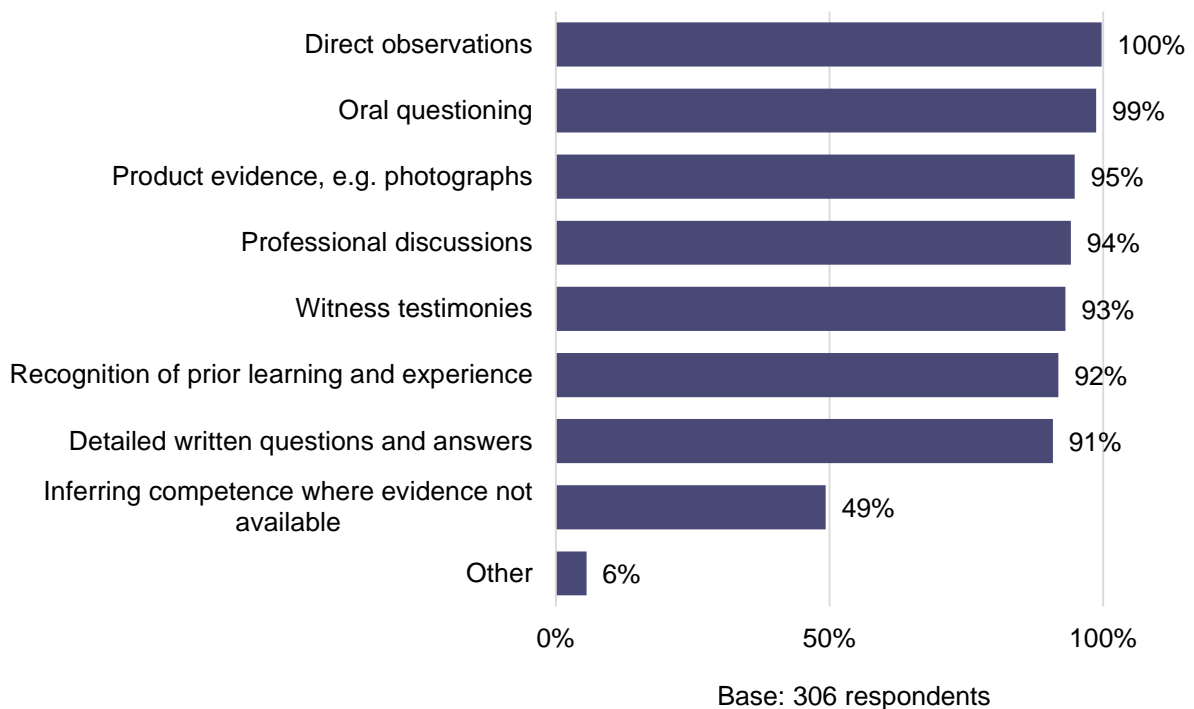
3. Current approaches for delivering onsite assessment

3.1 Centres' approaches to delivering onsite assessment

Approaches used

Centres use a variety different approaches to onsite assessment. The most commonly used approach is direct observations and the least common (used by just under half) is inferring competence where evidence is not available (Figure 1)²¹.

Figure 1 Approaches used for onsite assessment



On the whole, centres say they do not endorse individual assessors working across multiple occupational groups unless they have the proven experience and qualifications to match. Cross-over of assessors tends to take place where qualifications and occupations are closely linked, such as plant combined with similar qualifications such as construction operations, highway maintenance or lifting operations. Awarding organisations are generally favourable towards the idea of assessors working across multiple trades as long as they are suitably competent and qualified.

²¹ An alternative version of this chart (by 'total responses') is presented in Appendix 4. This shows the percentage mix of responses, thereby revealing the most to least common selections.



Of the 304 surveyed assessors, each undertakes assessment in an average of 1.5 of the 81 defined occupational groups. A minority in the traditional crafts are assessing in up to three or four areas spanning bricklaying and pointing, carpentry and joinery, painting and decorating, plastering and/or artexing. Other commonly shared occupations for assessment include plastering with dry lining; civil engineering with plant; and plant with tunnelling. Among onsite assessors working in roofing, there appears to be less shared expertise, with slate and tiler assessors tending not to work outside of this discipline.

Looking towards the future, the use of digital technologies is becoming increasingly important as part of assessment practice, such as video evidence and use of associated software such as Skype. One external verifier commented that greater use of oral questioning, video, photo evidence and audio recording, rather than a paper-based approach, enables evidence to be gathered more effectively and efficiently.

Work patterns

More than half of surveyed assessors (58%) work full-time and the remainder part-time. Among those that work part-time, the most commonly held other positions (from most to least cited) span:

- A position held in industry, ranging from Director level to a specific craft or trades person on an employed or self-employed basis;
- Teacher/trainer;
- Lecturer;
- Health and safety manager/coordinator; and
- Retired/semi-retired.

Learner interactions

Surveyed assessors were asked how much contact time, on average, they have with each learner working towards a construction qualification using the onsite assessment route. The average contact time (measured in days) is typically around five days although slightly lower at Level 7 (Table 8)²².

²² Contact time includes face to face or remote methods of interaction, e.g. telephone or email. These results should be treated with caution as it is possible that certain respondents included total training and assessment time. Responses greater than 10 days have therefore been excluded from the analysis.



Table 8 Average interaction between assessors and learners (number of days)

Approach	Base responses	Average number of days
N/SVQ Level 2	229	4.7
N/SVQ Level 3	141	5.6
N/SVQ Level 4/5	40	5.5
N/SVQ Level 6	31	5.7
N/SVQ Level 7	13	3.5

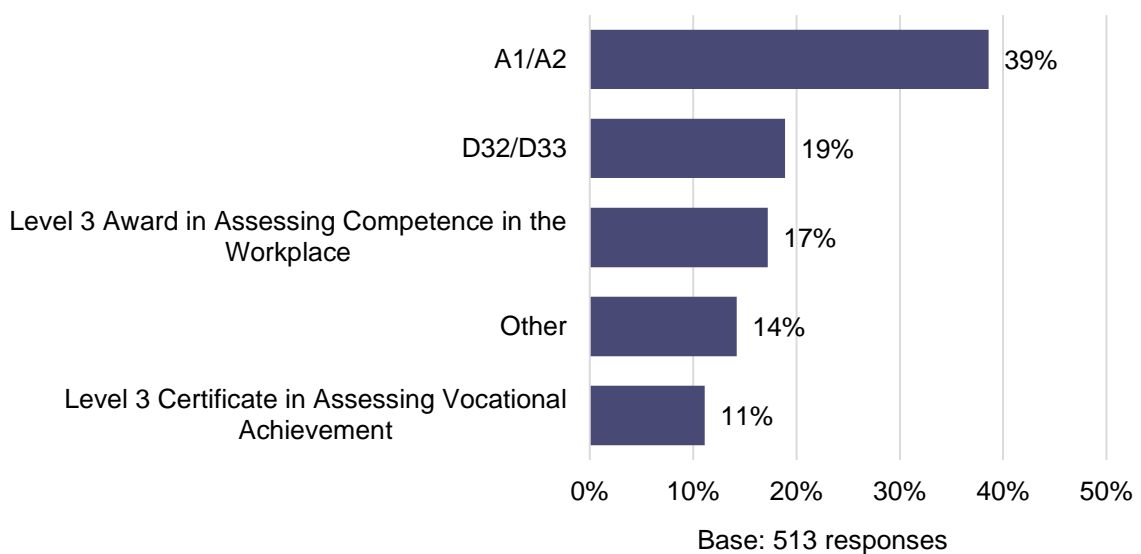
3.2 Assessor qualifications and Continuing Professional Development (CPD)

Assessors were asked to explain what qualifications they hold which are relevant to the task. Previous qualifications for becoming an NVQ onsite assessor included the D32/D33 awards, which were replaced by the A1/A2. Current entry requirements include either:

- Level 3 Award in Assessing Competence in the Work Environment; or
- Level 3 Certificate in Assessing Vocational Achievement.

Individual assessors hold at least one of the listed qualifications set out in Figure 2. The most commonly mentioned qualifications in the 'Other' category are PTLLS, CTLLS and DTLLS²³ and the Level 4 qualification in Assessing.

Figure 2 Qualifications held by assessors

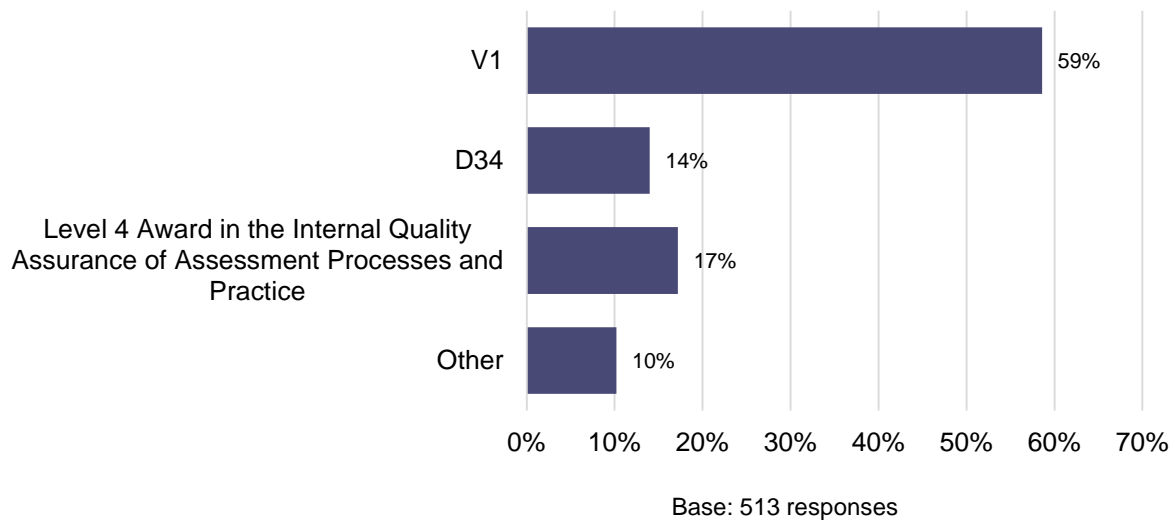


²³ Preparing to Teach in the Lifelong Learning Sector (PTLLS); Certificate (CTLLS) and Diploma (DTLLS).



In addition to onsite assessment, 54% of surveyed assessors are qualified to carry out Internal Quality Assurance (IQA) activities. Of these, most hold a V1 qualification. Others mentioned include V2 and Training, Assessment and Quality Assurance (Figure 3).

Figure 3 Qualifications held to carry out Internal Quality Assurance



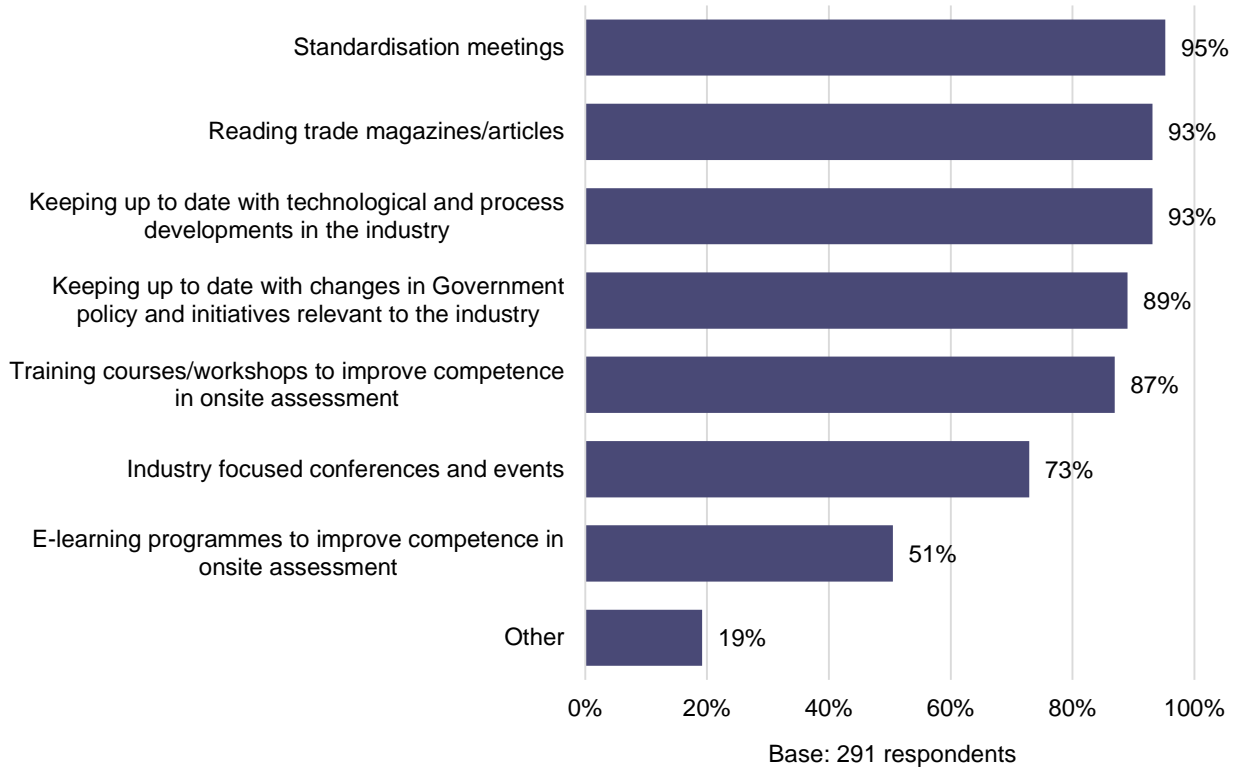
Surveyed assessors were asked their CPD activity. On average, assessors undertake 15 days of CPD per annum, with the most common being 10 days. Of these, 6 days are spent externally (away from the workplace), such as at industry events or external training courses.

A wide range of activities take place, with the vast majority (more than 90%) reporting that they attend standardisation meetings, read trade magazines/articles, and keep up to date with technological and process developments in industry (Figure 4)²⁴.

²⁴ An alternative version of this chart (by 'total responses') is presented in Appendix 4. This shows the percentage mix of responses, thereby revealing the most to least common selections.

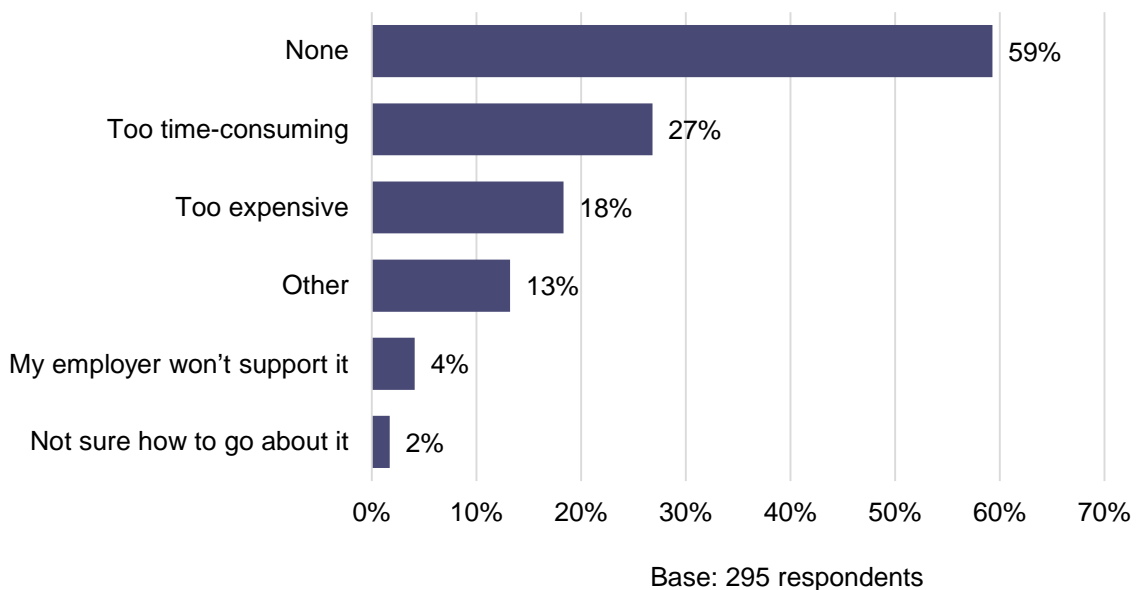


Figure 4 Types of CPD carried out



Just over 40% of assessors experience barriers in undertaking CPD, most commonly that they find it too time-consuming or too expensive (Figure 5).

Figure 5 Barriers to undertaking CPD





4. Quality and effectiveness of onsite assessment

4.1 Benefits for employers and learners

Employers value onsite assessment in terms of its convenience, flexibility and speed with which qualifications can be achieved. It brings minimal disruption or 'downtime' as learners are not taken away from their onsite role. One employer also mentioned a saving on the costs associated with overnight accommodation for attending college for assessment.

Several trade bodies emphasised that onsite assessment is the only way to replicate the real world of work, especially conditions which are difficult to reproduce in a classroom setting - for example dealing with dry rot and in relation to different forms of energy and power. Roofing in particular is challenging to assess offsite because it can be expensive for colleges to facilitate and requires a lot of space. Additionally, a trade body in the equipment hire sector mentioned that onsite assessment is particularly valuable due to having a relatively small workforce that is highly dispersed geographically. It helps alleviate the need for learners to travel long distances to the centres that offer the assessment.

Several centres mentioned how onsite assessment enables learners to demonstrate their skills in a familiar environment and 'learn while they earn'. Employers can observe learners as they progress, which helps to provide reassurance their staff are competent in the skills needed to perform in their job. One centre assessing multiple trades noted that employers are able to meet with the assessor onsite and discuss any skills or competence issues directly.

4.2 Employer participation in training and onsite assessment

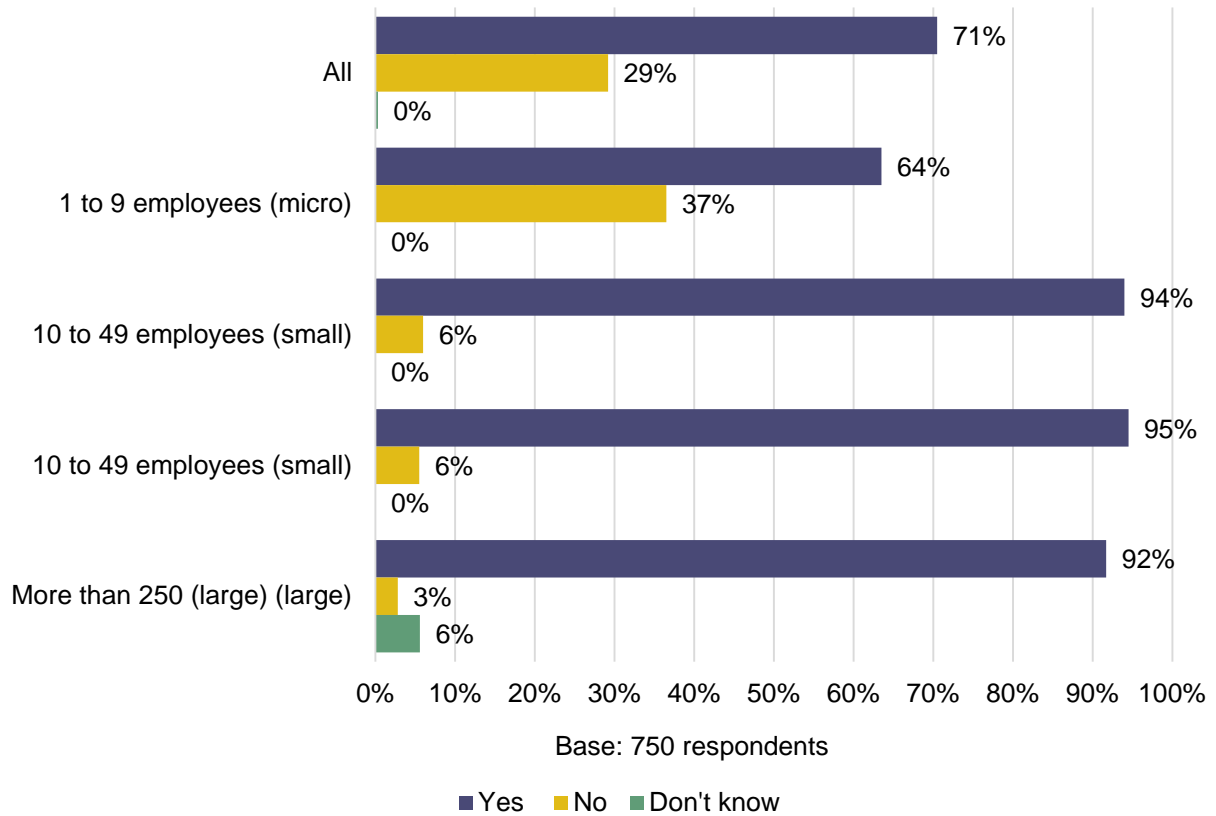
Employers' approaches to training in general

While the majority of surveyed construction firms (71%) have offered some form of training in general over the past two years, the proportion offering training is lowest by comparison among micro firms (Figure 6).

It is important to recognise, however, that many micro-business owners and managers may interpret the word 'training' to mean formal provision. A great deal of informal mentoring and training may be in place which is not being reported.



Figure 6 Employer participation in training over the past two years (by size band)



Among firms that haven't trained over the past two years, the most frequently mentioned reason for this is that they feel staff are already sufficiently well trained to meet their own business needs.

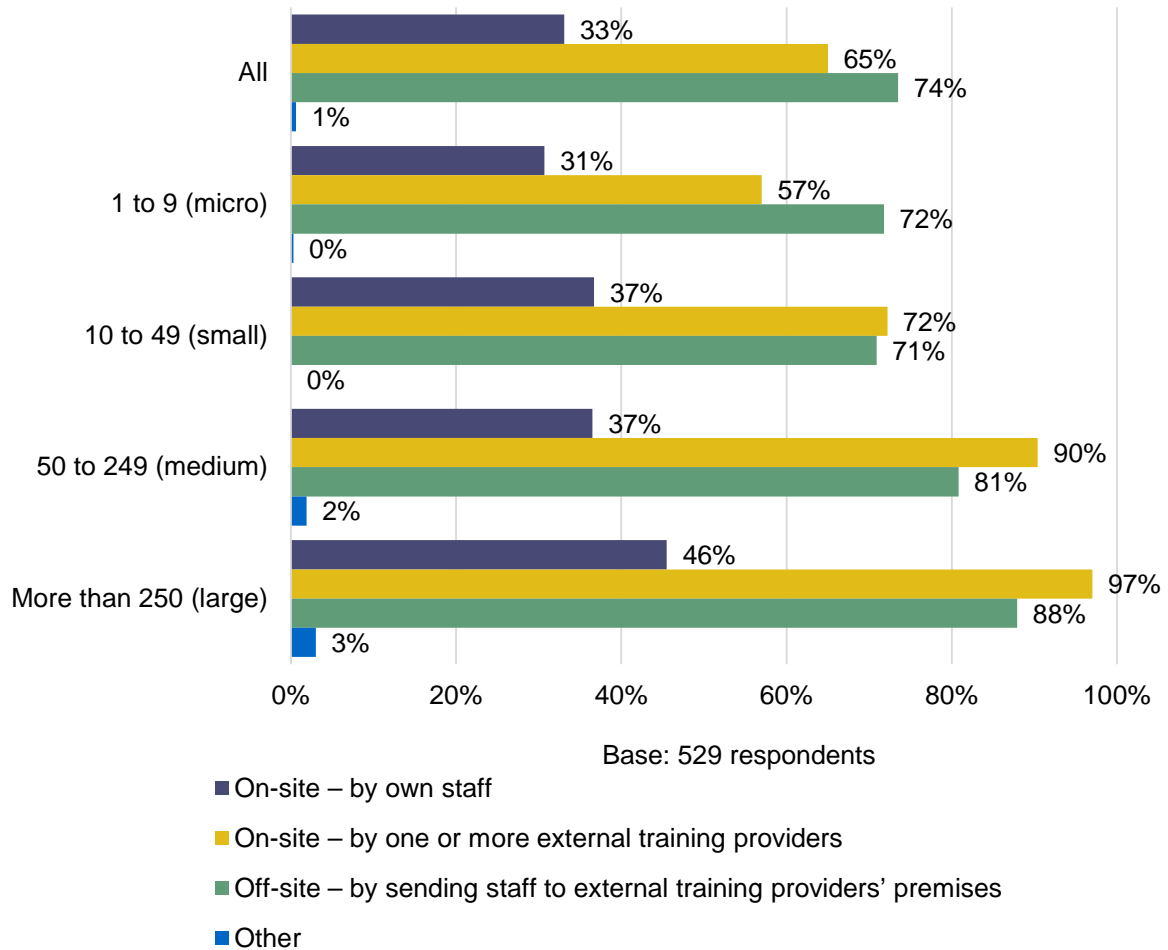
In terms of how surveyed employers train, almost all (98%) use onsite approaches (either by their own staff or by using external training providers who deliver training onsite). Just under three quarters of employers (74%) train off site, by sending staff to external training providers' premises.

Small, medium and larger firms prefer an external provider to train onsite rather than offsite, while micro firms prefer offsite training (Figure 7)²⁵.

²⁵ An alternative version of this chart (by 'total responses') is presented in Appendix 4. This shows the percentage mix of responses, thereby revealing the most to least common selections.



Figure 7 How employers typically undertake training (by size band)

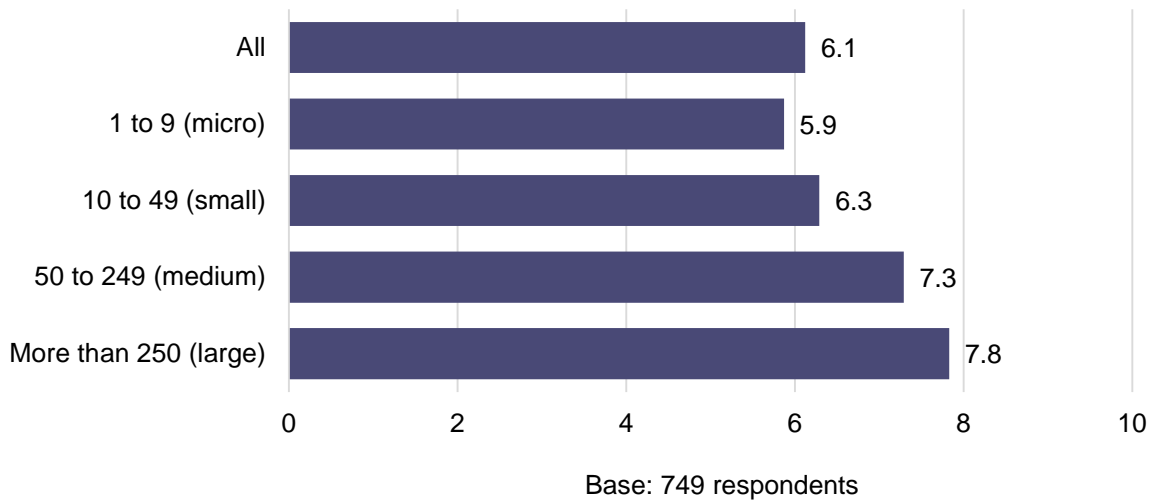


Employers' understanding of onsite assessment

On a scale from 1 'no understanding' to 10 'complete and full understanding', employers were asked to rate the extent of their understanding of onsite assessment prior to participating in the survey. The findings confirm that awareness increases with size, with micro firms the least knowledgeable group (Figure 8).

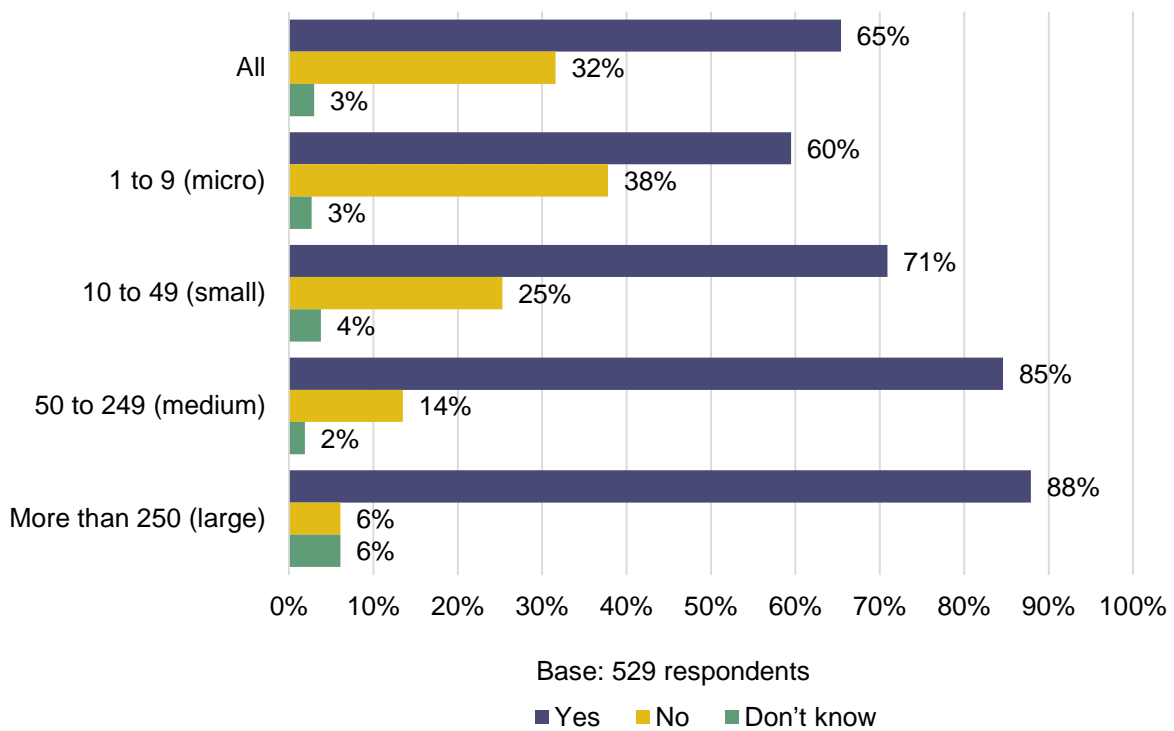


Figure 8 Employer understanding of onsite assessment (average rating using a 1 to 10 scale)



Among those firms that have participated in some form of training over the past two years, almost two thirds (65%) have been involved in onsite assessment. This is lowest among micro businesses (60%) rising to 88% among large companies (Figure 9).

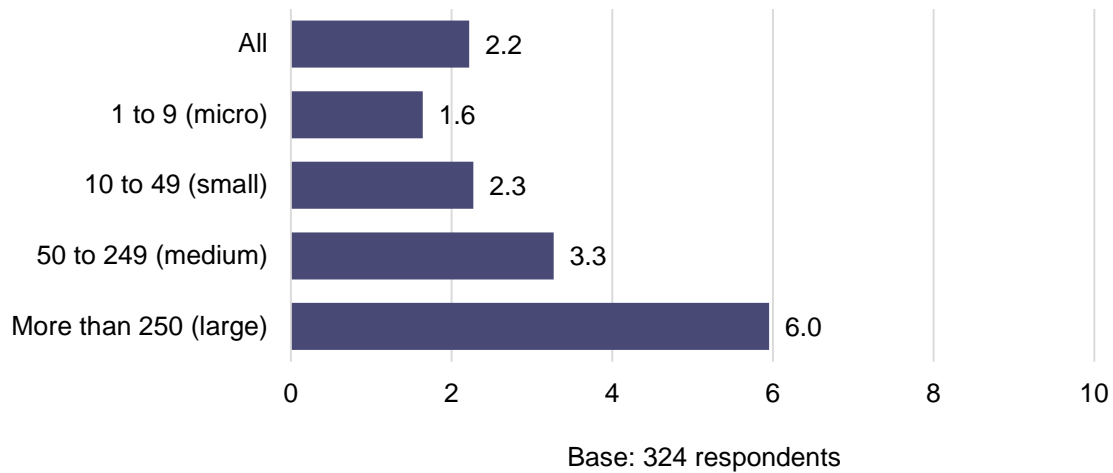
Figure 9 Employer participation in onsite assessment over the past two years (by size band)





Employers tend to use a small number of centres for onsite assessment rather than a wide range of different centres. On average over the past two years, micro firms have used two centres, rising to six among large companies (Figure 10).

Figure 10 Number of assessment centres used over the past two years (by size band)

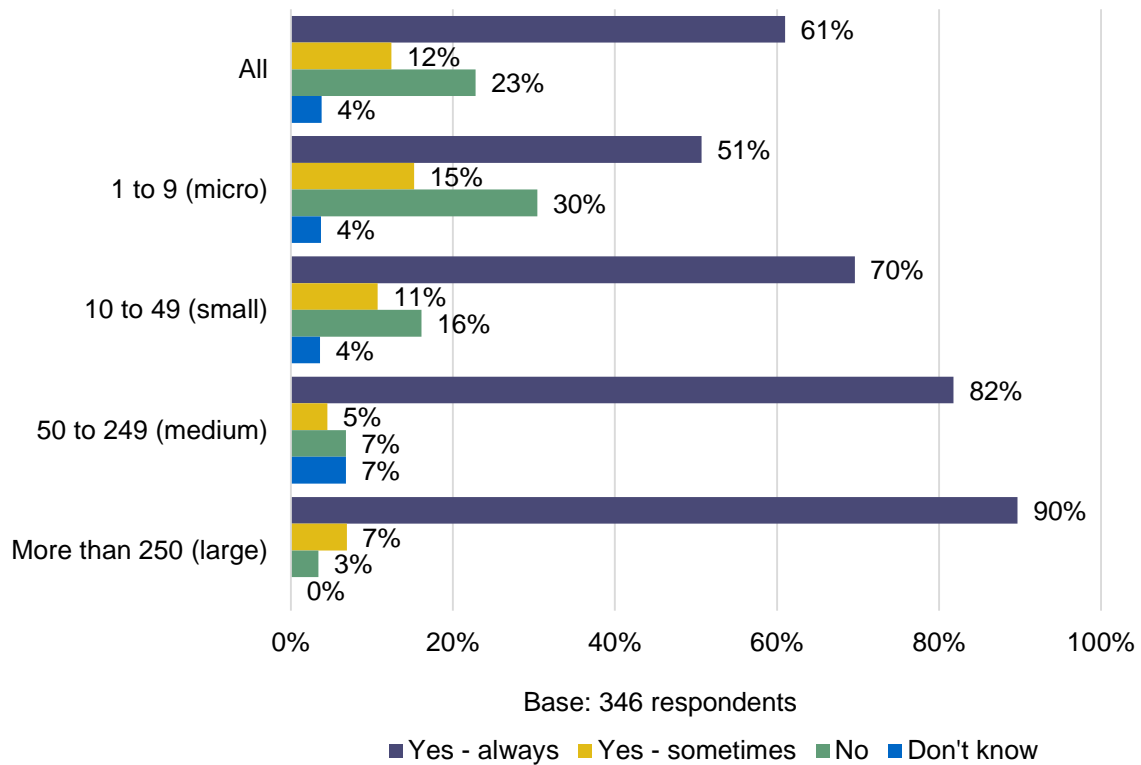


Nearly two-thirds of employers (61%) claim CITB grant upon successful completion of onsite assessment. Incidences of claiming grant are lowest among micro employers (51%) rising to 90% among the largest firms (Figure 11).

A breakdown of grant claims by occupational group is presented in Appendix 2.



Figure 11 Whether CITB grant claimed upon completion of onsite assessment (by size band)



Among the minority of survey respondents that had not claimed CITB grant upon completion of onsite assessment, a variety of reasons were given, with more than two thirds saying they haven't had time/not looked into it, and more than a quarter saying they don't know what grants are available or how to obtain grant funding (Table 9).

Table 9 Reasons why CITB grant not claimed (by size band)

Reasons why CITB grant not claimed	All	1 to 9 (micro)	10 to 49 (small)	50 to 249 (medium)	More than 250 (large)
Base respondents	76	63	9	3	1
Haven't had time/not looked into it	38%	41%	33%	-	-
I don't know what grants are available	29%	30%	22%	33%	-
I don't know how to obtain grant funding	25%	27%	22%	-	-
Other	24%	24%	11%	33%	100%
Process for obtaining grants is too complicated	20%	19%	33%	-	-
The information about grants is confusing	18%	19%	11%	33%	-
Grant funding available is not appropriate to my business needs	9%	6%	11%	67%	-
The amount of grant funding available is insufficient	8%	10%	-	-	-



4.3 Effectiveness of current approaches to deliver onsite assessment

Fitness for purpose

Employers generally express favourable views about onsite assessment. When asked to rate their perceptions of various aspects of onsite assessment (on a scale from 1 'totally unfit for purpose' to 10 'completely fit for purpose'), the resulting average scores are above 7 out of 10, and highest with respect to relevance of onsite assessment to their organisation.

Employers also rated relatively highly the strength of the assessor's occupational knowledge and competence. Weaker aspects of the process include the availability of assessors and rigour of the assessment process.

The results are similar by size band and nation/region, although employers in Scotland are finding the availability of assessors a particular problem, returning an average rating of 5.9 out of 10 (Tables 10 and 11).

Table 10 Effectiveness of onsite assessment – employer perceptions (by size band)

Occupational area	All	1 to 9 staff (micro)	10 to 49 staff (small)	50 to 249 staff (medium)	More than 250 staff (large)
Relevance of the onsite assessment to your organisation	7.9	7.8	8.3	8.4	8.0
The assessor's occupational knowledge or competence	7.9	7.8	8.2	8.0	8.3
Efficiency of the assessment	7.8	7.7	7.9	7.9	7.6
Suitability of methods used for assessment	7.7	7.6	8.0	8.0	7.6
The assessor's understanding of your organisation	7.6	7.5	8.0	7.7	7.6
Amount of time spent by assessors with each candidate	7.5	7.4	8.0	7.6	7.1
Rigour of the assessment	7.5	7.4	7.7	7.8	7.7
Availability of assessors	7.2	7.1	7.6	7.5	7.2

Base range: 312-327 respondents



Table 11 Effectiveness of onsite assessment – employer perceptions (by nation/region)

Occupational area	All	North	Midlands	South	Scotland
Relevance of the onsite assessment to your organisation	7.9	7.8	8.3	7.9	7.4
The assessor's occupational knowledge or competence	7.9	8.1	8.4	7.6	8.3
Efficiency of the assessment	7.8	7.9	8.0	7.6	7.8
Suitability of methods used for assessment	7.7	7.5	8.0	7.6	7.4
The assessor's understanding of your organisation	7.6	7.8	8.0	7.4	7.5
Amount of time spent by assessors with each candidate	7.5	7.7	7.8	7.3	7.4
Rigour of the assessment	7.5	7.8	7.8	7.3	7.4
Availability of assessors	7.2	7.5	7.6	7.2	5.9

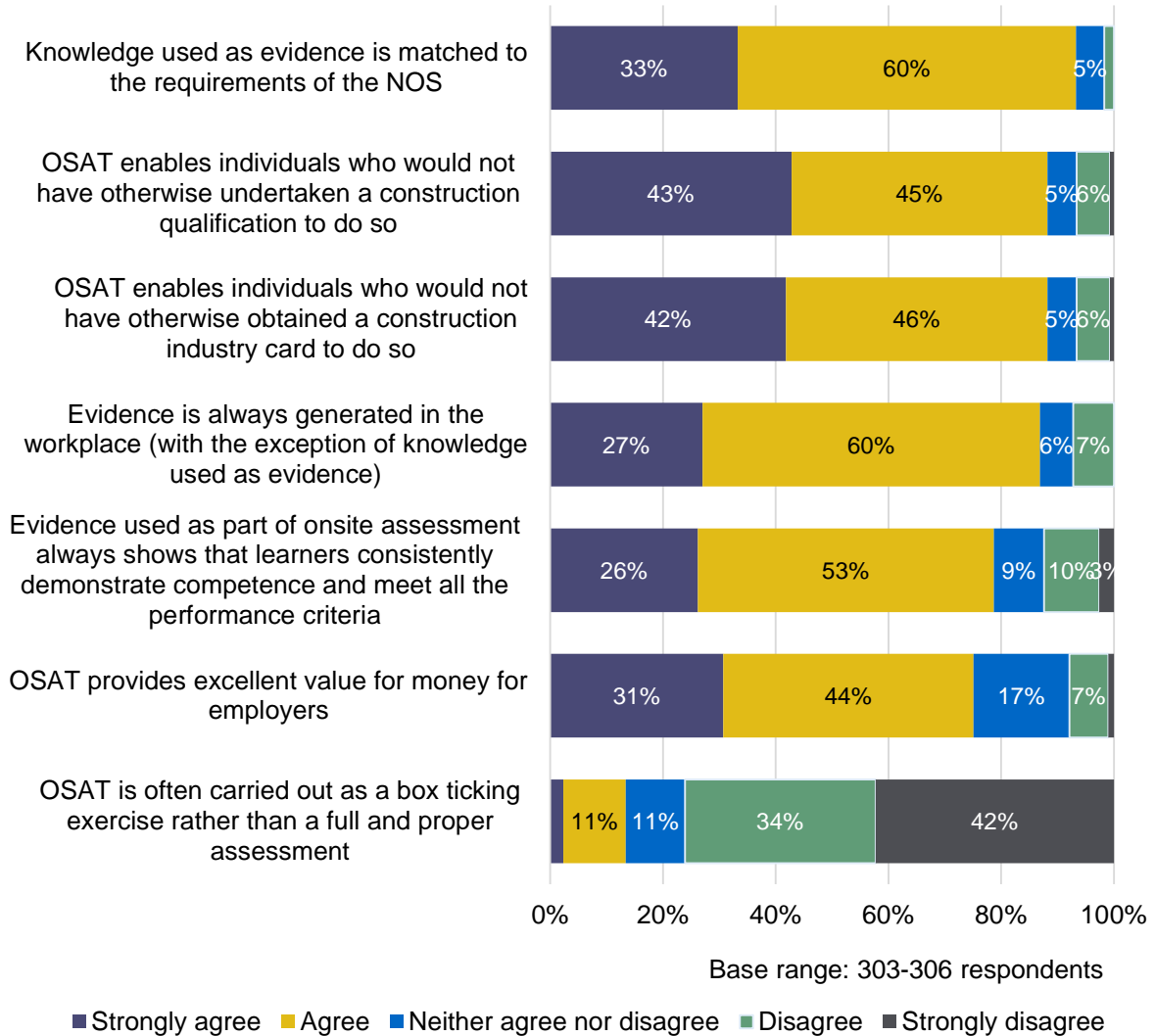
Base range: 312-327 respondents

Particular praise is given by employers for the standard of communication with centres and individual assessors, and several commented on what they regard as the high quality of assessors.

The vast majority of centres (93%) agree that knowledge used as evidence as part of onsite assessment is matched to the requirements of National Occupational Standards (NOS), and that onsite assessment enables individuals to obtain qualifications and industry cards that they would not otherwise have been able to access. Around three-quarters of centres disagree that onsite assessment is carried out as a “box-ticking exercise”; although employers and trade bodies raise concerns in these areas (Figure 12).



Figure 12 Effectiveness of onsite assessment approaches – centre perceptions



Specific approaches to onsite assessment

On a scale from 1 'not at all effective' to 10 'highly effective', surveyed centres and individual assessors were asked to rate the effectiveness of specific approaches to onsite assessment (Table 12).

The feedback on this question falls into roughly three broad 'types' of approach:

Best: direct observations, oral questioning and professional discussions;

Good: product evidence via photography etc., written questions and answers, and recognising prior experience, etc.

Least effective: witness testimony and inferring competence



Table 12 Effectiveness of specific approaches to onsite assessment (centres and assessors)

Approach	Centres – average rating	Assessors – average rating
Direct observations	9.3	9.6
Oral questioning	8.4	8.9
Professional discussions	8.3	8.6
Product evidence, e.g. photographs	7.5	7.6
Detailed written questions and answers	7.4	7.4
Recognition of prior learning and experience	7.4	7.8
Witness testimonies	7.1	7.5
Inferring competence where full evidence is not available	5.1	6.3

Direct observations are considered most effective as they provide clear evidence of learners' performance in a live working environment, including all associated challenges this may bring.

Oral questioning and professional discussions can enable learners to explain how undertaking their work in a particular manner meets the requirements of the specification, as well as filling any gaps from direct observation activity. These approaches enable assessors to probe for full breadth and depth of understanding that the learner may possess but that may not otherwise be forthcoming. They also help learners to practise their professional communication skills which may be valuable in their wider role.

Product evidence such as photographs is considered useful in support of other forms of evidence, however, this is regarded as only going so far at confirming a learner's competence in their role by providing a snapshot in time. On that basis video evidence is perceived as more useful than still photographs.

While detailed written questions and answers can enable learners to explain their knowledge and understanding of a particular topic, there is some concern that understanding the theory does not necessarily prove competence in the job and should therefore only be used to fill in gaps from other available evidence. Note that some centres and assessors also pointed to the literacy and numeracy issues of many candidates.

Recognition of prior learning is evidence of a candidate's previous achievements as part of their qualification attainment. Awarding organisations generally support its inclusion subject to criteria being met, such as ensuring the prior learning aligns with the qualification specification and took place at a reputable institution.

Witness testimonies are considered useful in specialist areas of work where the learners' usual assessor may not have the requisite skills and knowledge, thus allowing experts to confirm competence in certain instances. There is still a responsibility for the assessor to



ensure this process is robust and that the evidence meets the required standards, as well as ensuring the competence and suitability of the witness.

External verification

There appears to be a lack of consistency in the nature and frequency of external verification of centres by awarding organisations (AO) and several centres mentioned the lack of fixed and clearly defined Standards. One AO in the civil engineering and plant arena commented that consistency in external verification becomes an increasing problem as the number of assessors increases. Another described how external verifiers don't see enough practical assessments taking place due to logistical issues tying down dates and times.

AOs generally apply criteria when centres go through the initial process of achieving recognition to offer qualifications, such as vetting CVs. In cases where centres already have relationships with other awarding organisations and have a track record in onsite assessment, it was suggested that this provides greater confidence and therefore the centre may not need to be visited as part of the recognition process.

A typical job description used for the Quality Assurance Team (including external verifiers) includes duties such as:

- Visiting centres to monitor and report on compliance with the required standards of resource, staff and systems;
- Reporting on the performance of centres and learners in meeting the specification requirements and make appropriate award recommendations;
- Identifying and report areas of best practice and development (and making recommendations for changes);
- Actively participating in training and standardisation activities; and
- Supplying selected learners' evidence on request to inform the review of Standards.

Consolidated Assessment Strategy

CITB's Consolidated Assessment Strategy for the Built Environment provides principles and guidance to Awarding Organisations so the assessment of units and qualifications (N/SVQs) is valid, effective and consistent, and has credibility across the sector. Awarding Organisations generally believe that the Strategy is fit for purpose but would benefit from being updated and reviewed through a partnership and collaborative approach. In particular it would benefit from more detail on types of evidence that may be considered and guidance on which assessment approaches are most/least suitable for different types of learners.



“There is a tension between what the SMEs want and what the major companies want. So the assessment strategy needs to recognise that.”

Awarding organisation

4.4 Knowledge and skills of assessors

Most centres require their assessors to possess a combination of experience and qualifications relevant to the role(s) they are assessing. Typically centres look for assessors with a minimum of between two and five years' relevant work experience and expect that they hold a qualification relevant to, and at least one level above, the level they will be assessing. A minority of centres will accept a qualification at the same level rather than a level above.

Strong communication skills, IT, maths and English skills are also important, particularly to aid use of modern technologies for assessment, as well as report writing. Centres also generally require the assessor to hold, or be working towards, a relevant assessor qualification.

A wide range of responses were given by centres when asked what specific skills and knowledge of individual onsite assessors they would prioritise for improvement. These issues (explored further in section 4.5) include:

- Knowing how to interpret the assessment criteria;
- Better record-keeping and administration skills;
- Making more effective use of multi-media equipment as part of the assessment process;
- Improving skills in report-writing;
- Keeping up to date with knowledge of National Occupational Standards;
- Keeping up to date with technological change in the industry, such as use of lasers on plant equipment blades; and
- Engaging and communicating effectively with learners.

4.5 Barriers, issues and challenges

Views of employers

One of the main emerging issues from industry is being able to access the assessors they need, when and where they need them. This can lead to delays in learners completing their qualification and obtaining an industry card (examples were given of several months' delay). This is a particular concern in the roofing sub-sector.

Other issues (ordered from most to least cited):



- Assessors seeming to lack sufficient expertise in the occupational area they are assessing (an example was given of an assessor with a plumbing background going into a business to assess ceiling fixers);
- Logistical difficulties coordinating and scheduling onsite assessment so that the learner will be available on site as planned, with access to the necessary tools/equipment;
- Perceptions that onsite assessment is too expensive;
- Assessors spending less time with learners than employers themselves would wish and expect;
- Lack of adequate support and advice from CITB (in relation to grants, funding and training);
- Language barriers, i.e. where learners do not speak English as their first language.

Where issues have been experienced by employers, most said that they took no action. Others have reported these issues to CITB, switched to in-house training (which they recognise can prove more costly and time intensive) or have not proceeded further with onsite assessment at all.

If the number of assessors increases in the future, there is a clear risk to both quality and consistency, particularly in terms of ensuring assessors are sufficiently trained to work to a fixed, clearly defined, and robust set of standards, and that this is replicated across all occupations.

Employers are also concerned that increasing levels of competition between centres could affect the quality of assessment by driving down prices and decreasing the contact time between assessors and candidates. Awarding organisations suggest that centres risk becoming financially driven at the expense of quality.

Views of centres

A number of centres say the terminology used within the standards and assessment questions can be confusing, often repetitive and that it appears to have been “written for academics” rather than industry. Several described how this can cause learners to panic and strongly argue for the standards to be simplified or better still for a simpler – parallel – explanation designed purely for learners with the caveat that the main assessment document has priority.

A lack of consistency and standardisation between awarding organisations is also problematic for centres, with issues around inconsistency around aspects such as how many



observations are required and how many times an assessor is expected to see a learner.

“The CITB and SQA Standards don’t match. SQA have added an end-test for Level 2 Joinery and Carpentry but CITB will not recognise it. This means the learner will not be recognised by CITB as a qualified tradesman.”

Centre – Joinery and carpentry

A minority of centres say that it can be too easy for assessors to “cheat the system”, commenting that written reports and written-up observations tend to involve a lot of copy and pasting.

Other barriers faced by centres include:

- Inclement weather – particularly for outdoor occupations;
- Learners not being present on site or transferred to another location;
- For higher level qualifications (such as among site supervisors) it can be difficult to pin them down to schedule and undertake the assessment;
- Logistical problems in accessing the necessary equipment on site, such as cranes or plant machinery;
- Lengthy site induction and security clearance processes, such as at banks, embassies and MoD premises;
- Rules on site that can prevent certain types of assessment methods being used, such as Government buildings, defence/military locations and prisons.

“In 90% of cases when assessing Plant Operations, the specification cannot be met for practical reasons as we can’t get access the right machinery.”

Centre – Plant



5. Recruitment and retention of onsite assessors

5.1 Career opportunities

Detailed discussions with assessors have established four main motivations for individuals to become onsite assessors:

- Retirement/health/lifestyle reasons, such as seeking a new challenge, earning additional income in retirement, or needing a less physically demanding job due to age or health reasons;
- Natural progression through existing job role, such as an expansion from existing lecturing, teaching or training roles;
- The opportunity arose, for example approached by their employer or another organisation within the industry to take on the role;
- Giving something back to the industry, i.e. to share knowledge and expertise and help others to succeed.

“I felt my experience and knowledge of the construction and civil engineering industry would be beneficial to the job and I enjoy the variety of visiting different sites and meeting and helping people who are keen to progress in their careers.”

Assessor – Building and Civil Engineering

Aspects of the role that assessors believe would be most appealing to someone seeking to become an assessor for the first time, include:

- Passing on skills and knowledge and giving something back to the industry, including the personal rewards that brings;
- Flexibility, in terms of managing own workload and balancing the role alongside other life commitments;
- Keeping abreast of what is happening in the industry; and
- The social aspect, i.e. interacting with a wide variety of employers and learners and developing a rapport.



“I am very much a people person. I derive a lot of satisfaction from helping and watching learners achieve their career goals and qualifications.”

Assessor – Demolition

5.2 Recruitment practices

On average, centres employ 50% of assessors directly and 50% indirectly, i.e. contractors or agency staff.

Centres that employ assessors directly believe this helps to achieve better consistency, higher quality and improved standardisation. Assessors can be more thoroughly vetted and greater control is possible over their work, including monitoring and reallocating where appropriate. Employing assessors directly also helps to build loyalty and some centres noted that they have been let down by agency staff in the past.

Centres that use contracted assessors find this approach is necessary to cope with volatility in demand and means staff are not being paid when there is insufficient regular work. This approach also helps to where seasonal changes in demand are experienced, such as the summer holiday period.

While most centres advertise for assessors through national and/or local recruitment channels, many take recommendations, rely on business connections or word of mouth, and use social media such as LinkedIn to source assessors.

“We have a mixture of directly employed and contracted assessors. We have a core team but have to be responsive to different specialities that may need to be covered.”

Centre – multi trade

5.3 Recruitment and retention challenges

Centres face a variety of recruitment and retention challenges with respect to assessors, including applicants lacking suitable qualifications and/or relevant industry knowledge and experience. A widely reported concern is that many potential assessors earn more money in industry, which can make it difficult for centres to compete and attract the best talent into the role.

A total of 63 out of 306 surveyed centres (21%) have experienced losing one or more assessors back to industry over the past two years. This is increasingly common during boom times when demand for assessment is actually at its highest. The most commonly reported reason for losing direct employees is that assessor wages are not competitive. There are also more job opportunities and perceptions of better career prospects in industry than in onsite assessment. These issues appear to be across the board, irrespective of



specialism.

There are also reports of assessors being lost to competitor centres, to self-employment and peripatetic arrangements, and in one reported case for an older worker, leaving the role due to difficulties in adapting to new technologies. With many assessors entering the role late in their careers, an aging workforce profile means that assessors are often lost to retirement.

These types of challenges mean centres may resort to recruiting assessors who may not be of the calibre desired, which could affect the longer-term robustness of the system. In highly specialised disciplines, assessors may be recruited with broadly relevant experience and given additional training, for example one centre commented that they recruit from other areas of Plant in order to develop an assessor who can work with compact cranes.

“It took three months to get a Level 3 Bricklayer through their assessment. The assessor could earn more on the tools.”

Centre – Bricklaying

“One of the most difficult things as a private training provider is that we can't pay assessors as much as colleges. We lose 75% to competitors and 25% to industry. The quality of the assessors can be an issue because there is not enough of them.”

Centre – Multi-trade

Individual assessors were asked what factors, if any, might draw them away from the assessor role and back to industry. The most common pull factor would be better (increasing) wages available in industry, followed by perceptions of better career prospects. Many assessors confirmed they are happy in the role for the various reasons set out in section 5.1.



6. Future delivery of onsite assessment

6.1 Improvements

Around a quarter of employers feel that onsite assessment could be improved but a third don't know or could not say. In oral feedback the main reason for this latter proportion appears to be that they do not feel competent commenting on assessment issues. The pattern of responses by size of business confirms that smaller businesses tend to be more likely to view onsite assessment as being in need of improvement. There are no clear differences in views by nation/region of England (Figures 13 and 14).

Figure 13 Whether onsite assessment could be improved (employers by size band)

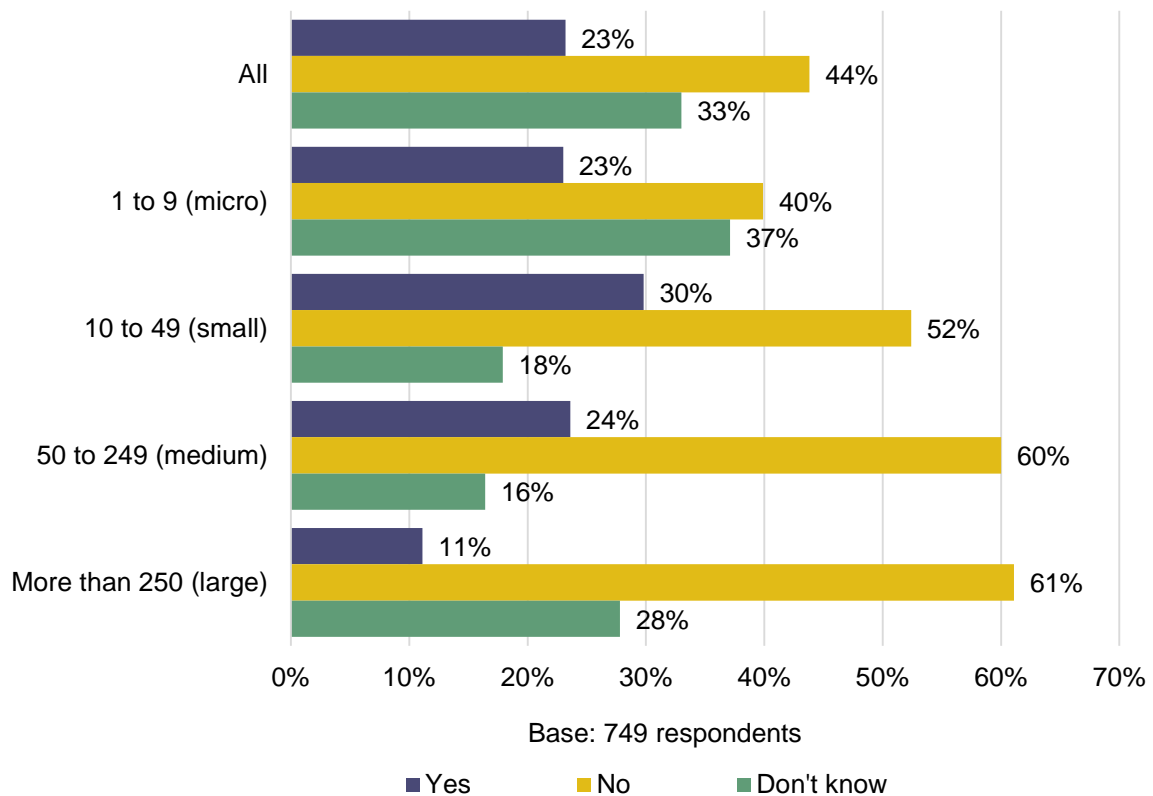
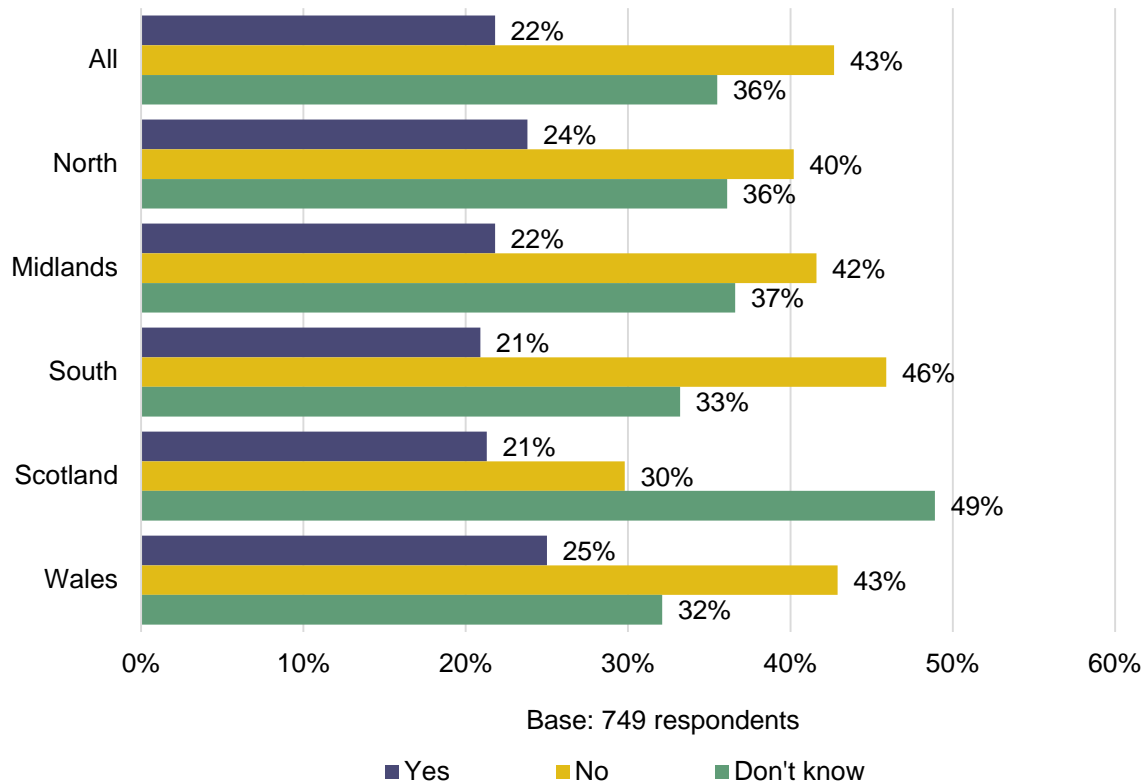




Figure 14 Whether onsite assessment could be improved (employers by region/nation)



Of those employers that mentioned the perceived lack of availability of assessors, this was often supplemented with comments on the issue of distance (one claimed that an assessor needed to travel 150 miles to perform an assessment), or on the length of time waiting for an assessor appointment.

The next most frequently cited improvement relates to the perceived lack of quality in the assessors themselves. A good number of respondents mentioned their belief that assessments are too variable. There were also mentions of assessors being seen as “poor” or of “low calibre”. A few employers argued that the assessors they had come into contact with were insufficiently qualified or experienced. One respondent mentioned that he saw independent assessment centres as being “not as good as CITB people”. Some employers complained that assessors “do not spend enough time with candidates” and this comment is also underlined by the many respondents seeing the assessment process as a “box ticking” exercise with insufficient rigour.

A number of respondents flagged up a need, as they see it, for greater rigour in the assessments. Some commented that that the use of tick-box documentation is not sufficient to assess real-world competence and that some assessors pay more attention to completing the process quickly without much attention to detail or quality in the candidate’s work. There



were several calls for greater “strictness” which is taken to be a synonym for rigour.

Other less frequently mentioned improvements included pleas for more help for smaller businesses (many seem to feel that CITB is “about the bigger companies”). Onsite assessment is also regarded by a few employers as being insufficiently tailored to the equipment and materials used by individual firms, and a process which takes too long to complete. One employer called for more on-site training as well as on-site assessment.

6.2 Alternative approaches

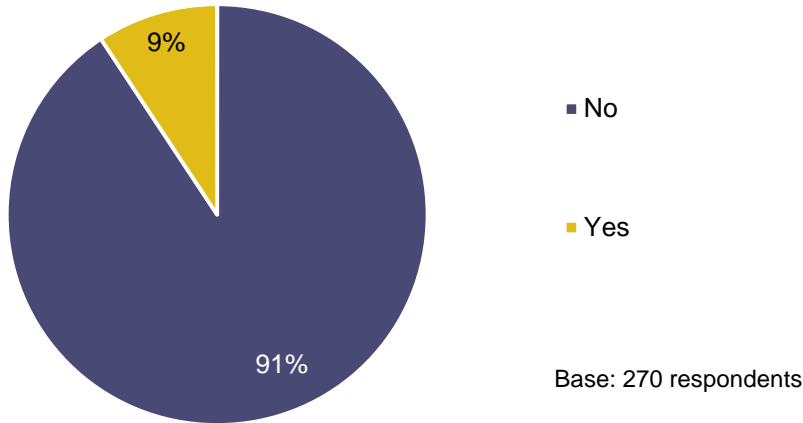
While employers tended to focus on improvements to the onsite assessment process there were a few instances of suggested alternatives – including independent tests carried out in test centres by CITB staff. One employer argued that such tests would be “stricter and fairer”.

The centres, on the other hand, tended to feel that there was no realistic alternative to onsite assessment per se (Figure 15). Around twenty suggestions were made by centres as to alternative approaches. These included:

- Independent external assessment through awarding organisations;
- Using a “log-book” approach – which the respondent argued would be more accurate in recording actual experience;
- Using video evidence – cited by several centres and sometimes with a parallel request for more use of witness testimonies;
- Several centres called for using a similar format to the Experienced Worker Practical Assessment (EWPA) route - i.e. a set task in a set time followed by questions and answers;
- One employer argued for “simulated” tasks to be permitted (see quote below)



Figure 15 Whether alternative approaches to onsite assessment could be used in the future (centres)



“I think that there could be a degree of flexibility in allowing simulation of work, e.g. carpentry at Level 2 includes bespoke elements such as hanging fire doors. But because of the locations and types of clients that we work with, this restricts progression because criteria can't be met. In those circumstances there are no alternatives - 90-95% of the evidence can be gathered but they cannot progress to level 3. I could set up a simulated work place but this is not permitted as it has to be done onsite. So the progression to Level 3 carpentry is affected because of bespoke element, therefore site management is restricted. This is not helping the industry because they cannot progress. We have raised this with CITB in the past and it's an ongoing situation.”

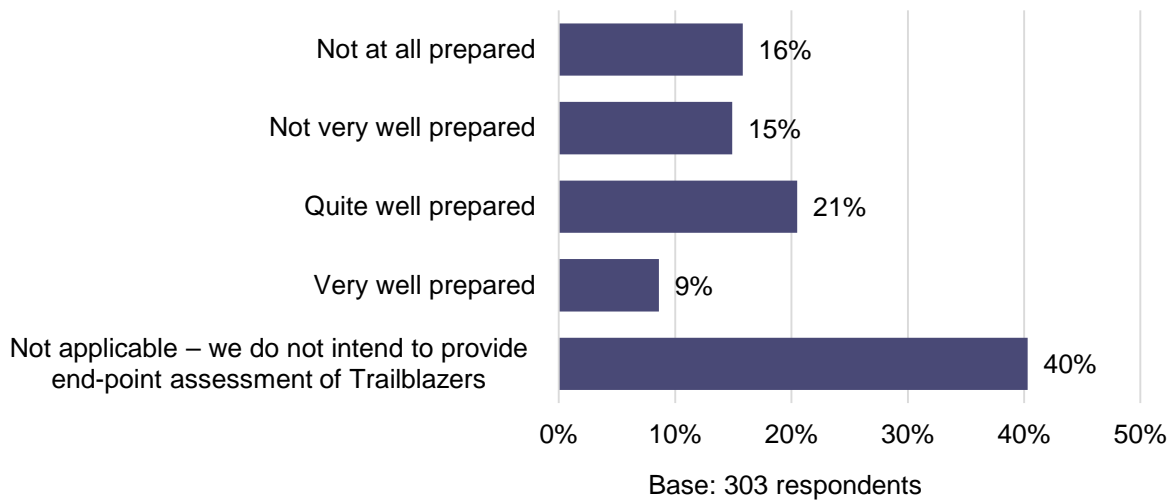
Employer – Carpentry and joinery

6.3 End-point assessment of Trailblazers

With respect to the impending introduction of Trailblazers neither the centres nor the assessors themselves appear to be confident of their levels of preparedness. Some 40% of centres say that they do not intend to provide end-point assessments. A total of 30% say they are well prepared and 31% are not prepared (Figure 16).

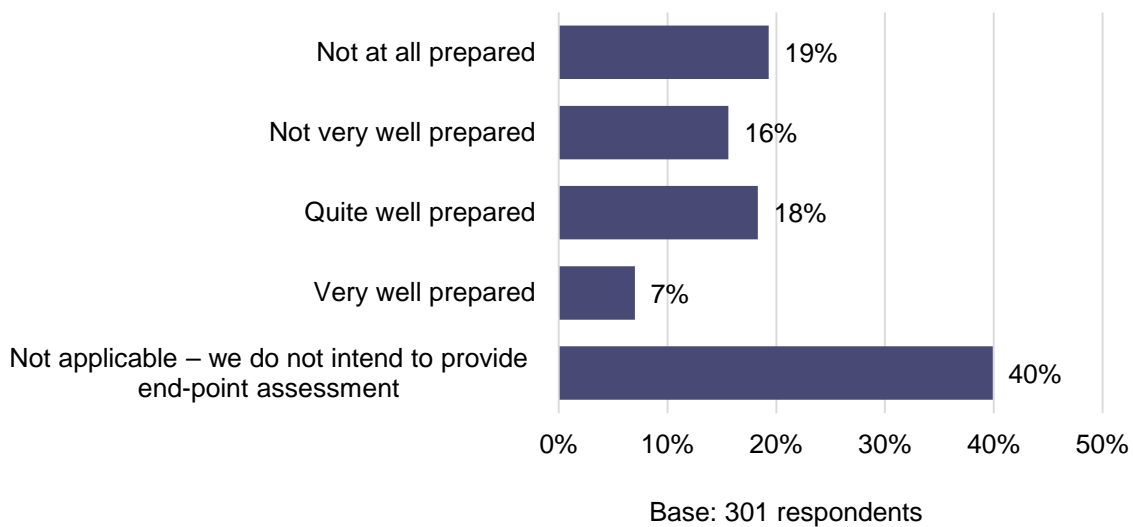


Figure 16 Preparedness for delivering Trailblazers (centres)



The assessors themselves appear less confident. Again some 40% will not be providing end-point assessments, while a quarter (25%) are prepared and 35% not prepared (Figure 17).

Figure 17 Preparedness for delivering Trailblazers (assessors)



The centres have called for help and support in a number of ways. A large number have asked for the final standards, criteria and target dates to be made available as soon as possible. Some pointed to “knowledge gaps” in colleges and others asked for help in finding independent assessors.

There appears to be a high degree of confusion and a common desire for more information (as illustrated by the quote below):



“Yes we will be requiring the following:-

- the actual Standards to be used;*
- who will be policing the assessments (from the point of view of the qualification aspects of the assessor);*
- whether or not apprenticeships can be offered in conjunctions with end point assessments for the same employer;*
- awarding body clarification;*
- help with independent assessors; and*
- dates and exact systems to be implemented.”*

The trade federations mirrored the confusion of the centres. One respondent pointed out that, in his view, CSCS cards require a qualification but that some Trailblazers do not include the NVQ. Several questioned the wisdom of attempting to impose such a system in a sector which – in their view – “has sufficient qualifications and checks and balances”. One called the scheme “bizarre”.

Some questioned the potential for bias in the new system, arguing that one assessor could be assessing the candidates of a colleague who is the trainer.

Another trade body said:

“All the rules and regulations are difficult to understand. Trying to get employers to attend meetings is difficult because that is a big commitment and they soon lose that enthusiasm. The whole process and the writing of the standards is too complex for employers. Meeting after meeting, they don’t understand it.”

A large number of centres questioned the introduction of Trailblazers in different ways. Several appear sceptical that the system will ever succeed given the perceived cost of assessments and the sheer complexity of the sector and its needs. One centre feels that neither assessors nor the sector are ready for Trailblazers:

“The sector isn’t ready for it. Trailblazers end assessors should be licensed by awarding organisations so there is a standardised approach. Current screening isn’t enough. I haven’t seen any effort to improve this.”

For their part the awarding organisations see the Trailblazer approach as adding to their portfolios (as long as they have qualifications embedded). A number mentioned the fact that they were either willing to, or already in the process of, developing new qualifications to fit in with Trailblazer requirements in key sub-sectors.



6.4 Future support needs

Working with CITB

Research participants were asked what CITB could do to ensure and maintain the supply of onsite assessors and to ensure the quality of onsite assessment.

Several pointed out that salaries and fees are a major factor in determining whether a person becomes an assessor. Some also argued that “CITB are not paying enough – so are driving down quality”. A number argued that the level of detail and quality on the plumbing and electrical underpinning knowledge statements in terms of guidance and portfolios are “much better than CITB’s”.

A good number of respondents called for more rigour in the selection and appointment of assessors. Several called for a “licensing” approach and pointed to what they regard as “poor quality assessors without suitable skills”.

Other comments included:

“Getting standardisation clear – even confusion about what pen colours assessors can use”

“Ensure funding is not allocated to one area of construction over another”

“CITB to run own A1 and V1 courses”

“Develop a register of assessors” (a similar register exists for trainers and assessors in energy and utilities – the EU Skills Register);

“Run a national recruitment campaign and raise the profile of assessors.”

“They have either got to bring it all in and have all the assessors go through one scheme, with a proper register and same set of standards. Or they need to accept that it’s a free for all and stop pretending that they are regulating it.”

But, above all other requests, was a call for more information and clarity for industry. A trade body in civil engineering explained how information is not getting through to employers properly due to the fact CITB has fewer people “on the ground” than it used to. As such, smaller firms in particular are going to independent training groups for advice since *“they don’t want to be looking for it online”*.



Working with awarding organisations

The majority of centres said that they were getting good levels of support from awarding organisations (many spoke highly of CSkills) but asked for more CPD provision and more direct contact on a more regular basis.

“AOs need to ensure competent, occupationally aware Quality Assurers are hired. They need to be able to give valuable QA advice. Some don’t understand industry or learners.”

“The way the qualification was written is not in a language that learners understand. Even managers don’t understand. I have taken this issue up at assessor and internal verifier forums”.

CPD days are down south – ideally we’d like more geographical balance so that we could get to them.. The CITB yearly meeting was held in Newcastle which was much better – they tour over the country which makes things fairer.”

“There’s not a lot of consistency amongst AOs. There’s lots of advice and guidance going out via email. However the advice they give at events does tend to differ”.

Again, however, the most consistent call from centres was for more information on a more regular basis.

The trade bodies were asked how accessible and easy to work with were centres offering relevant qualifications to their sectors and how they perceived awarding organisations. The response to centres was generally favourable but the federations pointed out the variability and the uneven geographical spread which made the lives of some of their members very difficult. Responses to their relationship with awarding organisations were extremely positive – especially to CSkills.

In terms of ensuring the supply and quality of assessors, the federations offered a number of suggestions and comments including:

“Looking at how qualifications are assessed – do all modules need to be assessed by the same assessor? Changing this would help speciality sectors and it would increase provision & work for assessors because people could get the NVQ more quickly, so more people would want to do it.”

“The £400 achievement Grant is fine but our sector starts to get a bit costly and the £400 won’t go a long way.”

“Another way – have an official status of ‘mentor’ in the workplace. It might make people then go on from being a ‘mentor’ to being an assessor.”



“From the top end – CITB needs to get to grips with the AOs – there are 10 involved in Plant qualifications so perhaps there could be an over-arching body to help with vetting assessors”.

“All I can say is they should concentrate on the quality rather than the quantity – you could have plenty of assessors but if they’re not very good the industry loses credibility.”

“Who assesses the assessors?”



7. Conclusions and recommendations

7.1 Conclusions

We were commissioned by CITB to answer a number of specific research questions. The broad answers to those questions have been described in the body of the report but, for completeness, are:

1. What is the current volume of onsite assessors available to construction?

Our modelling of the current market shows that there are some 10,000+ assessors available to the construction industry.

2. Is the current supply of onsite assessors adequate to meet current needs?

The evidence suggests that supply is not sufficient and estimates suggest a shortfall of approximately 630 assessors. The picture is mixed across the occupational groups and the main report discusses geographical issues in terms of the availability of assessors. The current shortfall of assessors is highest with respect to the following occupational groups:

3. What will be the future demand for onsite assessors by volume and subject?

This has been determined on current figures to be around 500 new assessors and 3,300 replacement assessors over the next three years.

4. What are the key drivers for career decisions amongst assessors?

The main motivations for assessors entering the role include health and lifestyle reasons (e.g. additional income during retirement or when no longer able to perform physical work in construction); natural progression through an existing job (either in construction or in a teaching capacity) and wanting to “give something back” to the industry.

5. What is the quality of onsite assessment practice, including its efficiency and effectiveness?

This is discussed in detail in Chapter 4. Onsite assessment (including specific approaches) is viewed as generally fit for purpose, however current Standards and assessment criteria should be tightened up.

6. Is there an alternative model for onsite assessment, training new assessors and/or upskilling current assessors.



The evidence from most stakeholders appears to be that onsite assessment as it stands is the most economical and practical approach but that improvements could be made in rigour and efficiency.

Further conclusions relate to specific findings of the research as follows:

1. Shortages of onsite assessors affect many occupational areas, with the key result that assessors with the right skills are not 'available' when and where employers need them.

Employer forecasts mean that employment growth is anticipated across almost all of the 81 occupational groups in scope of this research. The rate of growth is not uniform across all occupations but averages at 4.5% over the next three years. The industry will respond to the recruitment challenge and the need to qualify their workforce, resulting in more assessors being needed with the right skills and within easy geographical access of firms that need them.

In volume terms given current and future employment forecasts, the largest additional recruitment requirement for onsite assessors will be needed in Plant, Building and Civil Engineering, Insulation, Joinery Manufacture, Joinery and Carpentry, and Bricklaying/Pointing.

Across most occupational groups, the supply of onsite assessment is not sufficient to meet industry needs. The problem is the 'availability' of assessors, defined in terms of long waiting times for learners to undergo assessment, leading to delays in qualifications and cards being obtained, as well as insufficient assessors in highly specialised or 'niche' areas. This applies particularly to the numerous discrete disciplines within roofing, as well as specific types of plant machinery and equipment.

Most centres and assessors report that they only undertake onsite assessment in occupational areas where their competence and qualifications allow, with each assessor covering an average of 1.5 of the 81 occupational groups in scope of the research.

In several high employment occupations (notably bricklaying/pointing and plastering/artexing) more than a quarter of the workforce that needed onsite assessment over the past two years has been unable to access it due to issues or barriers encountered. Additionally, evidence from the survey of centres confirms that current demand for onsite assessment already exceeds supply. This applies to more than a fifth of centres offering onsite assessment in roofing, dry lining, interior fit-out, site preparation and groundworks, demolition, shop-fitting, fitted kitchen/bathroom installations and road planing.



2. Disparities exist between the perceptions of employers and centres as to the current availability of assessors

Whilst industry has raised concerns (some serious) about being able to find sufficient and suitable assessors, the majority of centres are generally confident that they can respond easily to increased levels of demand by recruiting or contracting-in assessors as needed. About half of the assessor workforce is not currently employed directly by centres (many centres prefer to retain this flexibility in the event of surges and lulls in demand) but it seems the current available assessor workforce is neither sufficient in number nor well-enough spread in a geographical sense to fully meet industry expectations.

There is currently insufficient evidence around the geographical coverage offered by centres, although employers in Scotland have rated the availability of assessors considerably lower than those in Wales and the English regions. Anecdotal evidence points to onsite assessment often being very difficult to access in rural areas.

3. Onsite assessment practice is generally considered fit for purpose, although the perception is that it can lack rigour and clearly defined Standards

The onsite assessment route is highly valued by industry and will be vital for continuing to support the industry going forward. Its main strengths are enabling learners to become qualified based on their performance in a real world environment, minimising down-time given that they don't need to be released from site, and the overall convenience this brings to employers.

Notwithstanding the lack of assessors in highly specialised areas (as discussed above) the process is generally considered fit for purpose, with the most highly rated aspects being the relevance of onsite assessment to individual organisations and assessors' occupational knowledge and competence.

There are issues needing to be tackled on an industry-wide level concerning its rigour, particularly based on concerns from industry that assessors are not all working to a clearly defined and consistent set of Standards and that many are 'box-ticking' without genuine application of quality criteria.

Other problems include difficulties coordinating assessments – matters which can be inherently difficult to address where the assessor needs to visit the site, yet day-to-day operational changes can affect the availability of the learner and the type of site/equipment and tools needed.



4. Current assessors generally enjoy many aspects of the role, however an aging workforce and more attractive pay and opportunities in industry are causing recruitment and retention problems

Onsite assessors tend to enter the role in later in their careers, with just over half (58%) working full-time in the role and the remainder commonly holding parallel positions in industry, teaching or lecturing. The benefits to being an assessor are generally the personal rewards, for “giving something back to industry” and the flexibility of being able to take on a role later in life when the physical demands may become too great.

The problem is that the assessor role and perceived benefits that go with it are weighted towards the older workforce. With an aging workforce profile, the loss of assessors to retirement makes it even more important to attract new assessors from the widest possible talent pool and to ensure the career opportunities are clear. At present the role is not particularly attractive to those who can and want to earn more in industry.

Upturns in construction performance mean that demand for qualifications and onsite assessment are going up, yet this is also when wages in the industry start to increase and there is the increased risk of losing those assessors back to the sector. Indeed 21% of surveyed centres have reported losing one or more assessors back to industry over the past two years.

5. Employers’ main concerns are that existing approaches to onsite assessment should be strengthened and more assessors made available, rather than the need for developing a new model

Less than a quarter of employers (23%) believe that onsite assessment could be improved, but a third felt that they didn’t know. Micro-sized firms employers have more limited knowledge and experience of onsite assessment yet they make up the vast majority of employers.

What employers need most is more information about the benefits, process and funding arrangements that go with onsite assessment. It is clear however that the industry on the whole believes that the process needs to become more rigorous and stronger in terms of standardisation and a means to be able to find the assessors they need easily and without long waiting times.



7.2 Recommendations

1. Work with awarding organisations to develop clearer Standards and assessment criteria, in simpler language and with less repetition.

Feedback from centres and assessors, is that the current Standards, assessment criteria and questions are written in overly academic language which confuses and in some cases 'distresses' learners. Consideration will need to be given to how these Standards will be enforced and policed going forward in the effort to improve consistency and maintain quality of assessment.

We recommend maintaining the Standards as they are but perhaps considering developing new 'guidance' and explanation specifically for the employees themselves.

2. Review and update the Consolidated Assessment Strategy so that the requirements are clearer and more prescriptive.

The strategy should make reference to what types of assessment approaches should be used in what circumstances, along with guidance around minimum contact time between assessors and learners.

A review and update will also create the opportunity to increase the rigour of assessments by specifying that certain approaches are much less to be desired and that attention to detail in the assessments is essential. Some employers are already sceptical about certain assessors and assessment approaches and this potential for "brand damage" will have to be addressed quickly and firmly.

3. Build up a national register of assessors, fully searchable by occupational specialism, location, centre and (potentially) individual named assessors.

The aim of this approach is to improve the efficiency by which employers can locate and access the assessors they need. The register should be public-facing and profile pages could be updated by centres and assessors themselves, e.g. using a login facility.

4. Draw on the national register and work with existing partners to encourage a more joined up network of assessors available to the industry as a whole. This should include those currently working as full time assessors and those based in industry who may be available to the sector when needed (but bearing in mind methods of avoiding conflicts of interest and the need to ensure commercial confidentiality).

The network should ideally involve trade bodies and centres working across all occupational groups. By working closely together, it should also help CITB to monitor and keep on top of centres and assessors available in different occupational groups and by geographical area.



- 5. Optimise the recruitment and use of industry-employed part-time assessors by developing a standard non-disclosure agreement and code of practice.**
- 6. Review existing CITB grant arrangements and consider providing more funding to help the industry meet the costs of onsite assessment.**

Grant funding should be prioritised to those occupational groups which are struggling to meet the costs of assessment, particularly given anecdotal evidence of some assessors being able to 'name their price', such as in Plant. This may need to involve more detailed research to explore the costs of onsite assessment across particular occupational areas.

- 7. Look at providing some form of financial incentive to encourage more occupationally competent people in the sector to undertake an onsite assessor qualification.**

Again, any financial incentives should be directed towards occupational groups and regions where shortages of assessors exist (e.g. specific disciplines within roofing) where the assessor recruitment requirement is expected to be highest over the next three years. This may require more detailed 'deep dive' research within targeted occupational groups to provide a more detailed assessment of skills needing onsite assessment matched to those which assessors can supply, including geographical coverage.

- 8. Consider supporting cross-skilling of assessors to boost the capacity of the existing assessor pool – focused specifically in occupational areas that are closely matched and where there are particular shortages.**

Priorities based on current shortages would be the various disciplines within roofing and different types of plant equipment. Awarding organisations interviewed for the research are generally favourable to assessors working in multiple area as long as they are sufficiently skilled and qualified, however few cover more than one occupational area at present.

This type of approach would need to ensure that assessors become qualified to at least a Level above that which they will be assessing, and be supplemented with guidance to explain which occupations will most usefully lend themselves to multi-skilling, and the circumstances relating to whether this would/would not require assessors undertaking a further qualification.

- 9. Investigate the use of innovative approaches designed to improve the efficiency of onsite assessment**

Assessors and centres tend to place these approaches low on their lists of preferred assessment techniques but there may be ways in which the rigour of their application can be increased.



This includes using multi-media technology and more virtual elements, such as photography, video, Skype WhatsApp. Linked to this it should be possible to develop guidance and training relating to new approaches for existing assessors who face barriers using these methods.

The use of technology can bring new opportunities for improving the efficiency of assessment and associated reporting (including reduced waiting times for employers) and also challenges, such as ensuring nothing crucial is missed, and the risk of equipment failure or internet connectivity problems depending on location.

10. Look at offering and/or funding dedicated CPD workshops which might help to consolidate learning and assist those who have said they prefer face-to-face rather than online approaches.

Some 40% of assessors report that they find CPD activities to be time-consuming or expensive. An obvious approach would be more online CPD but an older age profile in the assessor group may increase the likelihood of barriers being faced in undertaking online CPD. Nevertheless it should not be impossible to improve the IT learning support and hand-holding given alongside online CPD to help ensure that it gets taken up.

11. Develop better careers guidance materials relating to the role of onsite assessor and promote the benefits of an assessment career more widely.

This could include job profiles, person specifications and even case studies of what it's like to work as an assessor. Key information to include would be typical pay, qualifications required, CPD requirements, and how the job role supports career progression. There also needs to be better signposting of the assessor role within wider construction CIAG and how that fits in to a wider career trajectory.

12. Provide more and better information tailored to micro businesses in particular the grants that can be obtained (how much, when and how), along with an idea of the typical costs associated with onsite assessment, what to check for when seeking out a centre/assessor, and who to contact for further support.

With only 50% of micro firms claiming CITB grant upon completion of onsite assessment, more and better information needs to be targeted towards these business in particular, to improve their knowledge and understanding of onsite assessment, the benefits, and how that compares (e.g. pros and cons) to the alternative EWPA route.

13. Work closely with awarding organisations (as part of the existing Built Environment Awarding Body Forum or a new group) to understand more about current approaches to external verification of centres and good models and best practices that could be more widely adopted.



As part of this, consideration should be given to developing and collectively agreeing on a consistent set of Standards for external verification, such as the approaches taken to recognition of new centres, clear criteria for assessing the quality of assessors, how often visits should be undertaken etc.



Appendix 1: Surveys, sampling and calculations

Survey of employers

The survey of employers set out to quantify demand for onsite assessment across 81 occupational groups. These groups were defined by CITB based on main activity classifications used on its Levy Register of 60,200 construction firms.

Employers listed on the Levy Register were pre-classified into one of these 81 categories. This enabled quota targets to be set and necessitated use of the Levy Register as a sample frame since these categories could not be defined on any other available business database²⁶. Employers invited to participate in the survey were asked questions specifically relating to their workforce in the occupational area against which they had been pre-classified.

Two key occupational groups on the Levy Register were considered out of scope of the research. These were General Building (accounting for 33% of firms on the register) and House building (accounting for 3% of firms on the register). These were ignored on the basis that the research needed to target more specific and defined occupations that would enable CITB to more precisely target future interventions relating to onsite assessment.

Initially the employer survey set out to achieve 600 responses. This target was then extended to increase the base number of respondents in certain occupations and a revised target of 730 was set. In total, 750 responses were achieved and full details of quotas and achievements by occupation are set out in Table 13. The survey also set out to achieve a representative sample by size band and nation/region across Great Britain, and targets/actual responses against these quotas are shown in Tables 14 and 15.

Based on an estimated total of 149,390 construction employers in Great Britain²⁷, the achieved overall survey target of 750 is accurate to a margin of error of $\pm 3.5\%$ at the 95% confidence level. Analysis by each individual occupational group will affect the margin of error.

Telephone survey completions lasted approximately 10-20 minutes and were conducted with business owners/managers/training managers/HR representatives or other job roles depending on business size and structure.

²⁶ It should be noted that employers listed on CITB's Levy Register are not all levy payers or grant claimants, nor have they necessarily heard of CITB, thus limiting the risk of bias from using this as a sample frame.

²⁷ Source: BIS (2015) *Business Population Estimates for the UK and Regions*



Establishing total firms and total employment (Table 2)

In the case of 10 occupations (see Notes 1 and 2 below Table 2) it was possible to identify recently published statistics on the total number of firms and total number of employees in relation to particular occupations. The source used for the total number of firms was the Office for National Statistics' 2015 Construction Tables, and the source used for the number of employees was the CITB/Experian 2016-2020 Construction Skills Network (CSN) forecast report.

For the remaining 71 occupational groups, a different approach was needed due to the absence of national data on total firms and total employment. For these groups, we identified the total number firms by occupational group on the CITB Levy Register, calculated the proportional mix, and up-scaled the data based on the total population of 149,390 GB employers based on BIS Population Estimates. We then identified total employment by taking the average number of employees per firm (from the survey) and applying this to the total number of firms.

Calculating growth in employment numbers (Table 2)

The survey results from the 81 occupational groups (including quite small groups of employers for each occupation) reveal marked differences in the anticipated employment growth rate between the occupations over the next three years and between those rates and the national average annualised growth rate of 1.1% (CSN).

The results, however, also illustrated the important differences between the growth perceptions of employers in each of the occupational groups and, in order not to lose this extremely valuable insight, the growth rates were standardised to the CSN annualised rate so that the figures now represent a more realistic set of growth rates but also retain the vital picture of variation in anticipated growth between the various occupational groups.

Growth over the three-year period was calculated for each occupation using the standard (straight line) compound growth rate formula. Because the figures obtained from the survey related only to England, the employment numbers for each occupation were then up-scaled for Great Britain using the overall population ratio. This may not be totally accurate if assessor numbers and employment are proportionately different for Wales or Scotland but this can be investigated in further research if necessary.

Survey of centres and assessors

As part of the survey of centres, a screening question was used to confirm their involvement in onsite assessment of construction qualifications prior to any more questions being asked.

Telephone interviews lasted approximately 10-20 minutes. Respondents primarily included centre heads/directors/coordinators and curriculum leads for construction qualifications, including equivalent roles.



The survey of centres helped to identify names and contact details of individual onsite assessors, who were then contacted by telephone or email to participate in the individual assessor survey. The latter was made available online to those assessors who preferred the flexibility of answering the questions at a time convenient to them. In addition, CITB directly mailed a list of its own assessors and shared the online link to the assessor survey to request and encourage participation.

Identifying centres offering construction qualifications by occupational area

Limited national data exists relating to the total number of centres offering construction-related qualifications by sub-sector or occupational group.

CITB supplied Pye Tait with England-only data setting out the total number of learners registered on construction qualifications by provider organisation over a three year period (2012-13 to 2014-15). A desk-based exercise was undertaken to map each unique qualification to one of the 81 occupational groups in scope of the research. This enabled a reasonably accurate quantification of the total number of centres in England working in relation to each occupation²⁸.

Calculating onsite assessors needed by industry (Table 2)

Using the employment growth rates per occupation, it has been possible to calculate how the current number of assessors will need to change in line with industry employment over the next three years. An additional requirement has been factored in to take account of assessors leaving or retiring over the same period. For the purposes of this report this has been calculated at an assumed 10% per annum (33% compound growth rate over three years). Should further research show that turnover due to retirement and leaving is greater than an average 10% the resulting spreadsheet model can be amended accordingly.

The survey of 306 centres established the total number of assessors working in relation to each occupational group within those centres. This information was then up-scaled to a national level based on the total number of centres offering qualifications in England that were previously mapped to each of these groups. A 15% uplift was then applied for Great Britain as a whole.

The annual growth rate for each group was then used to calculate the numbers of assessors required over the next three years for each group (again, straight line compound). Leavers were calculated using the standard straight line depreciation formula.

²⁸ An assumption has also needed to be made that each centre either offers, or could potentially offer, onsite assessment.



Calculating shortages of assessors (Table 5)

By using data from the employer survey, coupled with estimates of total assessors in Great Britain, it has been possible to estimate the following:

- total number of assessors per 100 staff; and
- current shortfall in assessor numbers for Great Britain.

Calculation for total assessors per 100 staff (per occupational group):

- *estimated GB assessors divided by (total industry employment /divided by 100)*

Calculation for the current shortfall in assessor numbers for Great Britain:

- *% staff needing OSAT but unable to access it multiplied by estimated GB assessors*

As these calculations are reliant upon data obtained from the surveys of employers and centres, their accuracy at a detailed occupational level will be affected by the base number of survey respondents. As such they should be treated with caution.

Outlying occupations have been removed where the calculations result in more than 40 assessors per 100 industry employees.

Presentation of results

The results for 46 occupations where demand and supply data were available are presented in full within Table 1. For ease of reference, occupational groups are presented alphabetically and additional explanatory notes are provided.

With respect to 35 of the 81 listed occupations, it has not been possible to match supply to demand. This is due to various reasons, including:

- Certain occupations not clearly aligning to qualifications requiring onsite assessment;
- Overlaps with other occupations for which signposting has been provided;
- Surveyed centres not reporting that they employ any assessors within the occupation concerned, such as for highly specialised and niche occupations.

Information relating to these occupations is presented in Table 2.

Sampling information

Table 13 presents the sampling information for the employer survey by occupational area.



Table 13 Survey of employers – achieved sample by occupational area

Occupational area	Number of firms on levy register	%	Representative sample (based on 600)	Manual adjustment (based on 600)	Manual increase (based on 730)	Actual achieved
Access Equipment	1	0.0%	0.0	1	1	1
Access Flooring	16	0.0%	0.3	1	1	1
Alteration to a Building / Part of a Building	633	1.7%	10.0	10	10	10
Architectural Steelwork Installation	67	0.2%	1.1	2	5	5
Artexing	1	0.0%	0.0	1	1	2
Asbestos Removal	75	0.2%	1.2	2	5	5
Asphalt & Tar-Spraying	322	0.8%	5.1	7	7	7
Bricklaying/Pointing	995	2.6%	15.7	15	15	16
Building & Civil Engineering	2935	7.7%	46.3	40	40	42
Building Repair & Maintenance	3387	8.9%	53.4	45	45	45
Cavity Wall Insulation, Draught Proofing or Loft Insulation	47	0.1%	0.7	2	5	5
Civil Engineering	1479	3.9%	23.3	20	20	25
Concrete Flooring	25	0.1%	0.4	1	5	5
Concrete Repair	12	0.0%	0.2	1	5	5
Conservatories	14	0.0%	0.2	1	1	1
Construction Labour Agencies	143	0.4%	2.3	3	5	5
Curtain Walling/Structural Glazing	46	0.1%	0.7	2	5	5
Damp Proofing	152	0.4%	2.4	3	5	5
Demolition	354	0.9%	5.6	7	10	10
Developers	823	2.2%	13.0	15	15	15
Diamond Drilling & Sawing	123	0.3%	1.9	3	5	5
Directional Drilling	7	0.0%	0.1	1	1	1
Dry Lining	134	0.4%	2.1	3	10	13
Dry Lining or Partition	370	1.0%	5.8	8	8	8
Erecting/Dismantling Exhibition Stands	20	0.1%	0.3	1	1	1
Facade Preservation	4	0.0%	0.1	1	1	1
Felt Roofing	168	0.4%	2.6	3	5	5
Fibrous Plastering	13	0.0%	0.2	1	1	1
Fitted Kitchen/ Bedroom Installation	804	2.1%	12.7	15	15	15
Flat Glass-Glazing/Emergency Boarding Up	154	0.4%	2.4	3	5	5
Floor Covering	169	0.4%	2.7	3	3	3
Garage Door Installation	20	0.1%	0.3	1	1	1
Hard Flooring	418	1.1%	6.6	8	8	8
Hard Landscaping & Paving	178	0.5%	2.8	3	5	5
Hard Metal Roofing	11	0.0%	0.2	1	1	1
Holding Company	42	0.1%	0.7	2	2	3
Insulated Enclosures	11	0.0%	0.2	1	1	1



Insulated Rendering/Cladding	54	0.1%	0.9	2	5	5
Interior Fit-Out	462	1.2%	7.3	8	10	10
Joinery & Carpentry	5199	13.7%	82.0	50	50	51
Joinery Manufacture	1552	4.1%	24.5	25	25	25
Land Drilling	23	0.1%	0.4	1	4	5
Lead Roofing	26	0.1%	0.4	2	5	5
Liquid Waterproof Systems	12	0.0%	0.2	1	5	5
Mastic Asphalt	57	0.1%	0.9	2	5	5
Netting & Rigging	24	0.1%	0.4	1	5	5
Open-Cast Coal Mining	3	0.0%	0.0	1	1	1
Painting & Decorating	3673	9.6%	57.9	45	45	45
Passive Fire Protection	53	0.1%	0.8	2	5	5
Paving	142	0.4%	2.2	3	3	3
Piling	49	0.1%	0.8	2	5	5
Plant Hire & Repair	1766	4.6%	27.8	30	30	30
Plastering &/or Artexing	2306	6.1%	36.4	35	35	35
Powered Access	13	0.0%	0.2	1	1	1
Preparing/Fixing Stone for Building, including Stonemasonry	333	0.9%	5.2	7	7	8
Rail Plant Hire & Repair	1	0.0%	0.0	1	1	1
Railway Contracting	16	0.0%	0.3	1	1	1
Reinforced Concrete	100	0.3%	1.6	3	5	5
Relocatable Partitioning	67	0.2%	1.1	2	10	10
Resin Flooring	33	0.1%	0.5	2	8	8
Road Planing	7	0.0%	0.1	1	1	1
Road Safety Marking	29	0.1%	0.5	2	8	8
Road Surface Treatments	41	0.1%	0.6	2	5	5
Roof Sheeting & Cladding	459	1.2%	7.2	8	14	15
Roofing inc Slate & Tile	2975	7.8%	46.9	40	40	40
Scaffolding	1526	4.0%	24.1	25	25	27
Sealant Application	71	0.2%	1.1	2	5	5
Shopfitting	521	1.4%	8.2	10	15	15
Single Ply Roofing	20	0.1%	0.3	1	5	5
Site Preparation or Groundworks	1118	2.9%	17.6	15	15	15
Steeplejack or Lightning Conductor Engineering	79	0.2%	1.2	2	5	6
Suspended Ceiling Installation	363	1.0%	5.7	7	15	15
Suspended Platform Installation	2	0.0%	0.0	1	1	1
Swimming Pool Construction	38	0.1%	0.6	2	2	2
Term Maintenance - Buildings	7	0.0%	0.1	1	1	1
Term Maintenance - Roads	34	0.1%	0.5	2	2	2
Tool & Equipment Hire	9	0.0%	0.1	1	1	1
Tunnelling	3	0.0%	0.0	1	5	5
Underpinning	9	0.0%	0.1	1	1	1
Utilities	104	0.3%	1.6	3	5	5
Wall & Floor Tiling	500	1.3%	7.9	8	8	8
Window Film Application	11	0.0%	0.2	1	1	1
Grand Total	38063	100%	600	600	730	750



Quotas and achieved samples by employment size band and region are shown in Tables 14 and 15.

Table 14 Survey of employers – achieved sample by size band

SIC 41, 42, 43	Total	%	Quota	Quota - adjusted	Achieved
Micro - 0-9	257,900	94%	697	625	575
Small - 10-49	15,550	6%	42	50	84
Medium - 50 to 249	1,750	1%	5	40	55
Large - 250+	280	0%	1	30	36
TOTAL	275,480	100%	745	745	750

Table 15 Survey of employers – achieved sample by nation/region

SIC 41, 42, 43	Enterprises	%	Quota	Achieved
England - North	54,075	20%	146	158
England - Midlands	41,490	15%	112	120
England - South	150,050	54%	406	390
Scotland	18,425	7%	50	51
Wales	11,440	4%	31	31
TOTAL	275,480	100%	745	750

The profile of centre respondents by type of organisation is shown in Table 16.

Table 16 Survey of centres– achieved sample by type of organisation

Type	No. survey respondents
Further Education College	92
Independent Provider	176
Other	38
TOTAL	306



Appendix 2: Detailed demand/supply tables

Table 17 Workforce not completing an onsite assessed qualification over the past two years due to issues/barriers encountered

Total survey respondents	No. surveyed firms	Est. total current GB employment	% staff needing OSAT but unable to access
Garage Door Installation	1	43	100.0%
Railway Contracting	1	272	100.0%
Hard Metal Roofing	1	117	60.0%
Swimming Pool Construction	2	485	50.0%
Tool & Equipment Hire	1	153	50.0%
Plastering &/or Artexing	35	49,250	43.0%
Underpinning	1	134	42.9%
Roof Sheeting & Cladding	15	5,336	34.1%
Hard Flooring	8	2,445	27.3%
Cavity Wall Insulation, Draught Proofing or Loft Insulation	5	460	26.1%
Bricklaying/Pointing	16	71,950	26.0%
Interior Fit-Out	10	6,485	22.7%
Wall & Floor Tiling	8	2,924	22.7%
Preparing/Fixing Stone for Building, including Stonemasonry	8	3,541	20.0%
Concrete Repair	5	1,302	17.3%
Lead Roofing	5	155	14.3%
Demolition	10	12,498	13.9%
Term Maintenance - Buildings	1	328	13.6%
Resin Flooring	8	202	13.0%
Asphalt & Tar-Spraying	7	6,261	12.5%
Insulated Rendering/Cladding	5	2,044	12.4%
Land Drilling	5	998	11.8%
Mastic Asphalt	5	412	11.8%
Shopfitting	15	7,461	10.9%
Alteration to a Building/Part of a Building	10	21,136	10.8%
Netting & Rigging	5	419	9.8%
Sealant Application	5	634	9.5%
Suspended Ceiling Installation	15	2,728	9.4%
Damp Proofing	5	2,392	8.1%
Building & Civil Engineering	67	77,760	6.7%
Roofing inc Slate & Tile	40	45,970	6.2%
Joinery Manufacture	25	24,557	5.9%
Curtain Walling/Structural Glazing	5	1,859	4.2%
Reinforced Concrete	5	13,271	3.2%



Scaffolding	27	24,220	3.1%
Liquid Waterproof Systems	5	1,036	2.5%
Dry Lining or Partition	8	4,820	2.0%
Construction Labour Agencies	5	23,357	1.8%
Road Surface Treatments	5	2,162	1.6%
Hard Landscaping & Paving	5	5,073	1.5%
Joinery & Carpentry	51	273,300	1.3%
Fitted Kitchen/ Bedroom Installation	15	43,204	1.3%
Steeplejack or Lightning Conductor Engineering	6	4,284	0.7%
Painting & Decorating	45	114,050	0.3%
Plant	30	83,920	0.1%
Building Repair & Maintenance	45	333,912	0.1%
Access Equipment	1	11	0.0%
Access Flooring	1	68	0.0%
Architectural Steelwork Installation	5	484	0.0%
Artexing	2	6	0.0%
Asbestos Removal	5	829	0.0%
Concrete Flooring	5	510	0.0%
Conservatories	1	268	0.0%
Developers	15	73,980	0.0%
Diamond Drilling & Sawing	5	1,883	0.0%
Directional Drilling	1	45	0.0%
Dry Lining	13	1,973	0.0%
Erecting/Dismantling Exhibition Stands	1	170	0.0%
Facade Preservation	1	43	0.0%
Felt Roofing	5	2,930	0.0%
Fibrous Plastering	1	111	0.0%
Flat Glass-Glazing/Emergency Boarding Up	5	30,500	0.0%
Floor Covering	3	26,830	0.0%
Holding Company	3	6,312	0.0%
Insulated Enclosures	1	117	0.0%
Open-Cast Coal Mining	1	3,828	0.0%
Passive Fire Protection	5	631	0.0%
Paving	3	3,423	0.0%
Piling	5	1,084	0.0%
Powered Access	1	111	0.0%
Rail Plant Hire & Repair	1	117	0.0%
Relocatable Partitioning	10	898	0.0%
Road Planing	1	1,042	0.0%
Road Safety Marking	8	740	0.0%
Single Ply Roofing	5	459	0.0%
Site Preparation or Groundworks	15	42,799	0.0%



Suspended Platform Installation	1	13	0.0%
Term Maintenance - Roads	2	49,170	0.0%
Tunnelling	5	115	0.0%
Utilities	5	16,644	0.0%
Window Film Application	1	117	0.0%

Table 18 % of direct employees holding an industry approved card

Occupational area	%	Occupational area	%
Access Equipment	100.0%	Resin Flooring	87.0%
Access Flooring	100.0%	Diamond Drilling & Sawing	86.1%
Construction Labour Agencies	100.0%	Developers	85.5%
Demolition	100.0%	Asbestos Removal	84.6%
Directional Drilling	100.0%	Joinery & Carpentry	83.9%
Erecting/Dismantling Exhibition Stands	100.0%	Architectural Steelwork Installation	82.4%
Facade Preservation	100.0%	Paving	82.4%
Fibrous Plastering	100.0%	Dry Lining	81.1%
Hard Metal Roofing	100.0%	Building Repair & Maintenance	80.3%
Insulated Enclosures	100.0%	Single Ply Roofing	79.6%
Insulated Rendering/Cladding	100.0%	Relocatable Partitioning	76.2%
Lead Roofing	100.0%	Roofing inc Slate & Tile	74.8%
Mastic Asphalt	100.0%	Steeplejack or Lightning Conductor Engineering	74.5%
Open-Cast Coal Mining	100.0%	Interior Fit-Out	74.2%
Piling	100.0%	Suspended Ceiling Installation	73.6%
Powered Access	100.0%	Floor Covering	73.3%
Railway Contracting	100.0%	Hard Flooring	72.7%
Road Planing	100.0%	Painting & Decorating	72.5%
Road Safety Marking	100.0%	Preparing/Fixing Stone for Building, including Stonemasonry	70.0%
Sealant Application	100.0%	Cavity Wall Insulation, Draught Proofing or Loft Insulation	69.6%
Suspended Platform Installation	100.0%	Reinforced Concrete	69.6%
Term Maintenance - Roads	100.0%	Plastering &/or Artexing	68.6%
Tool & Equipment Hire	100.0%	Alteration to a Building/Part of a Building	66.9%
Wall & Floor Tiling	100.0%	Shopfitting	66.3%
Window Film Application	100.0%	Concrete Repair	62.4%
Road Surface Treatments	99.2%	Swimming Pool Construction	58.3%
Site Preparation or Groundworks	97.4%	Damp Proofing	56.8%
Hard Landscaping & Paving	95.5%	Liquid Waterproof Systems	54.7%
Roof Sheetting & Cladding	95.1%	Holding Company	50.5%
Asphalt & Tar-Spraying	93.8%	Flat Glass-Glazing/Emergency Boarding Up	50.3%
Passive Fire Protection	92.9%	Joinery Manufacture	46.8%
Rail Plant Hire & Repair	90.9%	Plant Hire & Repair	45.5%



Scaffolding	90.5%	Underpinning	28.6%
Tunnelling	90.3%	Curtain Walling/Structural Glazing	16.8%
Netting & Rigging	90.2%	Artexing	16.7%
Bricklaying/Pointing	90.0%	Felt Roofing	9.8%
Utilities	89.0%	Fitted Kitchen/ Bedroom Installation	1.8%
Building & Civil Engineering	88.7%	Conservatories	0.0%
Dry Lining or Partition	87.8%	Garage Door Installation	0.0%
Concrete Flooring	87.5%	Term Maintenance - Buildings	0.0%
Land Drilling	87.3%		

Table 19 % of direct employees holding a work-based qualification that required onsite assessment

Occupational area	%	Occupational area	%
Erecting/Dismantling Exhibition Stands	100.0%	Painting & Decorating	47.4%
Facade Preservation	100.0%	Dry Lining or Partition	46.9%
Insulated Enclosures	100.0%	Developers	45.0%
Open-Cast Coal Mining	100.0%	Plastering &/or Artexing	44.6%
Term Maintenance - Buildings	100.0%	Diamond Drilling & Sawing	44.4%
Tunnelling	93.1%	Relocatable Partitioning	44.4%
Demolition	91.0%	Reinforced Concrete	43.9%
Rail Plant Hire & Repair	90.9%	Hard Metal Roofing	40.0%
Utilities	89.0%	Building & Civil Engineering	39.3%
Cavity Wall Insulation, Draught Proofing or Loft Insulation	87.0%	Construction Labour Agencies	34.4%
Road Planing	85.7%	Suspended Ceiling Installation	34.0%
Piling	82.7%	Sealant Application	33.3%
Hard Landscaping & Paving	80.6%	Preparing/Fixing Stone for Building, including Stonemasonry	32.5%
Netting & Rigging	80.5%	Alteration to a Building/Part of a Building	32.5%
Land Drilling	80.4%	Scaffolding	31.9%
Asbestos Removal	73.1%	Shopfitting	30.7%
Road Safety Marking	72.9%	Steeplejack or Lightning Conductor Engineering	28.8%
Plant Hire & Repair	72.7%	Lead Roofing	28.6%
Asphalt & Tar-Spraying	71.9%	Concrete Flooring	27.1%
Passive Fire Protection	71.4%	Damp Proofing	27.0%
Dry Lining	70.0%	Floor Covering	20.0%
Road Surface Treatments	69.4%	Term Maintenance - Roads	19.1%
Single Ply Roofing	68.5%	Flat Glass-Glazing/Emergency Boarding Up	17.8%
Holding Company	68.4%	Architectural Steelwork Installation	17.6%
Directional Drilling	66.7%	Artexing	16.7%
Concrete Repair	65.9%	Joinery Manufacture	10.8%
Mastic Asphalt	64.7%	Insulated Rendering/Cladding	10.1%



Wall & Floor Tiling	63.6%	Curtain Walling/Structural Glazing	9.5%
Felt Roofing	61.0%	Fitted Kitchen/ Bedroom Installation	4.0%
Joinery & Carpentry	59.6%	Building Repair & Maintenance	3.8%
Site Preparation or Groundworks	59.3%	Liquid Waterproof Systems	3.4%
Hard Flooring	59.1%	Access Equipment	0.0%
Paving	58.8%	Access Flooring	0.0%
Bricklaying/Pointing	58.0%	Conservatories	0.0%
Underpinning	57.1%	Fibrous Plastering	0.0%
Resin Flooring	56.5%	Garage Door Installation	0.0%
Roofing inc Slate & Tile	53.8%	Railway Contracting	0.0%
Interior Fit-Out	53.0%	Suspended Platform Installation	0.0%
Powered Access	50.0%	Tool & Equipment Hire	0.0%
Swimming Pool Construction	50.0%	Window Film Application	0.0%
Roof Sheeting & Cladding	48.8%		

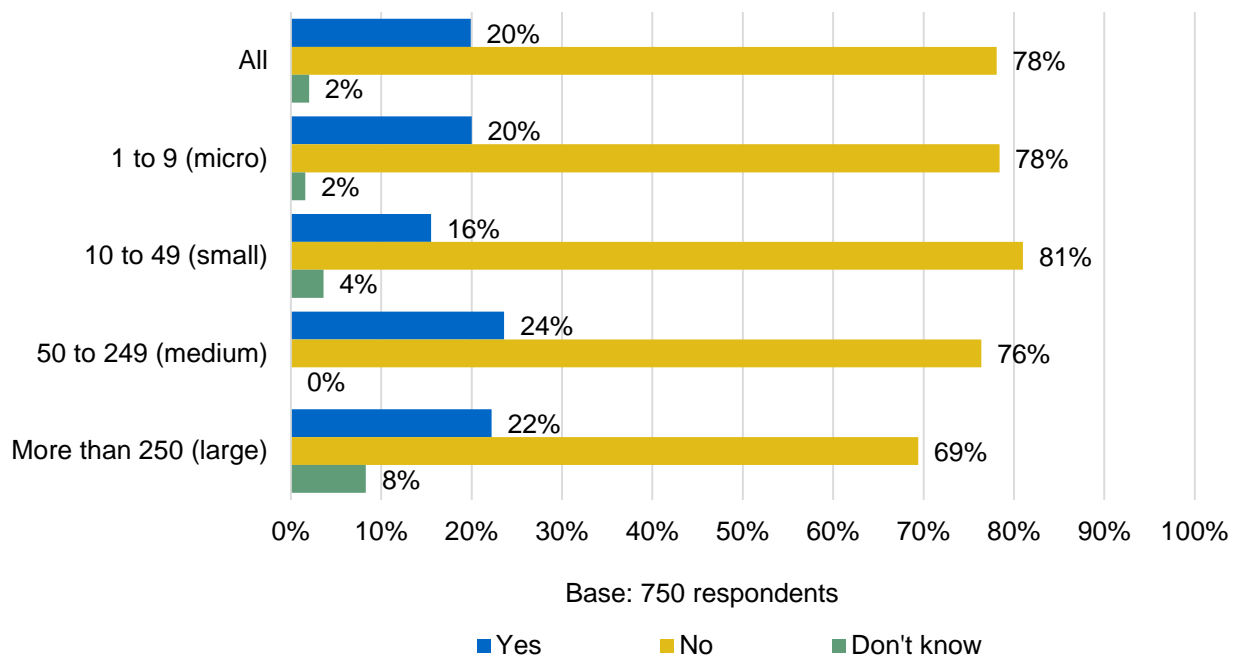


Appendix 3: Skills gaps

A fifth of employers responding to the survey (20%) confirmed that skills gaps²⁹ exist within their workforce. This compares with a 10% incidence of skills gaps reported by construction employers as part of the UKCES Employer Skills Survey 2015.

A larger proportion of medium and large employers have identified skills gaps than is the case among micro and small employers (Figure 18). Firms in Wales and Scotland reveal a greater incidence of skills gaps than those in England (Figure 19).

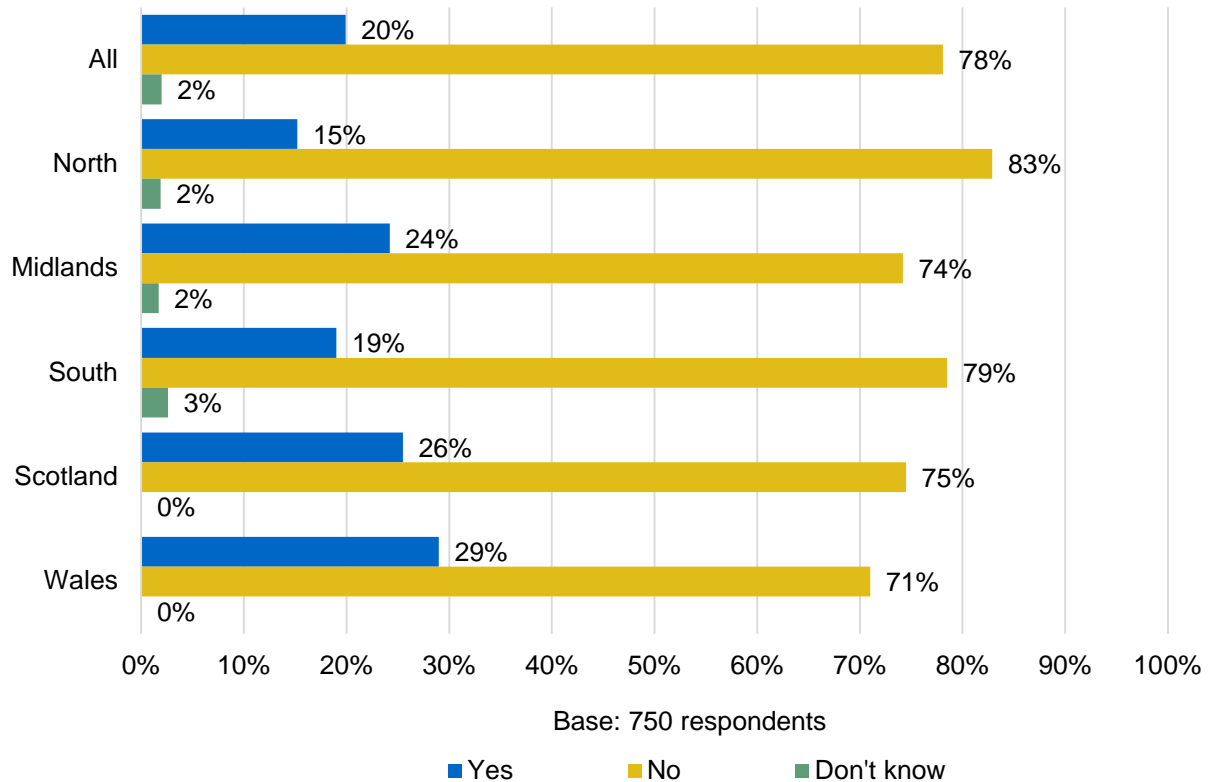
Figure 18 Incidence of skills gaps (by size band)



²⁹ Skills gaps were defined as skills that are lacking within the existing workforce.



Figure 19 Incidence of skills gaps (by nation/region)



The most common reasons given by employers for skills gaps are that applicants lack pre-requisite knowledge, skills or experience (32% of responses) followed by not holding sufficient qualifications (27% of responses).

Large employers are particularly concerned about their workforce lacking sufficient qualifications, along with a concern about skills gaps resulting from staff retiring from the business.

Skills gaps caused by 'the accessibility, quality or relevance of onsite assessment' accounts for just 4% of responses overall, although is notably higher in Wales at 11% of responses. Costs associated with onsite assessment rank even lower as a reason for skills gaps (Tables 20 and 21).



Table 20 Reasons for skills gaps (by size)

Reason	All	1 to 9 (micro)	10 to 49 (small)	50 to 249 (medium)	More than 250 (large)
Base:	304	243	18	28	15
Applicants lack pre-requisite knowledge, skills or experience	32%	32%	44%	32%	20%
Applicants lack sufficient qualifications	27%	27%	28%	21%	33%
Other	15%	15%	17%	14%	13%
Accessibility, quality or relevance of external training provision	7%	8%	-	7%	7%
Accessibility, quality or relevance of onsite assessment	4%	4%	-	-	7%
Cost of external training	4%	4%	-	11%	-
Loss of staff due to retirement	4%	2%	11%	4%	20%
Unwilling or unable to undertake a work based qualification	3%	3%	-	-	-
Loss of staff to other employers	3%	3%	-	4%	-
Cost of onsite assessment	2%	2%	-	7%	-

Table 21 Reasons for skills gaps (by nation/region)

Reason	All	North	Mids.	South	Scotland	Wales
Base:	304	49	62	141	25	27
Applicants lack pre-requisite knowledge, skills or experience	32%	25%	29%	38%	32%	22%
Applicants lack sufficient qualifications	27%	27%	27%	29%	24%	15%
Other	15%	10%	10%	18%	24%	11%
Accessibility, quality or relevance of external training provision	7%	12%	8%	4%	12%	7%
Accessibility, quality or relevance of onsite assessment	4%	4%	5%	2%	-	11%
Cost of external training	4%	8%	5%	1%	4%	7%
Loss of staff due to retirement	4%	6%	7%	1%	-	7%
Unwilling or unable to undertake a work based qualification	3%	6%	2%	2%	-	4%
Loss of staff to other employers	3%	2%	5%	2%	-	7%
Cost of onsite assessment	2%	-	3%	1%	4%	7%



A full list of skills gaps mentioned by employers is set out in Table 22.

Table 22 Skills gaps – full list

Skills gap	No. employers mentioning	Skills gap	No. employers mentioning
Carpentry	8	Hanging wallpaper	1
Joinery	8	Hard flooring	1
Plastering	5	Harnessing and slinging	1
Painting and decorating	4	Health and safety supervision	1
Electricals	3	Heavy goods vehicle driving	1
Bricklaying	3	Lead roofing (heritage standard)	1
Fitting	3	Lime plastering	1
Roofing	3	Maintenance engineering/handyman	1
Shopfitting	3	Man handling	1
Cavity walling	2	Management and supervision	1
Design/Designing	2	Manufacturing and installation	1
Insulated rendering/cladding	2	Mastic asphalt operations	1
Land drilling	2	Metal (steel) decking	1
Lead roofing	2	Micro-tunnelling	1
Piling	2	Netting and rigging	1
Plant operations	2	Parquetry (especially Scotland)	1
Scaffolding	2	Partitioning	1
Slating	2	Passive fire protection	1
Stone masonry	2	Plant	1
Welding (including tig)	2	Plant engineering	1
Demolition supervision	1	Plant repair	1
Abrasive wheels	1	Plumbing	1
Air conditioning engineering	1	Project management	1
Anti-search protection insulation	1	Quantity surveying	1
Asbestos removal	1	Quarrying	1
Basic labouring	1	Reinforced concreting	1
Brick working	1	Resin flooring	1
Computer Aided Design (CAD) supervision	1	Roof sheeting and cladding	1
Ceramic tiling	1	Roof tiling and fitting	1
Cherry picking	1	Roofing (flat roofing)	1
Civil engineering	1	Rope access	1
Clay pit work	1	Scaffolding (with HGV licence)	1
Coal site drilling	1	Screeding	1
Coded welding	1	Service engineering	1
Commercial heating engineering	1	Sheeting and cladding	1
Concrete pump operations	1	Signalling (in steelwork installation industry)	1
Construction management	1	Site management	1
Crane operations	1	Site supervision	1
Crane supervision (in steelwork installation industry)	1	Lead work	1
Decorating	1	Specialised sealant application	1



Directional drilling	1	Stair and first fixing	1
Drainage and water jetting	1	Steel decking	1
Drive excavation	1	Steeplejacking	1
Electric gate installation	1	Stone masonry	1
Electrical/electronic engineerin (inc. logic controllers/circuit boards)	1	Streetworks	1
Engineering	1	Swimming pool engineering	1
Estimating	1	Tiling	1
Finishing	1	Timber frame erecting	1
Fitting of lining	1	Underpinning	1
Floor laying	1	Wall tiling	1
Garage door installation	1	Window fixing (above two storeys)	1
Gas, hydraulic & electrical engines & gearboxes	1	Winter maintenance	1
General machinery (dumpers, rollers)	1	Wood floor fitting	1



Appendix 4: Alternative charts

For certain survey questions, respondents could select more than one answer, meaning that the total number of 'responses' (i.e. selections made) is greater than the total number of survey 'respondents'. Analysing by total response is helpful for showing the percentage mix of responses out of 100% and revealing the most common to least common selections.

This section presents alternative versions of three charts used in this report, analysed by total responses.

Figure 20 Approaches used for onsite assessment (analysed by 'responses')

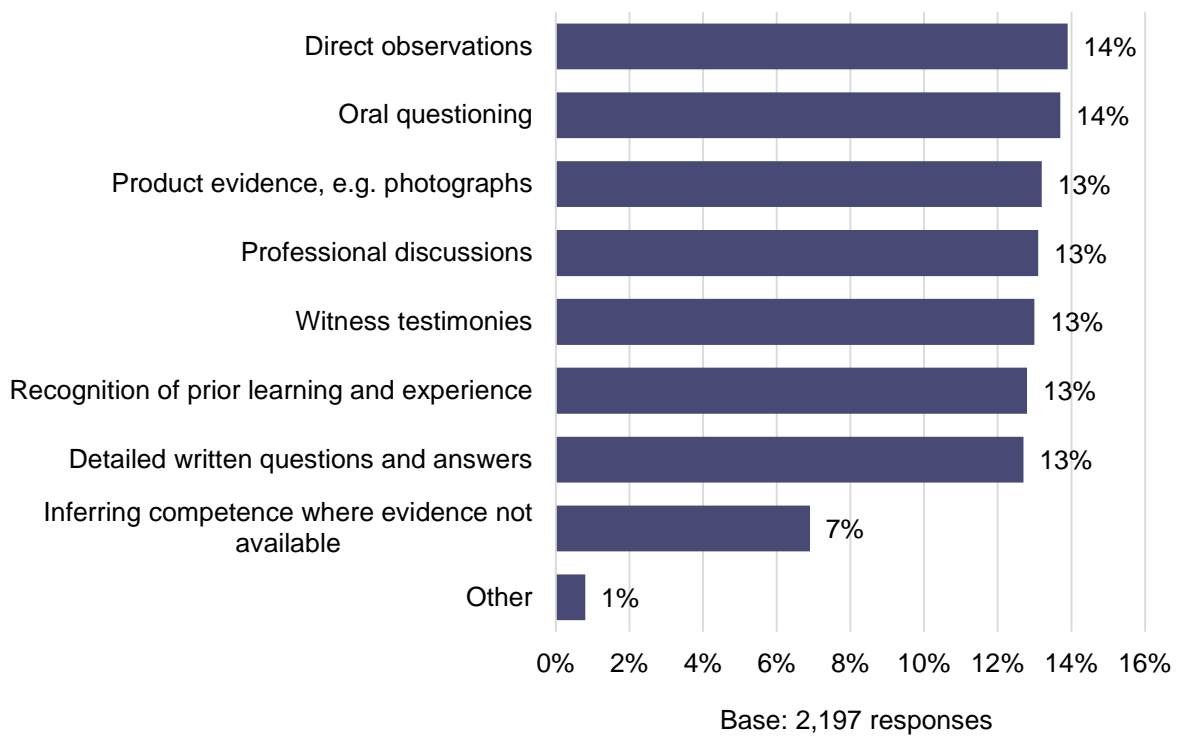




Figure 21 Types of CPD carried out (analysed by 'responses')



Figure 22 How employers typically undertake training (analysed by 'responses')

