



# Electrician Technician Registration in the UK

*31 May 2013*

A joint study by the

## **Technical Advisory Panel and Steering Group (TAPS)**

made up of:

- The Institution of Engineering and Technology
- The Engineering Council
- The Electrical Contractors' Association
- The Joint Industry Board for the Electrical Contracting Industry
- Unite the Union
- SummitSkills Ltd

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*Research was conducted by an independent research agency: 2Europe Limited, on behalf of the Technical Advisory Panel and Steering Group (TAPS), sponsored by The Gatsby Charitable Foundation.*

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Our thanks also go to all participants who gave up their time to take part in this study.

# 1. Executive Summary

The Skills for Growth White Paper<sup>1</sup> (BIS, 2009) drew attention to the lack of intermediate technical skills in the UK population and to insufficient recognition and status at technician level. In order to understand more about **electricians** within this scenario, in 2010, a collaborative group of organisations began discussions and in 2012 formed a Technical Advisory Panel and Steering Group (TAPS). The organisations were: The Institution of Engineering and Technology, the Gatsby Charitable Foundation, SummitSkills, Unite the Union, The Joint Industry Board for the Electrical Contracting Industry, Electrical Contractors' Association and the Engineering Council.

As collaborative partners, the TAPS team focused their attention on one particular technician segment, 'electricians', and agreed collectively to commission a research study. The study aimed to gain insight and understanding from a participant sample group of 268 qualified electricians, contractors and final-year electrical apprentices working in domestic, commercial and industrial roles within the UK regarding their thoughts and perceptions about professionalism and recognition as electricians. In addition, insight was sought from 30 employers of electricians who were also interviewed. The Gatsby Charitable Foundation sponsored the research.

The research study was completed in autumn 2012 by a commissioned research agency, 2Europe Limited. Following detailed analysis, the findings, conclusions and recommendations were prepared for inclusion into this final report.

## Key findings

- a. **Fragmented industry** – an overwhelming number of participants shared the view that there is a degree of confusion within the electrical industry regarding competence measurement for electricians. This is caused, they believe, by the lack of a recognised, common, overarching standard across the electrical industry aligned specifically to the types of work (domestic, commercial and industrial) undertaken by electricians and contractors.

It was their strong opinion that this disconnect has resulted in confusion for electricians regarding which professional body/organisation to turn to for support and guidance relating to career advancement within their profession.

Participants further advised that the wide array of certifications and qualifications available for electricians, from an array of professional bodies and organisations, adds further confusion since it creates considerable difficulty for individuals deciding which routes of study to undertake leading to career pathways that provide most relevancy for career progression, personal differentiation and professional recognition.

- b. **No visible benefit or purpose to career advancement** - the majority of participants highlighted a need to define the purpose of career advancement for electricians. They emphasised that career pathways for electricians are blurred and that relevant guidance is difficult to source. It was felt by the majority interviewed that without a visible benefit to pursuing additional professional qualifications, usually at their own expense, there is virtually no reason for those working as electricians to aspire to professional registration awards and recognition.
- c. **Lack of nationally recognised competence within the UK** – competence-related card schemes were seen as the closest offering to a 'standard' in the industry, although not common across all sectors. Again, the majority of participants felt an acceptable form of nationally recognised competence would be based on a combined, although not prescriptive, set of key competence-based requirements an individual should hold: *(the following list is not ordered in a priority rating)*
  - Industry recognised electrical apprenticeship
  - Competence scheme card holder (JIB/ECS card)<sup>2</sup>
  - City & Guilds 2391 qualification
  - Understanding and holder of the current IET Wiring Regulations
  - Minimum of two to three years' (post-apprenticeship) on-the-job experience

All participants (*base 268*) strongly emphasised their desire for professional bodies to clarify and publicise the individual differentiation between (i) practising electricians who have not qualified via a traditional industry recognised National Vocational Qualification (NVQ) Level 3 apprenticeship route and who, instead, may have attended a theory based short course at a further education college and (ii) practising electricians who have followed the traditional route.

The majority of participants stated they were keen to see the professional title Engineering Technician (EngTech)<sup>3</sup> assessed in a similar way to other industry recognised certifications, awards and competence card schemes, as it was their perception that many electricians believe EngTech is only about completing an application form rather than a "proper skills assessment".

Participants also suggested that EngTech could provide the differentiator they believe is needed within the industry since this professional title requires an individual to demonstrate evidence of experience and qualification to gain the award.

- d. **Employers' lack of EngTech knowledge and confusion** – employers confirmed two key points:
- Half of the employers interviewed (*base 30*) were open to supporting electricians in gaining professional registration and recognition, but advised their knowledge was limited in terms of whom to turn to for guidance and how to set up a support mechanism to enable the type of programme needed.
  - All employers interviewed (*base 30*) explained that the EngTech professional title was, in general, misunderstood within the industry. It was their view that this confusion has been caused by a lack of clear communication throughout the electrical industry which has resulted in:
    - i. A wider negative perception by those working in and connected to the electrical industry where EngTech does not hold the same value as other professional titles such as Chartered Engineer.
    - ii. A belief, within the electrical industry, that EngTech is not considered to be an 'electrical' qualification, predominantly because there is not an obvious demonstration of individual electrical competence. Rather, EngTech is viewed by many, within the electrical industry, as an academic qualification, without a skill based assessment, and is therefore less aligned to the qualification(s) recognition this industry is most familiar with.
- e. **Lack of personal benefit from post-nominals**<sup>4</sup> – all participants stated that post-nominals are not highly rated by electricians or employers of electricians. Furthermore, participants felt that the general public have no idea what benefit post-nominals, specifically with regard to electricians, offer them as customers. The majority of participants believe this customer viewpoint is based on a lack of public awareness in terms of benchmarking the competence of electricians against a national universal standard. Despite these views, 60% of participants (*base 268*) agreed that they would be pleased to gain post-nominals, but only if the post-nominals and qualifications to which they relate were more widely understood by the general public in terms of competence recognition.
- f. **International recognition and personal differentiation** – 69% of participants (*base 268*) suggested that an internationally recognised standard would benefit the industry overall through the competence alignment of electrician technician status.
- g. **Low awareness of EngTech** – 29% of participants (*base 200*) had a low awareness of EngTech. In particular, the benefits of EngTech to individuals and employers are not understood clearly by those within the electrical industry.
- h. **EngTech relevance** – the majority of participants interviewed stated that EngTech may be more suited to those working in the industrial sector, along with those involved in non customer-facing roles.

Newly qualified electricians were open minded and interested in finding out how to progress their careers. All but a few, from the focus groups held, viewed EngTech as a stepping stone to higher awards and recognition specific to their competence and personal differentiation.

- i. **Electrician technician membership package/service** - 46% (*base 200*) expressed a very strong interest in receiving more information via a collaborative group of organisations familiar to those working in the electrical industry regarding:
- A potential bespoke package/service for electricians that included preferential rates/discounts on electrical books, training, career guidance, IET Wiring Regulations and membership of a professional body.

A further 24% (*base 200*) confirmed they would like:

- More information about the EngTech benefits to electricians, emphasising the need for specific attention to clear financial benefits if further study is undertaken by individuals.

37% (*base 200*) of EngTech-eligible electricians who took part in this study stated they would be likely to consider EngTech application as a mechanism for gaining a recognised level of technical competence widely accepted and understood within the electrical industry.

Participants stated that a key attraction to a potential package/service for electricians focused on electricians having access to relevant career support and guidance currently perceived to be unavailable from professional bodies working in or connected to the electrical industry.

Over half of the employers interviewed (*base 30*) confirmed they were open to supporting and funding electrician employees in gaining professional titles including EngTech.

## Recommendations

- a. To develop an electrician technician membership package/service via a collaborative partnership of professional bodies working in or associated with the electrical industry.
  - That removes confusion within the industry to create a 'one-body' consistent approach nationally.
- b. To develop relevant career pathways to professional standards for electricians, contractors and electrical apprentices that are nationally recognised within the UK. Specifically focusing on:
  - **The competent electrician** – key elements that make this individual competent, complete with national recognition.
  - **Career pathways enabling the competent electrician to progress within the profession** and maintain current competence.
- c. To conduct EngTech mapping to recognised electrical competence card schemes (e.g. the JIB/ECS competence card scheme), to National Vocational Qualifications (NVQs) and to recognised apprenticeship frameworks.
  - That delivers an all encompassing, recognised, overarching standard of competence for electricians working in the UK.
- d. To drive an enhanced and targeted EngTech awareness campaign – within the context of promotional work currently in progress through other projects and organisations – that delivers:
  - Targeted communications, promotions, workshops, seminars, trade magazines and electrical trade shows to electricians and the general public.
  - On-site workshops, blended learning/e-learning for skill development for staff, webinars, mobile application development and networking evening(s) at regional technical training colleges to employers of electricians, contractors and electrical apprentices.
  - A synchronised approach to other EngTech awareness projects currently in progress by organisations, such as the Engineering Council's Technician Registration and Membership (TRaM) project and the three professional engineering institutions' (3PEI) technician project managed by the Institution of Engineering and Technology (IET), the Institution of Mechanical Engineers (IMechE) and the Institution of Chemical Engineers (ICE).

## 2. Introduction

### Skills recognition

The UK government recognises that a fundamental element to enabling social mobility and overall sustainable growth for the country is a skilled workforce, motivated through a strong education system, skills development, continued support and job opportunities for workers across all skill levels, roles and sectors. In addition, it believes that it is its responsibility to provide access routes for individuals to succeed in careers and gain the recognition deserved. A key objective of their Skills for Sustainable Growth strategy<sup>5</sup> focuses on delivering a skills system to achieve a world-class skills base needed to assist in rebalancing the economy and increasing skills levels in as many areas as possible. The UK government advises that almost 80% of those predicted to be in the UK workforce in 2020 have already left compulsory education. It highlights weakness in the essential intermediate technical skills of UK workers accelerating rapidly with the emerging technological changes.

### Intermediate skills – technician level

In 2009 the government's Skills for Growth White Paper<sup>1</sup> highlighted awareness of the lack of intermediate technical skills and insufficient recognition and status at technician level within the UK, prevalent for technicians working in a wide mix of technical job roles in different sectors, including the electrical sector. The White Paper defined a more strategic approach to skills, with specific attention to increased funding in training support at Level 2 and 3 within the engineering, construction, advanced manufacturing, digital media and technology sectors.

Government acknowledged the valuable role played by trade unions in supporting and providing information to workers to improve their skill levels. It reported that more than 220,000 workers have been helped with learning and skills development since the 1998 introduction of a Union Learning Fund (worth £21.5m annually) to assist unions in supporting skills development.

Inspired by the government's specific attention to technicians, the Gatsby Charitable Foundation (Gatsby) and the Institution of Engineering and Technology (IET) began talks in 2010 and subsequently met, in early 2011, to discuss their shared interest in exploring and understanding more about one particular segment of technicians, working at an intermediate level, within the electrical sector (i.e. electricians and contractors) with a view to providing further insight into skill recognition, career advancement and professionalism.

The IET and Gatsby continued their discussions with a collaborative group of organisations and formed a Technical Advisory Panel and Steering Group (TAPS). These organisations were:

- Michelle Richmond CEng FIET - Director of Membership & Professional Development - **The IET**
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- Daniel Sandford Smith CPhys - Director of Programmes, Education - **The Gatsby Charitable Foundation**

*Note: within the context of this report, individual contractors refers to electricians qualified to NVQ Level 3 who are employed under temporary contracts. Not to be confused with electrical business contractors who are organisations employing electricians.*

### British Standard 7671: 'Requirements for Electrical Installations'

The UK electricity industry holds a key role in providing solutions to the security of supply and a proactive approach to the economically viable reduction of greenhouse gas emissions. Electricians are specialists in the trade of electrical wiring, along with installation work involving new electrical components and the maintenance and repair of existing electrical infrastructure and equipment. Qualified electricians working in construction may also undertake the installation of wiring systems into homes and businesses.

Safe wiring has always been a critical requirement of the UK's national infrastructure. Back in 1876, an engineer, Musgrave Heaphy, employed by the Phoenix Assurance Company, began reviewing potential fire risks that might come from installations of electrical systems. In June 1882, the Society of Telegraph Engineers and Electricians, which later became the Institution of Electrical Engineers (IEE), published the Rules and Regulations for the Prevention of Fire Risks arising from



Electric Lighting. This first edition of the IEE Wiring Regulations was a simple four page document. Today this has become the technical standard for all installers carrying out electrical installation work.

In 1992 it became **British Standard 7671: Requirements for Electrical Installations**. It is a standard used by other countries including: Cyprus, Mauritius, St Lucia, Saint Vincent and the Grenadines, Sierra Leone, Sri Lanka, Trinidad & Tobago and Uganda. Many other countries base their electrical wiring regulations on BS 7671.

The IEE merged with the Institution of Incorporated Engineers in 2006 and became the Institution of Engineering and Technology (IET). The IET continues to publish the UK Wiring Regulations. These regulations are technically similar to the current wiring regulations of other European countries and correspond closely to the international standard EC 60364 and the European Committee for Electrotechnical Standardisation (CENELEC) harmonisation documents.

The IET Wiring Regulations are treated similarly to other British Standards and are maintained by the joint IET BSI Technical Committee JPEL 64, which is the UK National Committee for Wiring Regulations. Although the Wiring Regulations are non-statutory, and the IET and BSI are non-government organisations, they are included in many UK statutory policies and publications.

## **The 'Regs'**

Electricians and contractors, throughout the UK, refer to the IET Wiring Regulations as 'the Regs'. It would be most unusual for a UK electrician or contractor not to have a copy of 'the Regs' with them whilst undertaking electrical wiring in buildings (dwellings, commercial or industrial). The 17th edition 'Regs', released in January 2008, is the latest edition of BS 7671, and became effective for all installations designed after 1 July 2008.

## **Electrician training**

The electrical industry has recognised formal standards and qualifications that provide a defined qualification pathway for an electrician; such as the 17<sup>th</sup> Edition Wiring Regulations BS7671-2008, City and Guilds 2356 NVQ Level 3 Electrical Installation and City and Guilds 2391 Inspection and Testing.

The industry expects all operatives that are working unsupervised in the electrotechnical sector to be qualified to the industry recognised NVQ Level 3 qualification, which can be gained through a recognised apprenticeship. Typically, these are 3 or 4 year apprenticeships encompassing a mix of on-the-job learning and classroom based training at an approved education and skills provider site, for example a further education college, as well as continuous assessment throughout the apprenticeship duration.

The Building Regulations 2010 currently govern the standards for the design and construction of buildings within England and Wales. Part P of the Building Regulations relates to electrical safety in dwellings. A large range of, short term, Part P training programmes are available to qualified electricians. Courses are also available for qualified electricians who are interested in registering as a Qualified Supervisor<sup>6</sup> within their company. The Part P training focuses solely on the requirements of the Building Regulations and as such does not train individuals as qualified electricians.

As technology continues to evolve exponentially, the importance of environmental awareness and responsibility becomes more critical. Therefore, future training programmes for electricians will also need to be continuously reviewed to reflect this need, and assess workplace competence for these important functions.

## Overview: UK electrical market

The following summarised forecasts relating to the future of the electrical industry were taken from the ONS (Office for National Statistics) Labour Force Surveys April-June 2007-11.

**The industry will generate revenue totalling £22bn with a £3.5bn profit in 2012/13**

**There has been a total revenue decline of 16.4% over the last six years due to the impact of recession on housing and, in particular, upon commercial building construction**

**Forecast revenue-generating segments of the market in 2012/13 will be the non-industrial market (40%), the domestic market (35%) and the industrial and engineering market (25%)**

**Forecasts predict that over the next six years to 2017/18, the industry's revenue will grow by 24.5% to £27.4bn**

### The workforce

- Total workforce of 225,000 within the electrical industry in 2011/12.
- Forecasts predict there will be 36,500 firms within the electrical industry in 2012/13. This represents a 9.1% fall in numbers of firms over the last six years due to the recession.
- The ONS data indicates the number of private contractors involved in the installation of electrical wiring and fitting rose by 45.7% between 2006 and 2010 to 11,582.
- Forecasts also predict there will be a 5.5% increase in electrical firms to 38,500 between 2012/13 and 2017/18 due to the expected increase in demand for communications systems etc. in the commercial buildings sector.

Further information regarding the UK electrical market size, structure, workforce demographics, apprenticeships and related details is included in **Appendix 1** of this report.

### 3. Study approach

This qualitative market research study was undertaken by a professional agency, 2Europe Limited, commissioned by the TAPS team.

Electricians, contractors and final year electrical apprentices – qualified to NVQ Level 3 – were signed up as participants to take part in a series of focus groups and one-to-one telephone interviews. Other participants included employers of electricians, contractors and electrical apprentices, individuals who already had technical qualifications, e.g. electrical engineers, and who had changed career direction to become electricians or contractors, and a smaller group of mature students undertaking electrical courses at further education colleges who are not currently holders of electrical, engineering or technical qualifications and experience.

The study aimed to:

- Explore and understand how professionalism is viewed by the UK based electrician community.
- Understand whether electricians and contractors could be a source of ‘technicians’ for the nationally recognised Engineering Technician (EngTech) professional title as a mechanism for enhancing professional recognition and status.
- Gain insight from employers of electricians regarding their views on skill development and standards of competence in the industry, the EngTech professional title and other industry propositions.

Research fieldwork was carried out during May to August 2012 with a combined total of 268 individual participants and 30 employer participants.

A technical advisory panel and steering group (TAPS) made up of collaborative organisations operating within the electrical industry was set up to provide expert guidance throughout the project. Terms of reference for the TAPS group are included in **Appendix 2** of this report.

This final report was prepared by the TAPS group collaboratively and includes conclusions drawn from research findings along with recommendations. This report should be of particular interest to employers and employees working in the electrical sector (domestic, commercial and industrial) and to Civil Servants who have specific responsibility for safe wiring, recognition and professionalism of electrician technicians within the UK.

## 4. Methodology

### The process

A three-stage process was applied:

**Stage 1:** A qualitative stage consisting of seven online focus groups and two traditional face-to-face focus groups (FGs) with electricians.

**Stage 2:** A second qualitative stage consisting of 30 telephone in-depth interviews (TIDIs) with employers of electricians.

**Stage 3:** A quantitative stage consisting of a computer-aided telephone interview (CATI) survey with 200 electricians to assess interest in and take-up potential for the EngTech professional title.

### Timelines

- Stage 1 recruitment commenced in early June 2012.
- Focus groups took place between late May and mid July 2012.
- Telephone in-depth interviews with employers were completed in mid August 2012.
- Computer-aided telephone interviews with electricians were completed in mid August 2012.

### Participants

#### Stage 1 – Focus groups (FGs)

A segmented target group approach was applied to include a representative mix of electrician respondents across different sectors (e.g. domestic, commercial, industrial).

Group	Participant details	Method	Participants
A1	Electricians in permanent roles qualified to NVQ Level 3 or equivalent aged 21-35 years	Online FG	5
A2	Electricians in permanent roles qualified to NVQ Level 3 or equivalent aged 36-60 years	Online FG	8
B1	Contracted electricians qualified to NVQ Level 3 or equivalent aged 21-35 years	Online FG	10
B2	Contracted electricians qualified to NVQ Level 3 or equivalent aged 36-60 years	Online FG	11
C1	Final-year electrical apprentices (domestic/commercial)	Traditional FG	7
C2	Final-year electrical apprentices (industrial)	Traditional FG	8
D	Newly qualified electrical apprentices aged 20-26 years	Online FG	6
F	Trainees (retraining from other career path) aged 18-60 years	Online FG	7
G	No formal qualifications aged 18-60 years	Online FG	6
		<b>Total</b>	<b>68</b>

Recruitment and discussion guides were prepared by the research agency 2Europe Limited.

Online focus groups took the form of an informal chat room, where participants were able to take part in 'text' discussions from the comfort of their own homes. Participants were located throughout the UK.

Traditional focus groups (face-to-face discussions) were conducted with final year electrical apprentices. They were carried out in further education college classrooms, in Crawley and Rochester, during term time.

## Sample

Electricians and employers were invited to participate in the study, and signed up voluntarily via a web link and message accessed via the websites of the IET, UNITE the Union, JIB, SummitSkills and ECA and via the ELEX regional trade shows held in Harrogate and Exeter during 2012. ELEX trade shows for electricians are held in five venues across the UK throughout the year and are run in conjunction with the *Professional Electrician* magazine.

Final year electrical apprentice participants were recruited through direct contact with the two further education colleges where they were studying.

## Analysis

Online focus groups consisted of text based discussion, enabling participants' views to be received almost instantly in a text document. Findings from each question area were entered into a spread sheet, row-by-row, for each group, to enable comparison between the responses from each profiled group (e.g. contracted electricians versus permanent electricians). The traditional focus groups conducted with final year electrical apprentices were video and audio recorded. The digital files were then uploaded to a PC for analysis. Verbatim transcripts were collected. These discussions focused more on future careers and less on individual experience.

A monetary incentive was provided to participants.

### Stage 2 – Telephone in-depth interviews (TIDIs)

The views of employers of electricians, contractors and apprentices within different - sized organisations were collected via 30 telephone in-depth interviews (TIDIs).

Group	Employer size	Interviews
E1	2-25 employees	10
E2	26-50 employees	5
E3	51-500 employees	15

Recruitment and discussion guides were prepared by the research agency 2Europe Limited.

TIDIs were conducted by trained interviewers from a UK-based call centre. Interview duration was 55 minutes for each participant, based on open-end questions and probing discussion.

## Sample

Employers were invited to participate in the study, and signed up voluntarily from a range of sources (events, trade shows, email sign up and website sign up).

## Analysis

TIDIs consisted of open discussion. Verbatim transcript information was entered into a pre-prepared spread sheet to enable comparative analysis to be conducted.

### Stage 3 – Computer-aided telephone interviews (CATIs)

This quantitative stage with participants was chosen to assess interest and take-up potential for the EngTech professional qualification.

CATI interviews, of approximately ten minutes' duration each, were conducted by trained interviewers from a UK-based call centre.

## Sample

Participants were selected from the remaining sample not used from the stage 1 focus group recruitment. None of them held the EngTech professional title.

Selection screening questions were used to meet the desired quotas consisting of participants who were:

- Permanently employed (full-time) electricians.
- Final year electrical apprentices studying at NVQ Level 3.
- Electricians working in the domestic, industrial or commercial sectors.
- Self-employed electricians running their own business.
- Temporarily employed electricians – under contract – in a business.

All participants (with the exception of the final year electrical apprentices) held an NVQ Level 3 qualification or equivalent. For those who had an equivalent level qualification, researchers ensured the participant had a minimum of five years' continuous experience working as an electrician.

### Respondent numbers

Criterion	Domestic	Industrial	Commercial	TOTAL
Working as an electrical apprentice	3	2	2	7
Self-employed in own electrician business	20	0	0	20
Permanently employed as an electrician	20	46	45	111
Working as a contracted electrician	0	31	31	62
<b>TOTAL</b>	<b>43</b>	<b>79</b>	<b>78</b>	<b>200</b>

### Geographical spread of respondents

Location	
Northern Ireland	1%
North East	5%
East England	5%
East Midlands	6%
Wales	7%
Yorkshire	7%
West Midlands	7%
South West England	7%
Scotland	8%
North West	12%
South East England	16%
London	19%

(Base: 200 electricians)

### Analysis

The CATI interviews consisted of closed questions. Responses and common views were analysed. Statistically significant differences are referred to in the report. Changes of 5.7% are considered significant. Changes of less than 5.7% are not considered significant.

## 5. Research findings

Key research findings are detailed in the Executive Summary section of this report. Further detailed findings are collated in **Appendix 3** of this report.

# 6. Conclusions

## A fragmented industry

Research analysis have led to a number of conclusions, in particular that the electrical industry is diverse and fragmented. Currently, within the UK, unlike other industries such as the UK gas industry, the electrical industry does not provide a 'licence to practise' mandatory requirement; thus a common overarching standard within the electrical sectors (domestic, industrial and commercial) and types of work (contracting, permanent, self-employed roles) does not exist.

A large number of industry bodies or organisations support electricians in a variety of ways. Employment and learning providers (e.g. JIB, NICEIC, ECA, IET, NAPIT, further education colleges) within the electrical industry focus on different aspects of the industry, but none offer a holistic qualification, standard or level of support for all types of electrician.

The industry is also fragmented in terms of 'personality'. Newly qualified electricians are optimistic about their future, whilst those nearing the end of their career tend to have become disillusioned with the industry and see their profession as a job. Responses indicate that the large number of regulations and regular changes in qualifications and standards over the years may have contributed to these feelings.

### REFLECTION AND RECOMMENDATION

Responses to this study suggest that the introduction of a collaborative 'service' tailored for electricians may be received more optimistically than one offered by industry or professional bodies separately. There appears to be a shared view by the electricians consulted that a recognised institution/professional body would be best placed to deliver such a service, bringing the disparate industry bodies and professional institutions together to support electricians.

**Most importantly that an approach of this type would promote professionalism and national recognition of competence for electricians.**

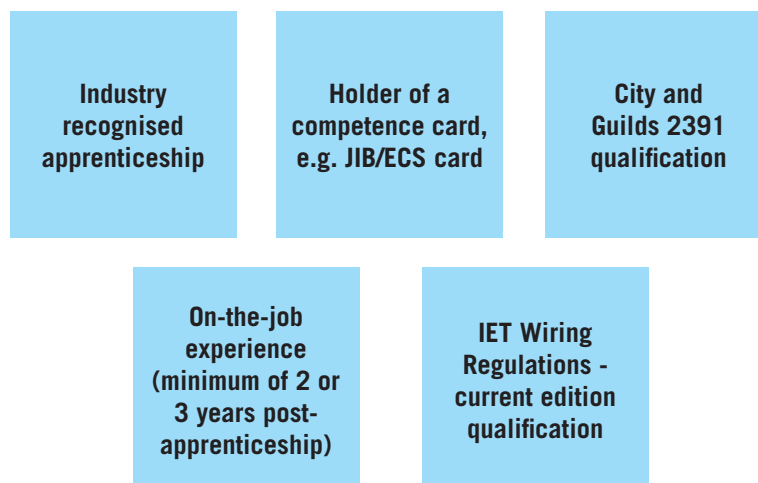
Careful consideration should be given to EngTech positioning to ensure that it is not seen as a route to enhancing the portfolios of individual institutions or professional bodies. Rather that the focus should be (a) on a strong emphasis on individual and personal technical competence and (b) on a mark of employer commitment to support their employees' career development and overall professionalism through continued professional development (CPD).

## No overarching standard for measuring competence

Measuring individual electrical competence appears to be an issue for electricians and contractors. Almost every electrician interviewed within this study had an anecdote regarding a colleague or a peer who they felt was not competent in their role, regardless of the experience or qualification(s) held.

**Overall, 88% of all consulted electricians (base 200) believe an overarching competence standard would be beneficial to the industry.**

Employers interviewed also suggest they have difficulty measuring competence, particularly during recruitment of permanent and contract electricians. Analysis of responses supports the development of a competence framework that would include a combination skill set comprising the following elements:



### Combination competence model for electricians

The ECS/JIB competence card scheme is seen as the most respected and closest competence marker to a standard within the electrical industry by participants within this study, although it is not common across all sectors.



Electricians and employers of electricians/contractors are in agreement that competence should be independently validated and should take into account relevant experience and a minimum level of qualification.

### **REFLECTION AND RECOMMENDATION**

Analysis of responses suggests that there is a shared view amongst electricians/contractors and employers that electrical qualifications/certifications should be based on a practical assessment of competence. Participants indicated a strong belief that the combination competence model for electricians contains the key elements for all round competence that could be applied and recognised as a UK national standard.

The professional title EngTech includes a competence combination of individual skills that could be aligned to the combination competence model for electricians identified from this research.

A collaborative partner approach between relevant professional bodies operating within the UK electrical industry could provide a level of consistency and reduce confusion for those working in the industry, .e.g. individuals and employers – supporting the introduction of a single overarching standard of competence for electricians working in the UK.

### **Confusion with large selection of qualifications and competence dilution**

Analysis of respondents suggests there appears to be considerable confusion for those working within the electrical industry about which key qualifications constitute nationally recognised electrical competence. These range from domestic qualifications (e.g. UK Building Regulations Part P) to apprenticeships, Engineering Council professional registration titles (e.g. Chartered Engineer, Incorporated Engineer, Engineering Technician) and segmented qualifications (e.g. City & Guilds 2377-22 & 32 PAT Testing). Over time, qualifications have developed and changed or are no longer recognised.

Participants explained that until recent times, if an electrician held a recognised apprenticeship at NVQ Level 3 they were deemed qualified and competent. However, with many international electricians working within the UK and the introduction of multiple bodies/organisations promoting their own qualifications, the standard for competence overall has become diluted and unclear for those working in the UK electrical industry. Furthermore these changes have made it more difficult for an electrician to differentiate him/herself from less qualified or less experienced electricians, as the competence levels of each qualification are not widely known.

Recognition of electrical qualifications is low amongst the general public. As a result, there is very little incentive or personal motivation for domestic electricians to develop their skills and declare their qualifications. Electrical industry discussions (e.g. UK Building Regulations Part P<sup>7</sup>) may have resulted in domestic electricians becoming sceptical towards new standards or qualifications in the industry.

There is concern regarding the sheer volume of qualifications and registrations currently available within the UK electrical industry. Analysis of responses indicates that electricians are not keen on taking up a new qualification each year to demonstrate competence and qualification verification. Furthermore, that employers are not interested in funding professional title qualifications such as EngTech for their electrical employees, unless there is clear financial benefit in doing so.

Analysis indicates that there is confusion regarding industry and professional bodies operating within the UK electrical industry. During the study, employers (*base 30*) were asked to name industry and professional bodies of which they were aware. The majority included in their responses the UK Building Regulations Part P certification and recognised training colleges. Neither of these are industry or professional bodies.

### **REFLECTION AND RECOMMENDATION**

Responses indicate that clear career pathways for electricians are not in existence within the UK. Many electricians report that they can see no benefit to undertaking further study to gain additional qualifications as this would not enhance their competence recognition.

Industry and professional bodies could potentially collaborate more closely to assist in the development of recognised career pathways for electricians and electrical apprentices as they qualify within the UK, leading to a clearer understanding of how the electrical qualifications/certifications and professional titles such as EngTech fit together to enable electrician technician recognition.

### **Employer buy-in and alignment to a common standard**

Employers recognise they play a key role in the development of electricians' skills and competence. Analysis shows that employers said they would provide support and funding for the required qualifications, but only half of those interviewed (*base 30*) said they would provide support and funding for electricians to gain the higher level qualifications or professional titles such as EngTech.

The majority of participants interviewed (*base 200*) stated few development opportunities were offered to them by their employers.

### REFLECTION AND RECOMMENDATION

Analysis indicates that electricians are keen to develop their skills for their own personal pride and to improve their future earnings and work opportunities.

**However, participants made it clear that they see little point in pursuing higher qualifications/professional titles if these are not recognised by employers.**

There is a potential opportunity for industry and professional bodies to work together collaboratively to raise awareness of EngTech and promote professionalism for electricians more widely to employers of electricians/contractors and the general public.

### Mixed reaction to post-nominal qualifications

Overall, the electricians and employers surveyed agree that post-nominal qualifications are not highly valued throughout the electrical industry. Only 33% of employers stated that they value their electricians having post nominals. The majority of participants interviewed believe **the general public and clients have virtually no understanding or appreciation of the key qualifications competent electricians should hold**, which they say is both frustrating and disappointing.

EngTech is not well recognised or understood by the participants interviewed. As a result little value is placed on professional titles by employers and electricians.

Analysis of the CATI survey indicated that 60% of electricians would see benefit in possessing a qualification that offers letters after their name, ultimately to demonstrate their competence. Also that employers who support post-nominal qualifications see them as adding value to the quality of their business, particularly when it comes to bidding for new contracts and retaining repeat business.

### REFLECTION AND RECOMMENDATION

Analysis suggests that a driver of employer support and funding, specific to employee development, is when this is seen as a key contributor to gaining new business.

It is possible that positioning the EngTech professional title as a mark of overall competence recognition for electricians could be used to trigger a wider value proposition to employers and those working within the electrical industry.

A collaborative programme of national awareness campaigns, led by industry and professional bodies within the electrical industry working closely with employers of electricians, could provide a platform to disseminate trusted information to the general public about what qualifications are deemed appropriate to define the competence of UK based electricians, particularly those working in the domestic sector.

### International recognition and competence differentiation

A small number of respondents said that they felt frustrated and concerned that some overseas electricians working in the UK might hold qualifications that are not familiar or perhaps not recognised within the UK, yet still manage to gain employment as competent electricians.

69% of the participant electricians (*base 200*) indicated that they believe an international standard would help the industry as it would align competence and ensure all electricians adhere to a common overarching and nationally recognised standard within the UK.

### REFLECTION AND RECOMMENDATION

Analysis indicates a potential opportunity to develop an overarching standard positioned as the national standard for all electricians to adhere to within the UK. Collaboration by industry and professional bodies working closely with employers of electricians within the UK could be well placed to drive such an initiative forward.

## Low awareness of EngTech

Twenty-nine per cent of all electrician respondents (*base 200*) were aware of EngTech. Awareness was highest amongst those who were self-employed and running their own small business (40%), yet lower with those who were working as contractors (21%).

Twelve employer respondents (*base 30*) were aware of EngTech as a professional title, significantly fewer than were aware of other professional titles such as Chartered Engineer or Incorporated Engineer.

### REFLECTION AND RECOMMENDATION

With EngTech awareness fairly low – 29% of 200 electricians – there is a key opportunity for professional bodies to prepare a communication awareness programme to individual electricians and employers.

## Misunderstanding of EngTech benefits

Analysis indicated a degree of confusion was found amongst electricians (particularly final year electrical apprentices) regarding the benefits of EngTech. The majority of apprentices viewed it as a ‘qualification for qualifications’ that provides little or no form of knowledge or skill development over and above their current qualifications.

Domestic electricians (although reasonably keen on EngTech at the CATI stage) were less keen on acquiring EngTech during the focus group discussions. They felt it provided no benefit to their specific type of work. They felt their customers would see no value in an electrician possessing EngTech, nor would it enhance their own knowledge. The consensus view **was that gaining EngTech was just about completing a form.**

Without a clear value proposition, many electricians felt EngTech was a qualification without any additional benefit over other services such as the JIB/ECS competence card scheme which indicates an assessed level of electrical competence, or the National Association for Professional Inspectors and Testers (NAPIT) who offer a Competent Persons Scheme.

A positive feature of EngTech, according to the majority of participants, was the value of the independent peer-led validation of competence which other electrical certifications do not offer.

Employers did not view EngTech as an electrical qualification demonstrating personal competence. It was seen as more of an academic qualification without a skill based assessment, and an engineering based qualification that can be used as a stepping stone for electricians/engineers who may be keen to progress their careers into a design related or engineer focused role.

Employers also had financial concerns about their electricians gaining professional titles due to the commitment of continued support they may be required to provide to maintain such titles. The main concern focused on the sustainability of offering continued support when many rely on competitive pricing (driven from a reduced cost base) to win new and repeat business within the electrical industry. Half of the employers stated they would provide the support to enable their employees to apply for professional titles such as EngTech and confirmed that the current EngTech and professional body fees were not a barrier.

Thirteen employers (*base 30*) stated their company would be viewed positively if a number of their electricians/employees held professional titles and furthermore that this could provide a competitive advantage to their businesses.

### REFLECTION AND RECOMMENDATION

A wider EngTech awareness campaign could provide an opportunity to increase the level of interest, understanding and recognition of professionalism for electricians. The development of a compelling value proposition specific to professional titles, career pathways and personal development is a key component for this specific awareness campaign/collaborative programme by industry and professional bodies.

## EngTech positioning

Focus group analysis suggests EngTech is more suited to electricians working in the industrial sector, as those working in technical roles alongside engineers and design technicians are more open to gaining professional titles such as EngTech.

Newly qualified electricians were also more open to EngTech and overall showed more interest in personal development and future career progression. Many viewed it as a stepping stone to higher qualifications and, if provided by a recognised membership institution (the IET was named), as key to their career development. **None, however, saw it as their next priority.** There were other named certifications which they prioritised over EngTech such as the City & Guilds 2391-10 Inspection & Testing.

### REFLECTION AND RECOMMENDATION

Analysis suggests EngTech may be more suited to electricians who are not working in customer facing roles such as industrial electricians.

There is a unique opportunity for professional bodies to position EngTech as a career vehicle, in combination with the other key competence requirements highlighted by employers in the combination competence model for electricians within this report where the key focus is on individual competence differentiation for electricians.

## Strong interest in an electrician technician membership package

The main appeal of a collaborative electrician technician membership package proposition appeared to be its convenience and a potentially discounted cost of the Wiring Regulation updates. Career guidance through membership of a professional institution/body was also seen as a benefit to the electricians. The concept of a reduced annual membership fee appeared to be more acceptable to electricians than paying larger one-off fees for Wiring Regulation updates every few years.

Participants suggested a tailored membership for each of the electrical sectors could also be useful as the standards for competency differ by sector.

70% of electricians stated they were likely to consider uptake of a bespoke package and would like more information. The majority of employers (*base 30*) indicated an interest in options for a standard service and additional services offer.

### REFLECTION AND RECOMMENDATION

An overriding theme from the analysis, emphasised by participants throughout the study, focuses on EngTech as a stand-alone measure of competence that would be received more favourably within the electrical industry if it were combined with other services providing personal development, guidance and support to help electricians throughout their careers.

**Analysis supports the development of a collaborative electrician technician membership service/package.**

## 7. Recommendations

- a. To develop an electrician technician membership package/service via a collaborative partnership of professional bodies working or associated with the electrical industry
  - **That removes confusion** within the industry to create a 'one-body' consistent approach nationally.
- b. To develop relevant career pathways to professional standards for electricians, contractors and electrical apprentices that are nationally recognised within the UK. Specifically focusing on:
  - **The competent electrician** – key elements that make this individual competent, complete with national recognition.
  - **Career pathways enabling the competent electrician to progress within the profession** and maintain current competence.
- c. To conduct EngTech mapping to recognised electrical competence card schemes (e.g. the JIB/ECS competent card scheme), to National Vocational Qualifications (NVQs) and to recognised apprenticeship frameworks.
  - That delivers an all-encompassing, recognised, overarching standard of competence for electricians working in the UK.
- d. To drive an enhanced and targeted EngTech awareness campaign – within the context of promotional work currently in progress through other projects and organisations – that delivers:
  - Targeted communications, promotions, workshops, seminars, trade magazines and electrical trade shows to electricians and the general public.
  - On-site workshops, blended learning/e-learning for skill development for staff, webinars, mobile application development and networking evening(s) at regional technical training colleges to employers of electricians, contractors and electrical apprentices.
  - A synchronised approach to other EngTech awareness projects currently in progress by organisations, such as the Engineering Council's Technician Registration and Membership (TRaM) project and the three professional engineering institutions' (3PEI) technician project managed by the Institution of Engineering and Technology (IET), the Institution of Mechanical Engineers (IMechE) and the Institution of Chemical Engineers (ICE).

### Further recommendations

- a. To consider key elements for inclusion into an electrician technician membership package/service.
  - To include a degree of peer validation and independent validation of competence (tailored membership for each of the electrical sectors: domestic, industrial, commercial).
  - To develop a pricing strategy that caters for the individual and employer needs.
- b. To provide support and guidance for electricians and employers
  - To conduct enhanced profiling of electrician roles for career development and relevant support.
  - To educate electricians on the role played by industry/professional bodies.
  - To provide guidance to employers on career development and training.
  - Industry bodies to collaborate resources to form a joined-up support network for electricians and employers.
  - To provide a level of support to employers wishing to develop their staff, in particular for development of apprenticeship schemes.
- c. To conduct further research studies
  - To explore the competitive advantages of Professional Registration for employers.
  - To find out why employers are not interested in post-nominal qualifications.
  - To understand why some employers appear to discriminate against those with higher qualifications in terms of employment recruitment.





# Appendix 1



# Appendix 1

## 1. Market size of the electrical industry

### Industry size and trends

In 2012/13 the UK electricians' market generated revenue totalling £22bn with a profit of £3.5bn. This represents a 2.2% decline from 2011/12 due to the impact of the recession, particularly upon the construction industry. Moreover, the decline in total revenue has been the principal trend since the peak year of 2007/08 as can be seen in table 1.1. This shows that the total decline in revenue over this six-year period was 16.4% which is attributable to the downturn in housing construction and commercial building construction, which drives the demand for the installation of advanced communication equipment, teledata equipment and fibre optics.

**Table 1.1: UK Electricians Industry Total Revenue 2007/08 to 2012/13 in £bn**

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13 (f)	% Change 2012/13 over 2008/09
Revenue	26.33	23.51	21.75	22.50	22.50	22.00	
2007/08=100	100.0	89.3	82.6	85.5	85.5	83.6	-16.4%

Source: IBISWorld (May 2012) / 2Europe Ltd calculations (f) = Forecast by IBISWorld (May 2012)

### Industry structure 2012/13

It is forecast that that in 2012/13, revenue generated by the electrical industry will come from three main sectors: the non-residential property market, the domestic market and the industrial and engineering market.

**Table 1.2 Major Market Segmentation 2012/13**

Major segment	% of total revenue
Non-residential property market	40
Domestic market	35
Industrial and engineering market	25
<b>TOTAL</b>	<b>100</b>

Source: IBISWorld 'Electricians in the UK' report (May 2012)

In terms of activities and services in 2012/13 the main revenue generators are maintenance and repairs, upgrading and maintenance and new installations, with a minor proportion coming from other/subcontracting and renovation.

**Table 1.3 Main Activities and Services 2012/13**

Activities/services	% of total revenue
Maintenance and repairs	35
Upgrading and maintenance	30
New installations	30
Other/subcontracting and renovation	5
<b>Total</b>	<b>100</b>

Source: IBISWorld 'Electricians in the UK' report (May 2012)



## Industry forecast 2012/13 to 2017/18

The revenue forecast for the six year period 2012/13 to 2017/18 is that the industry will grow by 24.5% to £27.4bn, with the market starting to recover in 2014/15. It is expected that the industry will experience long term expansion supported by new markets emerging in technological advancement. The fastest growing area of demand for electricians has involved, and will continue to involve, the installation of electronic communication equipment, teledata cabling and fibre optics in new and existing building, particularly in the commercial sector

**Table 1.4 UK Electricians Industry Total Revenue Forecast 2012/13 to 2017/18 in £bn**

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	% change 2017/18 over 2012/13
Revenue	22.00	21.90	23.00	24.40	26.15	27.40	
2007/08=100	100.0	99.5	104.5	110.9	118.9	124.5	24.5%

Source: IBISWorld (May 2012) / 2Europe Ltd calculations

## 2. The workforce

### Workforce size and trends

The industry employed a total workforce of 225,000 people in 2010/11, with a forecast decline of 5,000 to 220,000 in 2012/13. Since 2007/08 there has been a significant decline of 9.5% from 243,000 employees in the industry, due to the collapse in demand in the housing market which has forced many small contractors out of business.

**Table 2.1 UK Electricians Workforce Trends 2007/08 to 2012/13**

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	% change 2012/13 over 2007/08
Employees (000)	243	247	255	227.5	225	220	
2007/08=100	100.0	101.6	92.6	93.6	92.6	90.5	-9.5%

Source: IBISWorld (May 2012) / 2Europe Ltd calculations (f) = Forecast by IBISWorld (May 2012)

It is predicted that there will be a recovery in workforce numbers by 2017/18 to 242,500, which is only 500 less than the 2007/08 level. The reason for this projected recovery is the expected expansion in demand for the installation of advanced communication equipment, teledata equipment and fibre optics in the commercial sector mentioned earlier. By 2017/18 the workforce is forecast to grow by 10.2% over the 2012/13 level.

**Table 2.2 Forecast of Workforce Trends 2012/13 to 2017/18**

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	% change 2017/18 over 2012/13
Employees (000)	220	219	224	230	237	242.5	
2012/13=100	100.0	99.5	101.8	104.5	107.7	110.2	10.2%

Source: IBISWorld (May 2012) / 2Europe Ltd calculations (f) = Forecast by IBISWorld (May 2012)

## 3. The standard occupational classifications

### Trends in total employed 2007-11 (as at Q2 each year)

Employment data is sourced from the Office for National Statistics, who produce a Labour Force survey. Job roles are categorised into SOC codes (Standard Occupational Classification). Table 2.3 illustrates job roles that 'could' fall within the electrical sector/marketplace and have been selected for this reason.

#### **Increases in numbers** (Source: ONS Labour Force Surveys April-June 2007-11)

- During 2011, compared with 2010, the number of Electricians and Electrical Fitters rose by 18,000 to 277,000, its highest level in five years.
- The number of Production and Process Engineers rose by 9,000 to 42,000, its highest level in five years.
- The number of Engineering Technicians rose by 6,000 to a five-year high of 76,000, which is 217% higher than in 2007.

#### **Decreases in numbers** (Source: ONS Labour Force Surveys April-June 2007-11)

- On the other hand, the total number of Engineering Professionals dropped by 72,000 in 2011 to 421,000, its lowest level in five years.
- The main contributors to this heavy fall in the number of Engineering Professionals were the 22,000 drop in the number of Engineering Professionals n.e.c. to 88,000 and the 15,000 fall in the number of Electrical Engineers to 46,000, their lowest levels in five years.

## **4. Workforce demographics**

### **Type of employment**

The majority of individuals, within each of the standard occupations, were in full-time employment.  
(Source: ONS Labour Force Surveys April-June 2007-11)

The significant minorities not employed full time were:

- 10,000 Engineering Professionals employed part time
- 48,000 self-employed Engineering Professionals of whom 34,000 were employed full time and 14,000 were employed part time
- 11,000 self-employed Civil Engineers
- 11,000 self-employed Mechanical Engineers
- 11,000 self-employed Electrical Engineers
- 33,000 self-employed Vehicle Technicians, Mechanics and Electricians of whom 26,000 were employed full time
- 90,000 self-employed Electricians and Electronic Trades of whom 79,000 were full time and 11,000 part time
- 71,000 self-employed Electricians and Electrical Fitters

### **Gender**

(Source: ONS Labour Force Surveys April-June 2007-11)

With the exception of 10,000 female full-time employees in the occupation classified as Science, Engineering, and Production Technicians, the majority of people employed in the standard occupations were men.

**Table 2.3 Trends in Employment of Classified Occupations (000s at Q2 of each year)**

SOC#	Occupation	2007	2008	2009	2010	2011	Change 2007/08 + or - %	Change 2010/11 + or - %
<b>Professional Occupations</b>								
212	Engineering professionals	479	499	466	493	421	-12%	-15%
2121	Civil engineers	75	93	93	77	70	-7%	-9%
2122	Mechanical engineers	83	79	75	77	72	-13%	-6%
2123	Electrical engineers	53	55	49	61	46	-13%	-25%
2124	Electronics engineers	40	35	37	38	39	-2%	+3%
2126	Design & development engineers	69	61	54	65	66	-4%	+2%
2127	Production & process engineers	34	38	41	33	42	+24%	+27%
2129	Engineering professionals n.e.c	83	92	82	110	88	+6%	-20%
<b>Associate Professional and Technical Occupations</b>								
3112	Electrical & electronic technicians	60	30	33	25	28	-56%	+12%
3113	Engineering technicians	35	69	63	70	76	+117%	+9%
3114	Building & civil engineering technicians	22	23	22	25	15	-32%	-40%
3119	Science, engineering & production technicians	41	43	39	39	30	-27%	-23%
5231	Vehicle technicians, mechanics & electricians (1)	205	214	197	192	193	-6%	+1%
<b>Skilled trades occupations</b>								
524	Electricians & electronics trades (2)	453	454	438	466	451	-0.5%	-3%
5241	Electricians & electrical fitters	258	249	251	259	277	+7%	+7%
5249	Electrical & electronic trades n.e.c	93	88	81	78	73	-22%	-6%
<b>813 Assemblers &amp; Operatives</b>								
8135	Routine inspectors & testers	73	85	69	67	63	-14%	-6%

Source: ONS Labour Force Surveys April-June 2007-11

Notes: n.e.c. = not elsewhere classified. (1) Motor mechanics & automotive engineers in 2007-10 inclusive. (2) Electrical Trades in 2007-10 inclusive

## 5. NVQ Level 3 qualified electricians and technicians

SET is the acronym for Science, Engineering and Technology. The IES confirmed that SET levels are equivalent to NVQ levels.

### NVQ Level 3 qualified

The IES report covers only four of the IET's specified standard occupations for the periods 2001-03 and 2007-09 as shown in table 3.1.

**Table 3.1 Number of NVQ3 (i.e. SET3) Technicians 2007-09 compared with 2001-03**

(data relates to Level 3 SET based technicians whose occupations generally only require a NQF Level 3 qualification)

Occupation	2001-2003	2007-2009	% change 2007-09 over 2001-03
Electrical/electronics technicians	34,969	29,545	-15.5%
Engineering technicians	68,521	69,022	0.7%
Electricians & electrical fitters	238,049	243,025	2.1%
Electrical & electronics engineers n.e.c	100,557	89,603	-10.9%

Source: IES 'SET Based Technicians' Report 2010

## Demographics of NVQ3 technicians

### Gender

In 2007-09 over 90% of technicians in each of the four standard occupational groups were male. The group with the highest proportion of female technicians was Electrical/Electronics Technicians (9.2%).

**Table 3.2 Level NVQ3 (i.e. SET Level 3) Technicians by Gender (%) 2007-09**

(data relates to Level 3 SET based technicians whose occupations generally only require a NQF Level 3 qualification)

Occupation	Male	Female	Total
Electrical/electronics technicians	90.8	9.2	29,546
Engineering technicians	95.8	4.2	69,022
Electricians & electrical fitters	99.3	0.7	243,024
Electrical & electronics engineers n.e.c	97.6	2.4	89,602

Source: IES 'SET Based Technicians' Report 2010

### Age

In 2007-09, the proportions of technicians with NVQ3 in each of four age groups shown in table 3.3 were fairly similar, ranging between 21% and 28% in three occupations out of four. The exception is Electricians and Electrical Fitters, with 31.7% in the youngest age group, i.e. 16-29. More than half (54.8%) of this occupational group were under 40 years old whereas the majority of those in the other three occupational groups were over 40 years old.

**Table 3.3 Level NVQ3 (i.e. SET Level 3) Technicians by Age 2007-09 (%)**

(data relates to Level 3 SET based technicians whose occupations generally only require a NQF Level 3 qualification)

Occupation	16-29	30-39	40-49	50-69
Electrical/electronics technicians	21.8	23.8	26.3	28.1
Engineering technicians	25.4	22.1	26.3	26.2
Electrical & electrical fitters	31.7	23.1	20.1	25.1
Electrical & electronics engineers n.e.c	21.3	24.6	26.7	27.5

Source: IES 'SET Based Technicians' Report 2010

## 6. Electrical firms within the UK

It is predicted that by the end of 2013 there will be 36,500 firms operating in the electricians industry. (Source: ONS Labour Force Surveys April-June 2007-11/ 2Europe calculations). This represents a drop of 3,655 firms or 9.1% in the last six years, which reflects the impact of recession discussed earlier.

**Table 4.1 Number of Electrical Firms in the UK 2007/08 to 2012/13**

Year	2007/08	2008/09	2009/10	2010/11	2011/12	2013/14 (f)	Change 2012/13 over 2007/08
<b>Number of firms</b>	40,155	39,202	37,635	37,000	37,000	36,500	-3,655
<b>2007/08=100</b>	100.0	97.6	93.7	92.1	92.1	90.1	-9.1%

Between 2006 and 2010 the number of private contractors involved in the installation of electrical and wiring fitting rose by 11,582, an increase of 45.7% over the five year period.

**Table 4.2 Private Contractors involved in the Installation of Electrical Wiring & Fitting 2006 to 2010**

	2006	2007	2008	2009	2010	Change 2010 over 2006
<b>Number of private contractors</b>	25,350	27,091	29,128	28,155	36,932	11,582
<b>2006=100</b>	100.0	106.9	114.9	110.9	145.7	45.7%

**Table 4.3 Private Contractors involved in the Installation of Electrical Wiring & Fitting in 2010 by number of employees**

Number of employees	%
1	50.7
2-3	25.1
4-7	13.5
8-13	5.4
14-24	2.8
25-34	0.9
35-59	0.9
60-79	0.2
80 and over	0.5
<b>Total</b>	<b>100</b>

Source: ONS Labour Force Surveys April-June 2007-11 – specifically 2010

### Forecast

A slow recovery in the UK electricians market is forecast, driven by the demand for communications systems and cabling in the commercial sector. This is based on the number of electrical firms being predicted to increase by to 2,000 to 38,500 by 2017/18, an increase of 5.5%.

**Table 4.4 Forecast of Number of Electrical Firms in the UK 2012/13 to 2017/18**

Year	2012/13	2013/14	2014/15	2015/16	2017/18	2018/19	Change 2017/18 over 2012/13
<b>Number of firms</b>	36,500	36,400	36,850	37,400	38,000	38,500	2,000
<b>2012/13=100</b>	100.0	99.7	101.0	102.5	104.1	105.5	5.5%

Source: IBIS World (May 2012) /2Europe Ltd calculations

## Geographical distribution of electrical firms

Nearly half of all electrical firms in 2012/13 (48.6%) will be located in the south and east of England, i.e. London plus the South East, Eastern England and the South West. The North West will account for just over 10%, and no other individual region including Scotland, Wales and Northern Ireland will account for more than 9%.

**Table 4.5 Geographical Distribution of Electrical Firms in the UK 2012/13**

Region	% of all firms
<b>South East</b>	17.0
<b>East of England</b>	12.1
<b>London</b>	10.2
<b>North West</b>	10.1
<b>South West</b>	9.3
<b>West Midlands</b>	8.8
<b>East Midlands</b>	8.3
<b>Yorkshire</b>	8.3
<b>North East</b>	2.9
<b>Scotland</b>	5.7
<b>Wales</b>	3.9
<b>Northern Ireland</b>	3.3

Source: IBISWorld (May 2012)

## 7. Education provision and apprenticeships

### Course providers

There were 330 further education colleges and organisations that provided courses for electricians in 2009/2010 at Levels 2, 3, 5 and in a few cases Level 6. The most common courses provided at each level are:

- Certificate in Electrotechnical Technology Level 2
- BTEC National Certificate in Electrical/Electronic Engineering Level 3
- Certificate in Electrotechnical Technology Level 3
- NVQ Level 3 in Electrical and Electronic Engineering
- NVQ Level 3 in Electrical and Electronic Servicing
- Foundation Degree in Electrical and Electronic Technology Level 5
- BEng (Hons) in Electrotechnical Technology Level 6

Table 5.1 shows that the majority of providers deliver Level 3 (87.3%) and Level 2 (75.8%) courses although a minority (19.4%) also deliver Level 5 courses. Just two organisations (0.6%) provided Level 6 courses.

**Table 5.1: Course Levels for Electricians Provided in 2009/10**

Course level	Number of providers (total = 300)	% of total providers (330=100%)
2	250	75.8
3	288	87.3
5	64	19.4
6	2	0.6

Source: IET data/2Europe calculations

Almost 55,000 students passed their courses in electrical studies in 2009/10. Almost two-thirds (64.5%) achieved Level 3 courses, and over a third (34.5%) achieved Level 2 courses. Level 5 accounted for just 1.2% of courses achieved, and Level 6 courses were achieved by just 8 students or less than 0.1% of the total.

**Table 5.2 Electricians Course Levels Achieved I 2009/10**

Course level	Number achieving	%
2	18,970	34.5
3	35,347	64.3
5	634	1.2
6	8	*
<b>Total</b>	<b>54,959</b>	<b>100</b>

Source: IET data/2Europe calculations \* Less than 0.1%

## Apprenticeships

SummitSkills published a report in 2010 focusing on the building services engineering (BSE) sector in the UK in which there is a chapter covering the employment of apprentices by companies in the BSE electrotechnical industry. This shows, in a survey of 2,000 employers, at any one time typically as many as two-thirds of employers (66%) do not employ any apprentices and a further 20% employ only one apprentice. However, a table showing the typical number of apprentices employed each year shows that just 23% of employers do not employ any apprentices, while 56% employ one and a further 11% employ two. Table 5.3 shows the full range of numbers employed.

**Table 5.3 Numbers of Apprentices Employed in the BSE Electrotechnical Industry**

Number employed	At any one time %	Typical number employed each year %
0	66	23
1	20	56
2	9	11
3	2	4
4	1	1
5	1	-
6-10	1	2
11+	-	-
Don't know	-	2
Refused	-	1
<b>Total</b>	<b>100</b>	<b>100</b>

Source: SummitSkills Survey 2010

## **8. The Electrotechnical Certification Scheme (ECS) card**

To gain access to most construction sites within the UK, electricians are required to hold a current ECS card as proof of their identity, competence and qualification level.

There are 16 JIB grades and 7 ECS disciplines in accordance with electricians' qualifications and status.

The JIB has provided information extracted from their database of ECS card holders. Table 6.1 is based upon 95,461 current card holders, excluding Highway Electrical Operatives.

The column headed Card type shows gold, 'white with red band' and platinum cards. These grades denote the following information about their respective card holders:

- Gold cards: issued to fully qualified, skilled craftsmen
- White with red band: issued to trainees, i.e. apprentices and adult trainees
- Platinum: issued to site managers



**Table 6.1: JIB ECS Card Holders**

JIB grade		ECS discipline		Card type
Electrician	21,303	Installation electrician	48,074	Gold
Approved electrician	18,673			
Technician	1543			
Electrical fitter	264	Electrical fitter	429	Gold
Approved electrical fitter	107			
Electrical machinery technician	28			
Electrical winder	13	Electrical winder	27	Gold
Approved electrical winder	11			
Technician winder	1			
Maintenance electrician	606	Maintenance electrician	890	Gold
Approved maintenance electrician	174			
Maintenance technician	123			
Trainee electrician	4,016	Trainee		White with red band
Apprentices (Total)	10,526	Apprentice	4016	
Apprentices (Stage 4)	4,483		10,526	
Electrical managerial			3045	Platinum

Source: Joint industry Board 2012





# Appendix 2



# Appendix 2 - Technical Advisory Panel and Steering Group (TAPS)

## Terms of Reference (2011-2013)

### Access, Advice and Input

- To provide access to relevantly profiled participants that fall within the agreed target groups for the research study.
- To provide technical advice relating to electricians and technicians on topics used for exploration during the research study.
- To provide input into the questionnaire design and approach for each segmented participant group.
- To liaise with the IET's Research Project Manager appointed to co-ordinate the research study.

### Feedback and timescales

- To provide input and feedback according to the specified timescales during each stage of the research study where advance notice is provided.
- To liaise with the IET's appointed Research Project Manager throughout the study.

### Constitution

- Michelle Richmond *CEng FIET* - Director of Membership & Professional Development - **The IET**
- Mike Bridgefoot *CEng FIET* - Head of Registration & Standards - **The IET**
- Annmarie Dann *BSc(Hons)* - Research Project Manager - **The IET**
- Allison Riley *FdA* - EngTech Product Manager - **The IET**
- Richard Townsend - Senior Engineer, Standards and Compliance - **The IET**
- Ruth Wright *MRes MA PGCE Dip AD* - Head of FE and Research (to Sept 2012) - **Engineering Council**
- Kevin Dinnage *CEng FICHEM E* - Consultant - **Engineering Council**
- Keith Marshall *OBE CEng FIET FCGI* - Chief Executive Officer - **SummitSkills Ltd**
- Steve Brawley - Chief Executive Officer - **The Joint Industry Board for the Electrical Contracting Industry**
- Ivor Williams - Chair of Further Education Committee - **The Joint Industry Board for the Electrical Contracting Industry**
- David Thomas *MBA MEng EngTech MIET* - Training and Development Manager - **Electrical Contractors' Association**
- Richard Clarke - National Apprenticeship Officer (Construction) - **Unite the Union**

In addition Daniel Sandford Smith *CPhys*, Director of Programmes, Gatsby Charitable Foundation, will join the TAPS team to gain insight and understanding into the approach applied by the collaborative partners for this study.

### Principle of Confidentiality

- All data will be circulated to the TAPS team on an attributable basis and specified data will be circulated on a non-attributable basis, unless otherwise stated.
- Data relating to this research study will be confidential to the TAPS team.
- The TAPS team partners may disclose information to members of their professional management team at Director level or equivalent.
- In all cases, the individuals concerned should be made aware of its confidential nature.
- Further circulation or publication of information will require the agreement of all members of the TAPS team.

## Electrical Contractors' Association (ECA)

Founded in 1901, the Electrical Contractors' Association (ECA) is the UK's leading trade association representing the interests of contractors who design, install, inspect, test and maintain electrical and electronic equipment and services – providing leadership on key industry issues including safety, training, qualification, sustainability and technological development. The Association also provides a comprehensive, first-class range of tools and expert support services to its 3,000+ Registered Members, ranging from local contractors to national building services organisations. Collectively, the ECA membership have an annual turnover of more than £5 billion, employ over 30,000 operatives and support 8,000 apprentices in craft training.

## Engineering Council (EngC)

As the UK regulatory body for the engineering profession, the Engineering Council sets and maintains internationally recognised standards of professional competence and ethics. It holds the national registers of over 235,000 Chartered Engineers, Incorporated Engineers, Engineering Technicians and Information and Communication Technology Technicians. It licenses and quality-assures professional engineering Institutions to assess applicants for registration, approve (as contributing towards registration requirements) vocational and occupational qualifications and programmes such as Advanced Apprenticeships, accredit degree programmes and provide continuing professional development (CPD) opportunities.

### Registrants:

As of 31/12/2011	177,226 CEng	32,119 IEng	13,612 EngTech	131 ICTTech	223,088 Total
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## The Gatsby Foundation

In 1967 David Sainsbury set up the Gatsby Charitable Foundation and agreed its first grant – £50 to the Liverpool School of Tropical Medicine. David Sainsbury (now Lord Sainsbury of Turville) has since given Gatsby more than £1 billion to distribute to charitable causes.

Gatsby work in areas that David Sainsbury and the Trustees are particularly passionate about and where they believe charitable funding can make a real difference. Gatsby are currently active in six tightly focused areas:

- Plant science research
- Neuroscience research
- Science and engineering education
- Economic development in Africa
- Public policy research and advice
- The arts

Gatsby support and undertake both large- and small-scale work, employing different methods and models depending on the different challenges, but always ultimately looking to deliver long-term, sustainable change.

Gatsby are committed to strengthening science and engineering skills within the UK workforce. They seek to achieve this by devising and enabling innovative proof-of-principle programmes, encouraging partnerships and informing national education policy.

Following a strategic review of their work, they have adopted a sharp focus for future activity, concentrating their resources on four key areas where they feel that Gatsby, working independently or with other organisations, can make a significant and sustainable difference. Their four focus areas are:

- Promoting Technical Skills – Gatsby aim to increase the number of people with Level 3 and 4 STEM (science, technology, engineering and mathematics) skills by promoting the status of science, engineering and IT technicians and supporting technician training pathways and qualifications that deliver real benefit to those who pursue them
- Supporting School Science – Gatsby support science in secondary schools and colleges by piloting new approaches to teacher recruitment and professional development and through initiatives which encourage innovation and engaging practical activity in science lessons and STEM clubs
- Encouraging Partnerships – Gatsby support a few key national initiatives which aim to increase coordination and collaboration between the wide range of organisations and projects promoting STEM education, and improve communication between government and STEM communities on policy issues
- Informing National Policy – Gatsby seek to inform and influence policy-makers and opinion-formers to secure lasting, positive impact on the education and skills landscape. They do this by sharing the results of our proof-of-principle projects and by commissioning policy-relevant research

## The Institution of Engineering and Technology (IET)

The Institution of Engineering and Technology (IET) has approximately 150,000 members in 127 countries comprising electrical engineers, IT professionals and technicians. The IET has 3,371 Registered Engineering Technician (EngTech) Members, which equates to 2.20% of the overall membership base, of which 85% are Members (MIET) and 14% are Technician Members (TMIET).

IET members operate almost 100 Local Networks as well as 21 Technical and Professional Networks.

The professional registration qualifications [ICT Technician \(ICTTech\)](#), [Engineering Technician \(EngTech\)](#), [Incorporated Engineer \(IEng\)](#) and [Chartered Engineer \(CEng\)](#) are awarded by the IET under licence from the Engineering Council.

The IET plays a key role in electrical installation standards and safety, and is known for its independent and trusted voice. It manages the national committee JPEL/64 and publishes the IET Wiring Regulations BS 7671:2008(2011).

## Joint Industry Board (JIB)

JIB is a completely impartial organisation that sets standards, regulates relations between employers and employees, and improves the industry, its status and productivity.

Since its inception, JIB has fostered an enviable relationship between electrical contracting companies of every size and their workforce. In setting the standards for training, competence, and terms and conditions of employment, JIB has helped its members to maintain stability in the workplace and offer employment conditions that attract, train and motivate the best operatives.

There are two related categories of JIB Membership: electrical contractors and cabling & jointing contractors.

JIB has over 40 years' experience of dispute resolution and mediation. One of its principal objectives is to provide a forum by which it fairly adjudicates upon all kinds of disputes arising from industry employment. [Mediation and conciliation services](#) are available to employer members, any of their directly employed JIB-graded operatives and all apprentices. For any employers and employees outside this group, JIB can also act as a neutral intermediary via [JIB Mediation Services](#), if both parties wish to investigate a mediation route. Comprehensive redundancy advice is also available to members.

JIB's grading scheme includes a wide range of grades including Technician, Approved Electrician, Electrician and other provisional and permanent grades.

## SummitSkills

SummitSkills is the sector skills council for the building services engineering (BSE) sector. The BSE sector represents the electro-technical, heating, ventilating, air conditioning, refrigeration and plumbing industries.

SummitSkills was created by employers, for employers, to address six key objectives:

- Employer engagement
- Offering expertise, safeguarding standards
- Enhancing quality and delivery
- Raising ambition
- Effectiveness and evolution
- Partnership approach

The employer-led approach of SummitSkills gives business' in the sector a key role in increasing their own and the country's productivity and profitability. Through the establishment of Sector Skills Councils, employers now have a direct route to influence strategic planning relating to skills and training.

The BSE sector represents the electro-technical, heating, ventilating, air conditioning, refrigeration and plumbing industries.

- **61,000 business' in the sector:**
  - 23,000 electro-technical
  - 13,000 heating, ventilating, air conditioning and refrigeration
  - 22,000 plumbing
  - 3,000 consultants

- **613,000 employees throughout the sector**

The sector carries out £20 billion of work each year – 3% of GNP (Gross National Product) – and at any one time is training 18,000 apprentices.

## Unite the Union

Unite is the largest trade union in Britain and Ireland, including being the leading union in the UK electrical and mechanical sectors, with members working across the total construction process, engineering, infrastructure and energy & utilities within the built environment.

The union negotiates and represents skilled workers employed in just about every private and public industry. It has longstanding agreements and good working relationships with the trade associations in the engineering, electrical, mechanical and plumbing sectors. Through their joint approach, the agreements help to bring stability and benefit the industry, the employees, employers and society as a whole.

- Unite the Union was formed from the merger of Amicus and the T&G (Transport and General Workers' Union), which themselves incorporated the predecessor AEEU, EPIU, EETPU and ETU electrical trades unions through a series of mergers
- Unite the Union has 1.5 million members
- Unite members work in ten regions across the UK, Ireland and Gibraltar
- Unite members work across 23 industrial sectors
  - Aerospace and shipbuilding
  - Chemicals, pharmaceuticals, process & textiles
  - Civil air transport
  - Community, youth workers & not for profit
  - Construction
  - Docks, rail, ferries & waterways
  - Education
  - Electrical engineering & electronics
  - Energy & utilities
  - Finance & legal
  - Food, drink & tobacco

- Graphical, paper & media
- Health sector
- IT & communications
- Local authorities
- Metals (Including Foundry)
- MoD and government departments
- Motor components
- Passenger transport
- Road transport commercial, logistics and retail distribution
- Rural and agricultural
- Servicing and general industries
- Vehicle building and automotive

The union represents, supports and engages with electricians, apprentices and allied workers, including:

- Regional and national representation, collective bargaining, campaigning, lobbying and legal support, at individual, workplace, regional, national, European and international level
- Unite and TUC education and training for the unions – thousands of workplace representatives including employment matters, health and safety and pensions, lifelong learning through Unionlearn in workplaces, plus industry courses and CPD through the union's provider Technical Training Solutions
- Signatory to industry-wide collective agreements including the Joint Industry Board for the Electrical Contracting Industry (JIB) with the ECA, Scottish Joint Industry Board for the Electrical Contracting Industry (SJIB) with SELECT, National Agreement for the Engineering Construction Industry (NAECI), and other industry, regional, and company level agreements, for wages, employment reward, allowances, benefits, pensions and terms and conditions of employment.
- Joint engagement with the employers' associations for the provision of thousands of world-class apprenticeships as a stakeholder to the electrical industry owned apprenticeship charitable not-for-profit training providers, being JTL for England and Wales, SECTT for Scotland and ETT for Northern Ireland
- Representation on the leading Sector Skills Councils and bodies in Engineering, Energy, Construction and the Built Environment including SummitSkills, SEMTA, Cogent, CITB-Construction Skills and the ECITB
- Joint working with industry on skills competency accreditation through the Electrotechnical Certification Scheme with JIB and SJIB, and the industry charity National Electro-technical Training (NET) with ECA and SELECT
- Engagement with and support of the IET Wiring Regulations 17th Edition (BS 7671) through the JPEL/64 Joint
- Technical Committee Promotion of the IET Wiring Regulations 17th Edition (BS 7671), including publication of the *Unite Electricians' Guide to Good Electrical Practice and Electricians' Guide to Inspection and Testing*







# Appendix 3



# Appendix 3 - Research findings

Feedback from all individual and employer participation interviews was analysed and are included in this appendix.

## 1. Views on career advancement and barriers

### Individuals

Overall, the majority of participants (*base 200*) felt there was a great deal of confusion within the industry regarding career pathways and progression. Furthermore the majority expressed a desire for the assortment of professional bodies with whom electricians and contractors are familiar to join up the electrician profession and work together as governing bodies, which they believe would contribute in removing much of the confusion and frustration that exists today.

## 2. Career advancement

### Individuals

When asked for views on what career advancement means to electricians and contractors, focus group participants (target groups: electricians and contractors) unanimously agreed it was about individuals advancing skills and gaining experience, both of which were considered key in gaining recognition from peers and employers. Interestingly, the majority also agreed that career advancement is also about a mechanism to increase earnings.

Examples of quotes taken from the focus group participants are noted below:

- *“Career advancement is about gaining higher levels of achievement through education and receiving greater remuneration for that”.*
- *“Career advancement to me is more money and more responsibility which leads to a higher status in our trade”.*
- *“Developing your skills, gaining experience and hopefully getting paid more due to reputation”.*
- *Views also focused on a need for individuals to push themselves to achieve a higher level of knowledge, competency and proficiency. Furthermore, undertaking qualifications was seen as one way of achieving the skills and competences required for career advancement.*
- *“It is to progress either in your current position with experience or progress higher in the company you are in”.*
- *“Becoming more skilled and efficient in any area”.*
- *“Career advancement for me is working towards self-improvement, including gaining more qualifications”.*
- *“Career advancement – start at the bottom and work your way up to the level that best suits your skill set or capabilities. The more qualifications you can gain, increase your skill set, increase your opportunities and salary”.*

All focus group participants, prompted by the researcher, were asked to rank, in order of importance, a selection of different enablers of career advancement. Results are collated in the table below:

Rank	Deemed as ‘Career Advancement’	Number of responses
1	Take on a more supervisory/management role	34
2	Increased earnings and improved prospects	27
3	Move into a different technical area	25
4	Starting up your own business	19
5	Gaining enough experience to become a contractor	17
6	Become a college lecturer or apprenticeship assessor	12

Base: all focus group respondents (68)

### 3. Barriers to career advancement

#### Individuals

Focus group participants considered barriers to career advancement as a combination of:

- Possessing recognised and required qualifications in the relevant field
- Possessing enough relevant experience in the area one intends to operate in (e.g. new energies, domestic, industrial, testing and inspection)
- Possessing the funds to gain necessary qualifications

#### Blurred career direction – electrical apprentices

The majority of apprentices interviewed felt there is a current issue within the industry whereby an electrician requires experience to progress but is unable to gain the experience needed without qualifications and is unable to gain the qualifications without the funding. This was emphasised by the final year apprentices in both face-to-face focus groups, who all felt very strongly about this point.

In addition to this point, final year apprentices, from both face-to-face focus groups, shared a common view about how they are not able to easily foresee their future career pathway. They expressed their disappointment about the lack of visibility where career opportunities arise following apprenticeship completion including a lack of career guidance regarding the pathways a qualified apprentice could take to gain recognition and career progression.

The following quote from an apprentice in one of the face-to-face focus groups was fully supported by all other apprentices in that group:

- *“Knowing the actual qualifications and what qualifications you need to go in what direction, because it’s quite complicated to know which route to take with different awarding bodies... JIB and NIC... they all want different things”.*

Newly qualified apprentices talked about a settling-in period within an introductory role/position enabling them to gain experience before advancing up the career ladder.

#### Common barriers to career advancement

Common barriers to career advancement, in order of frequency, were collated from participant views and are tabled below. Although final year electrical apprentices had strong concerns about career advancement, they were not specifically asked about barriers to advancing their current career. Since all are in their final year of study, they have yet to embark on a career and thus were not asked to rank barriers to career advancement.

Rank	Barriers to advancing in one’s career
1	The cost of training courses
2	Lack of available time / time-off to develop
3	Lack of jobs / Lack of opportunities to develop or specialise

Base: focus group respondents from groups A1, A2, B1, B2, D, F (53)

The cost of training courses and the lack of available time to develop were the most commonly experienced barriers to advancement cited by participants, amongst contractors (groups B1 and B2), newly qualified electricians (group D), experienced electricians in permanent roles (group A2), and those who have retrained from other career paths (group F)

Contractors of different ages and experiences (groups B1 and B2), compared to all other profiles, considered they have a wider range of career barriers, emphasising the lack of opportunities and available employer funding. These particular barriers were less common among permanently employed electricians (groups A1 and A2). Newly qualified electricians (group D) also strongly emphasised a lack of employer funding opportunities to develop, which was considered to be a main barrier to career advancement.

#### General barriers to career advancement

In the main, focus group participants felt more general barriers to career advancement were influenced by the lack of available contract work, company and industry instability and the knock-on effect of overseas electricians working in the UK that forces prices down in the UK industry, with little surplus for career progression available.

## Qualifications – as a barrier

To further explore and understand barriers, more probing questions were used during all the focus groups in the areas of qualifications, experience and funding.

A minority of focus group participants (particularly the permanent and contracted electricians who were already qualified) stated that qualifications were not a barrier. Rather, they felt they were too easy to obtain and as such had lost their value. Examples of quotes are noted here:

- *“Qualifications are definitely not a barrier... they're too easy to do”.*
- *“Qualifications are too easy to get by any Tom, Dick and Harry. Fast track doesn't mean quality”.*

## Concerns about advancing via qualifications

Experienced electricians (groups A1 and A2) expressed concern about the amount of extra time and money needed to undertake further qualifications as well as the assessment methods currently in place which they believed were not suitable to enable career progression. Examples of quotes from both groups are provided here:

- *“Higher levels will straight away require college training”.*
- *“Qualifications aren't a barrier to me per se, it's just that they are always getting chopped and changed”.*
- *“Qualifications are the route to success!!!... But practical time and assessment are critical”.*
- *“The UK tax system deters individuals and businesses from spending on developing people – there should be tax incentives to encourage formal training, career development and therefore progress for UK plc”.*

## Experience – as a barrier

The majority of participants believed that experience, more than qualifications, is a key requirement by employers within the electrical industry for career progression. They explained that for electricians with at least five to ten years' experience, there appeared to be no issue with gaining employment, but it can be a barrier for those wishing to diversify into specialist areas who have not undertaken that role before. This point was supported by most of the focus group participants.

- *“No experience tends to be a greater barrier than qualifications because all jobs require specialist experience of what they are undertaking which is OK unless it's a type of work you haven't been doing before”.*
- *“There are so many branches of electrical work and you can't be an expert in all of them”.*

It was also noted that, as with specialist roles, an individual cannot easily transfer their experience (or skills) from one type of work to another, e.g. domestic to commercial, commercial to industrial. This point is summarised in the quote below and was a shared view of participants in focus groups A1, A2, B1 and B2 and is thus seen as a main barrier when looking to advance into a new area:

- *“The electrical installation trade takes on many avenues: Domestic, Industrial, Commercial. Not all are experienced in each”.*
- *The main issue with experience appears to be with apprentices or those recently qualified. Despite gaining some experience whilst training it was felt that some employers do not value that initial experience.*
- *“Just finished paying for my son to do his pt1 and pt2 at college... And he cannot get a job in the industry despite passing all exams!”*
- *“Yes! I would struggle to move companies as all companies even after you have completed a four-year apprenticeship won't offer you a job without two to three years' experience after it”.*

## Funding – as a barrier

Findings highlight that a minority of electricians do receive employer funding for training but these tend to be electricians employed within the larger firms rather than those who are self-employed, contracting or working without formal qualifications.

It was noted that for the majority of those who receive employer-funded training the type of training provided is generally only the statutory training, e.g. Wiring Regulation updates.

- *“Higher level qualifications are expensive if you have to pay for them yourself”.*
- *“My employer has completed my apprenticeship but does not want to pay for anything further”.*
- *“Wanting to progress as a CAD electrical designer, I would have to pay for that myself and go to night school as the company would not support me”.*
- *“Funding is always a barrier, because the training is so expensive”.*

## 4. Drivers of skill development

### Individuals

#### Main drivers

All focus group participants, with the exception of final year apprentices (groups C1 and C2) and those without formal qualifications (group G), were asked who drives them to develop. They answered using a poll. Responses were ranked in order of most common drivers.

Rank	Main drivers of skill development and qualifications
1	Electricians push themselves
2	New legislation pushes electricians to develop
3	The industry itself pushes electricians
4	Electricians' employers push them

Base: poll of focus group respondents (groups A1, A2, B1, B2, D and F) (47)

The top driver, consistently across the groups, of skill development and qualifications is the individual who pushes himself/herself.

New legislation in the industry is also a key driver to develop for young contractors, particularly group B1 and experienced permanent electricians (group A2), as they need to ensure they meet the competencies required by the industry.

Recently qualified electricians are excited about their career and optimistic about the future. This group confirmed that they do push themselves to enhance their knowledge.

Permanently employed electricians just starting out in their career (group B1) confirm that they are driven to develop by their employers, since their employers require the most competent workers they can have. This group also advised that very often to receive employer support for training, the individual must validate their reason for training before this is approved – it is not always automatic.

- *“You have to push yourself to be better than the average tradesperson”.*
- *“Make myself more employable!”.*
- *“You need to be able to ‘keep up with the Joneses’ so to speak or be better than them to get the job!”*

#### Other drivers

Analysis highlights that, across the participant groups, with no specific lean towards any particular group profile, other drivers of skill development and qualifications are external organisations, e.g. a union, an institute or other electricians and peers.

Legislative changes are also drivers for competence maintenance, especially for experienced electricians and contractors who highlight that with the increase in health and safety legislation, in particular, and the array of new certifications and qualifications available, even those electricians with several years of work-based experience can find themselves ‘non-qualified’ overnight.

Advances in technology and equipment within the industry are an obvious driver for those looking to progress and stay up to date.

- *“New advances in equipment and the growing use of data networking in buildings requires us all to keep up to date”.*

## Individuals

With the exception of final-year apprentices (groups C1 and C2) and those without formal qualifications (group G), participants were asked what influences employers to develop their electricians. They answered using a poll.

Rank	Reasons an employer pushes employee skills development
1	To keep their Wiring Regulations up to date
2	To meet employers' requirements
3	To keep their JIB/ECS card valid

Base: poll of focus group respondents (groups A1, A2, B1, B2, D and F) (47)

The requirement to understand the IET Wiring Regulations has meant employers and industry bodies push their electricians to develop and maintain their skills and knowledge. This is particularly prevalent among permanently employed staff (groups A1 and A2), newly qualified electricians (group D) and those who have retrained from a different career path (group F). In most cases the reason is because the employer mandates current qualification of the IET Wiring Regulations; in particular those who have retrained from another career (group F) are required by their employer to maintain the competence requirements to ensure current validity of competent card schemes such as the JIB/ECS cards.

To gain further insight, researchers probed further and asked participants to list the main reasons why they push themselves. Their responses are ranked in order of most common reasons.

Rank	Reasons one pushes oneself further
1	To simply advance one's career development
2	To get a better job
3	So one can start one's own business in the future

Base: poll of focus group respondents (groups A1, A2, B1, B2, D and F) (47)

All profiles of participants in the groups listed gave one of the three reasons tabled above for pushing their own skills development. Contractors (groups B1 and B2) push themselves to secure work or start their own business.

## Employers

All employers interviewed (*base 30*) agreed with the views given by electricians that individuals are the main drivers of their own skill development. They stated that it is their belief that the role of employers is to provide a level of support, enabling electricians to achieve that personal development.

Again all employers interviewed believe they provide more of an influencing role in driving development since they have a requirement for their employees to hold specific qualifications (e.g. 'testing and inspection' qualifications), which assist in business growth, and meeting customer expectations. A selection of quotes from employers are included below:

- "Yeah we try to give them technical training as they go along, but most electricians won't accept too much technical knowledge and they don't want to know too much, and, to be honest, they're not technically competent enough to do more work".
- "If the business was going in a different direction we would push it".
- "At the end of the day, it's driven by our customers' needs and showing we can fulfil those customers' needs".
- "I think they're quite happy not to have to get involved in keeping up to date with what's going on, what's changing, they're just keen to do their job. I think that happens quite often".
- Two out of 30 employers felt very strongly that professional bodies (e.g. the qualification accreditor) should push electricians to develop further to meet the current legislation and standards.
- "They [the IET] are the ones that are driving it, legislation drives them to improve the quality of the industry, or to improve their qualifications, to change all that sort of stuff".
- "For me personally it's who I'm accredited with. Because I think a lot of people unless they're pushed in, they're not going to do it because of the time involved".

## 5. Methods of skill development

### Individuals

#### Training courses

Training courses are the most common method of skill development undertaken by electricians. With the exception of final year electrical apprentices (groups C1 and C2) and those without formal qualifications (group G), responses were ranked from all focus group participants in order of the most common methods of skill development.

Rank	Training method/source
1	Day courses at a college
2	Night courses at a college
3	On-the-job training from peers/superiors

Base: poll of focus group respondents (groups A1, A2, B1, B2, D and F) (47)

Analysis confirms that the contracted electricians (groups B1 and B2) tend to undertake evening courses at local further education colleges, which does not impact on their day-to-day working.

In addition to courses, all of the newly qualified electricians (group D) confirmed that they receive on-the-job training from peers, whilst other younger electricians (groups A1 and B1) receive support from institutions such as the IET or external trainers.

#### Other methods of skill development

Other training methods used by the participants, across all groups, are attendance at electrician focused events, seminars and online courses. What was clear was that no one group preferred one method over another; all groups chose a mixed approach.

Note: during the discussion about methods of skill development it was identified that few participants understood the term 'body' or 'institution' nor how institutions or professional bodies operate within the electrical industry and with each other.

#### On-the-job training

Participants from all groups advised that on-the-job training is something undertaken by all and it would appear to be the most commonly used approach to skills development for electricians and contractors, mixed with some further education college training courses.

- *"On-site experience and training courses for me".*
- *"I do a lot of reading; practical use of different skills where possible and keep an eye on what qualifications are available that I haven't yet completed".*
- *"College mainly and on-site".*

#### Reactive development

The only participants who do not undertake training courses to develop their skills were those without formal qualifications (group G). Instead, they adopt a more reactive approach developing their knowledge on a needs basis, either through gaining more experience on the job or learning from peers:

- *"A lot of skills I taught myself in private work back in the day".*
- *"Through work you get the support of the lads who have done it as well".*
- *"I personally don't bother unless it is a legal requirement to do so or the subject matter takes my interest, but then again, I am a bit long in the tooth".*
- *"I have a couple of mentors who have been in the business over 20 years each".*

## 6. Support from employers

### Individuals

#### What support is provided?

With the exception of final year electrical apprentices (groups C1 and C2) and those without formal qualifications (group G), participants were asked what support their employers provide. Support types were ranked in order of most common.

Rank	Type of support provided by employer
1	None
2	Training to ensure you are competent to the latest edition of the Wiring Regulations and all amendments
3	Support for becoming qualified
4	Support for on-going training to remain competent

Base: poll of focus group respondents (groups A1, A2, B1, B2, D and F) (47)

The majority answered none and tended to be contractors (groups B1 and B2) as they are not permanent staff and therefore little career investment is provided.

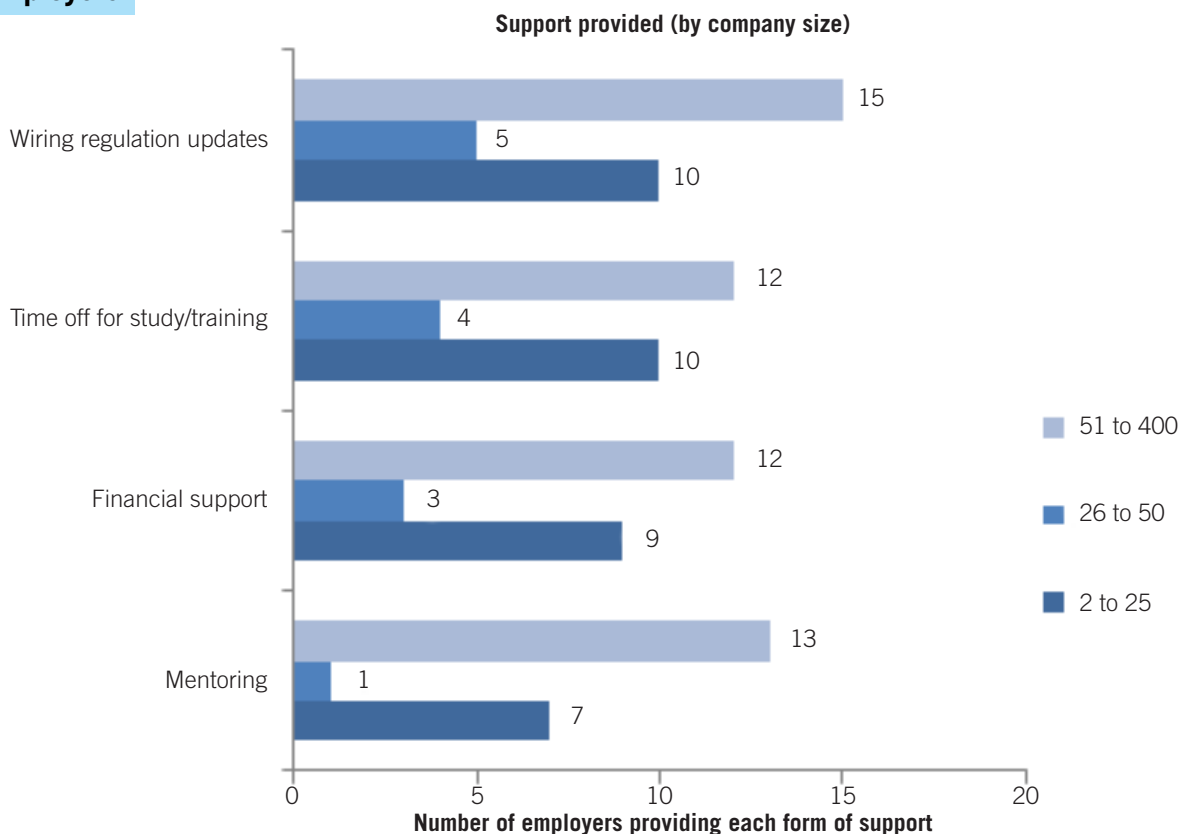
Almost all electricians (across all profiles) read, and stay up to date with, the IET Wiring Regulations. Only a third of electricians stated they receive training or funding support for the IET Wiring Regulations via their employer. The remaining two-thirds have to obtain the updates themselves.

Other forms of support are offered to electricians, though not to any particular profile of electrician, e.g. support to become professionally qualified or support to join associations such as JIB, ECA or the IET.

Experienced permanently employed electricians (group B2) receive on-going support from their employers to ensure they remain competent.

#### Training courses and updates

### Employers



Base: all telephone in-depth interview respondents (30)



Analysis shows that employers do deliver internal training for electricians, especially the Wiring Regulations and updates. In addition, employers stated they support apprenticeships, ad hoc learning (e.g. day courses for new technologies), health and safety updates and refresher courses relating to electrical techniques.

## Contradiction

Employers' feedback contradicted focus group participants' views who stated very few employers support time off or funding for training and personal development.

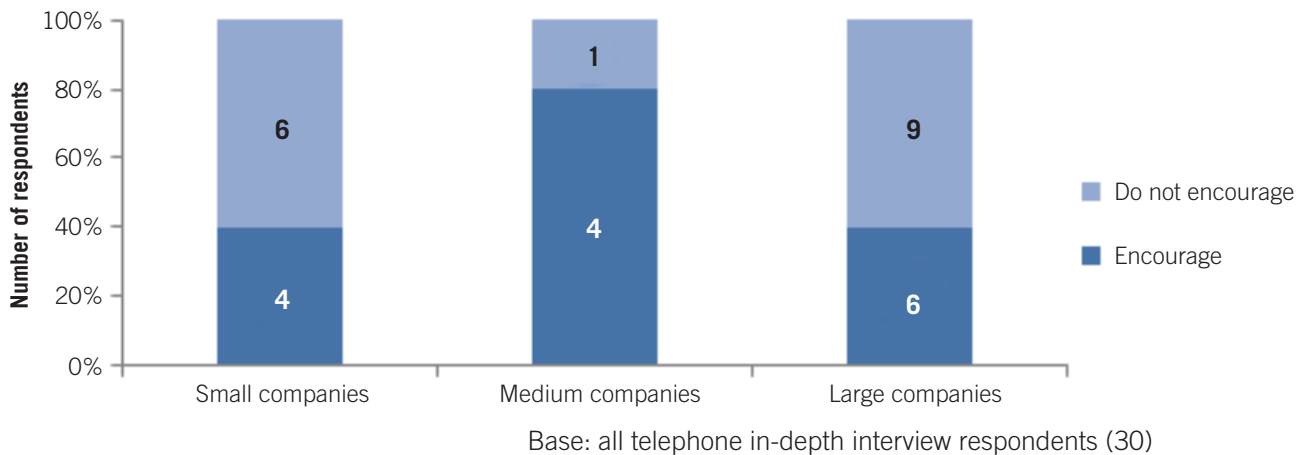
A handful of participants expressed disappointment at the lack of funding for skills development from employers. Electricians and contractors stated that in some cases, when electricians have been promised future training or assured there is a training budget available, very often the training fails to materialise.

- *"My company promises that there is an endless budget for training but I am yet to see anyone benefit from this magical pot of gold".*

## 7. Employer support for professional membership and registration

### Employers

Fourteen employers (*base 30*) advised that they do encourage their electrician employees to apply for Professional Registration qualifications:



Although there were fewer surveyed, four out of five medium-sized companies encourage their electricians to apply for Professional Registration. There is no evidence that indicates smaller companies do not encourage progression or that larger companies do encourage it.

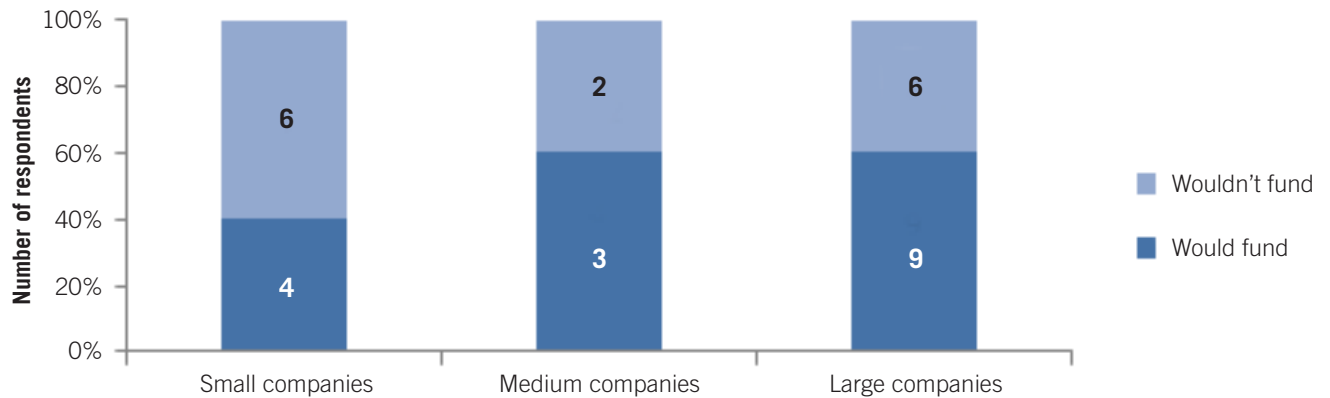
### 7.1 Employer funding

In order to gauge the reaction of employers regarding whether they would be willing to fund professional membership and registration the following question was asked:

- *"Would your organisation pay fees associated with professional qualifications e.g. institution membership (£80-£150) and yearly registration renewal (£15-£30)?"*

Fourteen of the employers said they would not fund this and 16 employers would.

The breakdown was as follows:



Base: all telephone in-depth interview respondents (30)

In addition, the 16 employers who confirmed they would fund membership and Professional Registration fees for their staff agreed unanimously that the fee is acceptable.

### Individuals

Few participants stated they receive support to further their industry interest and personal development from membership institutions or industry bodies. The main reason given for this is simply that it is not considered a requirement to hold Professional Registration qualification within the industry and therefore electricians are expected to fund it themselves. One apprentice summarised this point as follows:

- "...If you're an electrician, you're in competition with all the others around there, implying you need to differentiate yourself, the company won't pay for you to do it".

The ECS/JIB card is considered by almost every participant interviewed as the most common recognition of competency. This is funded by the electrician in the majority of cases, rather than the employer.

### Opportunities to develop

#### Individuals

Analysis confirms that the majority of participants (e.g. contractors and permanent electricians) were rarely offered opportunities to develop by their employer. The only group who were provided with opportunities were the newly qualified electricians who are optimistic about their future and eager to progress:

- "I am [offered opportunities] but I push for it and work hard at it, others who show no interest aren't offered the chance"
- "Working hard at your job pays off".
- "I work hard and my company sees that, so they are more willing to offer you opportunities, still have to push for some though".

Electricians interviewed (other than newly qualified electricians) did not allude to any additional support from their employer, either because previously in the discussion they stated they did not receive any employer support, were self-employed or that they were disappointed about what they received.

## 8. Apprenticeships

### Employers

Nine of the employers (base 30) interviewed confirmed that they have an industry recognised electrical advanced apprenticeship scheme in operation, aligned to NVQ Level 3 qualification. Employers advised that the schemes are, in the main, delivered by external companies such as JTL Training or other training providers working in conjunction with local further education colleges.

## Individuals

Almost all of the final year apprentices stated during the face-to-face focus groups that they need to push for additional opportunities (over and above what is included as standard in their apprenticeship scheme) but not to the same extent as a qualified electrician:

- *“Now that I’m finishing this year they are asking if I want to go on and do a HNC foundation degree and I think they are pushing and it’s difficult to decide which one I want to do”.*
- *“If they can they will get you to do as many things [courses] as they can, because I have done quite a few courses at my work already and I don’t ask for them”.*

## 9. Electricians’ competence

### Individuals

#### A standard of competence in the industry

Electricians, contractors and apprentices agreed on two main criteria to assist in judging an electricians’ competence:

- Experience on site and within the industry
- Relevant qualifications to the required level for the job

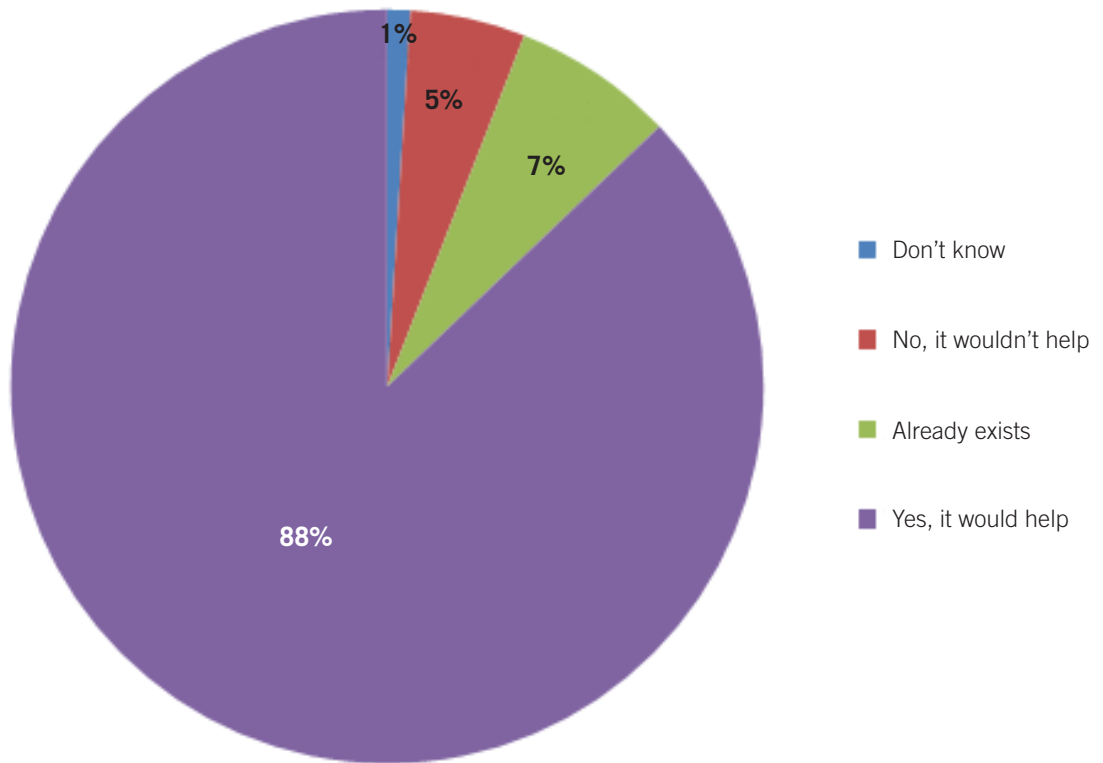
All participants were asked to list, in no particular order, the qualification and skills they believe demonstrates the most relevant level of competence for an electrician:

Trained electrician through NVQ Level 3 or Apprenticeship
Ability to apply knowledge learned from courses in real-world situations
Possessing an ECS/JIB card
Indentures after one’s name
Possessing Part 1 and Part 2 qualifications
Working alongside someone and assessing their conduct/skills
Assessing someone’s work after they have completed it
One-on-one discussions to assess their fundamental knowledge
Meeting a minimum safety standard
Possessing a CSCS card
Carrying out work to a high level, efficiently
Keeping up to date with the changing times, regulations and standards
Acting in a professional manner
Taking care in one’s work
Registration with an industry certification body e.g. NICEIC, NAPIT, ELECSA
Insured when operating
Independently assessed by others

Base: all focus group respondents (68)

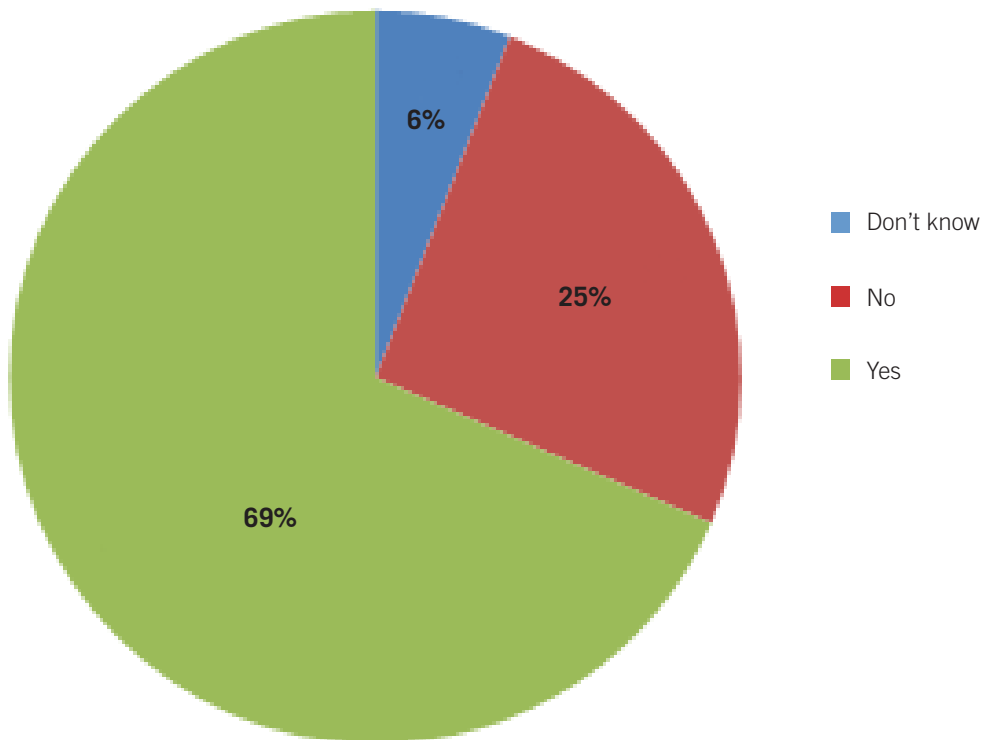
## Individuals

All participants (base 200) were asked if a recognised standard of competence would help the industry.



Base: all CATI respondents (200)

7% of participants believe there is currently a standard of competence in the industry.



Base: all CATI respondents (200)

When asked whether an international standard of competence would help the industry (e.g. would a qualification or standard which is known across the international market (not just individual countries) and be useful in defining an electrician's level of competence?), 69% said it would help and it would be a benefit.

## Judging competence – qualifications

### Individuals

There was wide consensus from all participant groups that qualifications are not enough to demonstrate competence. Participants felt that in addition to qualifications, the application of knowledge and hands on experience are key elements that enable an electrician to be professionally competent. These elements are perceived to be industry minimums.

- *“Qualifications teach the knowledge, but they don’t teach you the sense”.*
- *“Qualifications don’t always produce safe/cost-effective/long-life work”.*
- *“Qualifications are nothing without being on site”.*

### Type of qualification

Participants were not able to be specific about the type of qualification they believe would provide the overarching standard they feel is missing within the industry.

Fast-track electrical courses (six to eight weeks duration) available from various training providers were not seen as a suitable qualification to enable competence recognition by the majority of participants, including final year electrical apprentices.

## 10. Judging competence – experience in different sectors

### Domestic, industrial and commercial sectors

All participants confirmed that they found it difficult to judge the level of experience an electrician possesses mainly due to the differentiation between work carried out in the different sectors, e.g. domestic, industrial and commercial.

They tend therefore to judge each other by the number of years they have worked in the industry.

Since the work within the domestic, industrial and commercial sectors operates quite differently, experience gained in one sector cannot be transferred easily to another sector. The sectors are not deemed hierarchical. The domestic sector is not seen as an easier sector to work within.

Participants believe that electricians and contractors working in the public sector are subject to more stringent assessment than those working in other sectors.

### Judging competency – licence to practice

#### Individuals

Focus group participants put forward ideas that they believed might be useful within the electrical industry to gain universal consistency within the UK. One of these ideas was the introduction of a ‘licence to practice’ similar to the Gas Safe that is used by the UK gas industry.

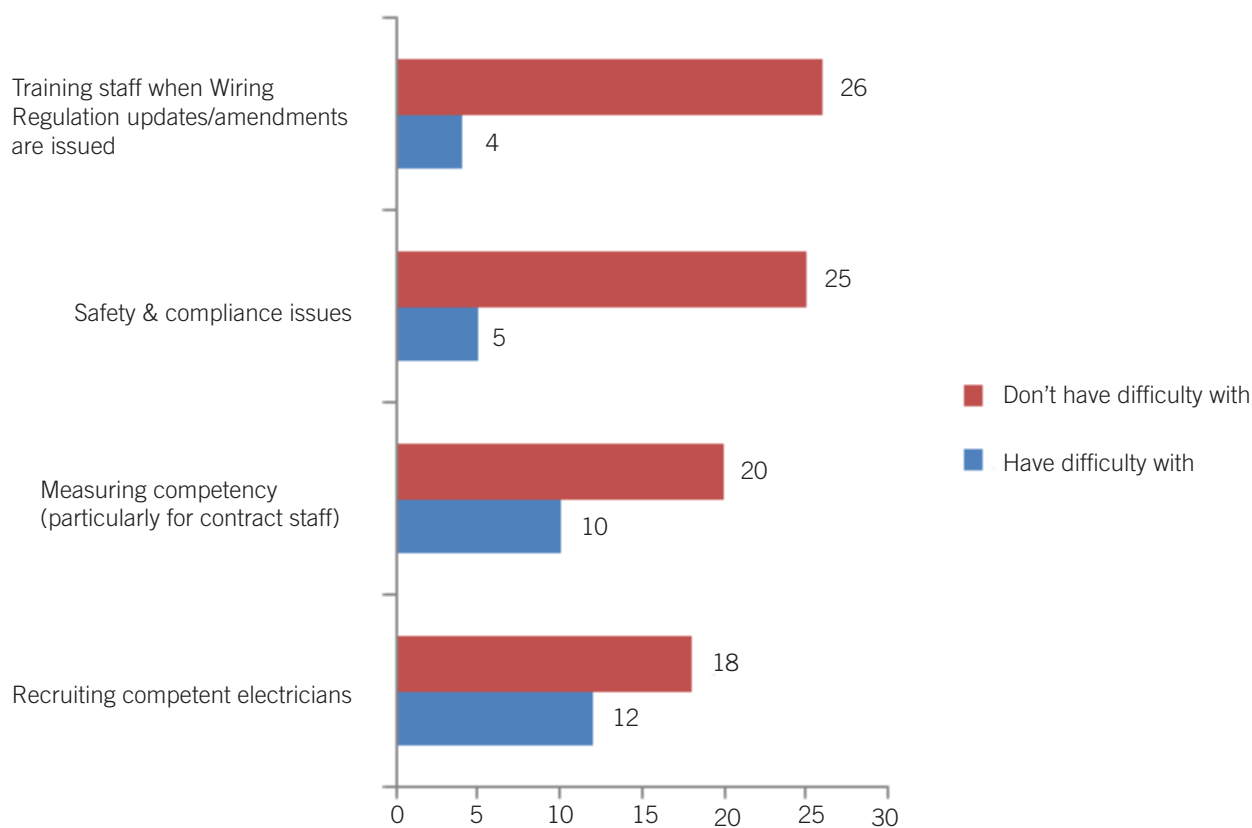
Analysis supports a shared view by the majority of participants that the closest measurement of competence, recognised by those working in the electrical industry, is the competent card scheme, e.g. JIB/ECS which is seen as proof of quality and competence at an individual level.

- *“National recognition of certification, isn’t it?”*
- *“It’s a quality assurance thing for customers. So you know that if you get a JIB registered electrician round, you’re not going to get a cowboy”.*

## Employers

### Difficulties in assessing and employing staff

Employers provided a list of difficulties they face when assessing and employing electrical staff. Recruiting competent electricians was reported as a key issue for almost half of those interviewed (*base 30*).



Base: all telephone in-depth interview respondents (30)

### An agreed standard

#### Employers

A summarised list of components that would make up an agreed standard of competency for electricians was collated from the in-depth interviews with employers.

- Completion of an industry-recognised apprenticeship
- At least two years' on-the-job experience (post-apprentice)
- Hold an agreed level of qualification
- Hold current registration with an industry body that includes competency assessment and professional development support

Although the subject of a 'licence to practice' was raised by the individual participants who were in favour of an initiative of this type, findings did not support this widely with the majority of employers.

### Different controls by sector

Employers did not feel there was a real need to change standards that are already in use within the electrical industry. It was clear from the interviews that they understood the different skills required to undertake work in the domestic, industrial and commercial sectors.

- *"I would say it's about the same, there's no real difference between commercial and industrial. It's all the same standard as such. I would expect the installers to put in to the same standards. I wouldn't expect there to be very much difference between".*
- *"I think the skill set for an electrician to be a good domestic electrician and to be a good industrial electrician are two totally different things. So those are the refined skills, the basics are just the same".*

## Peer validation

### Individuals

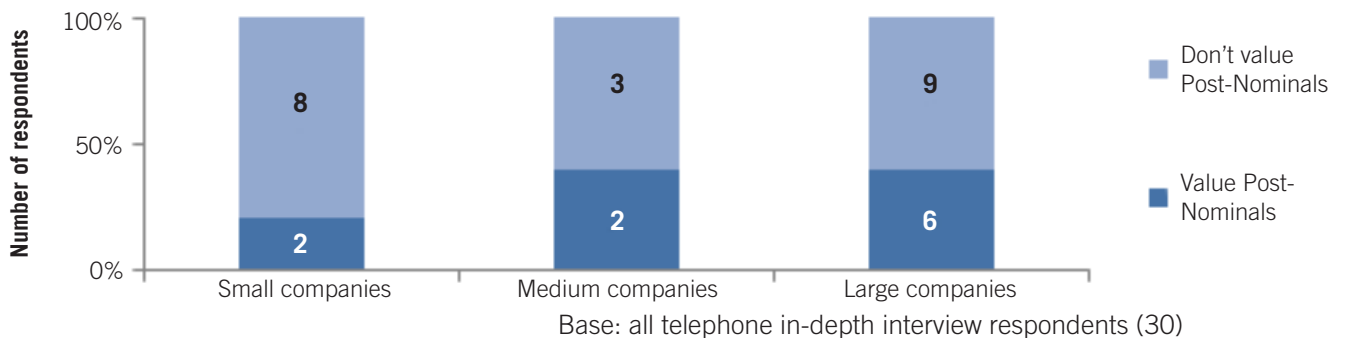
Whilst the majority of individual participants agreed that independent validation of an individual's competence is relevant, there are a minority who do not necessarily agree with peer validation.

- *“Not sure how this could work. In domestic, there are a vast number of self-employed one-man bands operating – who is to say somebody is competent enough to judge another?”*

## 11. Post-nominal professional titles

### Employers

Ten employers value staff with post-nominal professional titles. More companies, irrespective of size, stated they do not place any value on post-nominals.



Half of the employers gave key reasons why they value post-nominal qualifications:

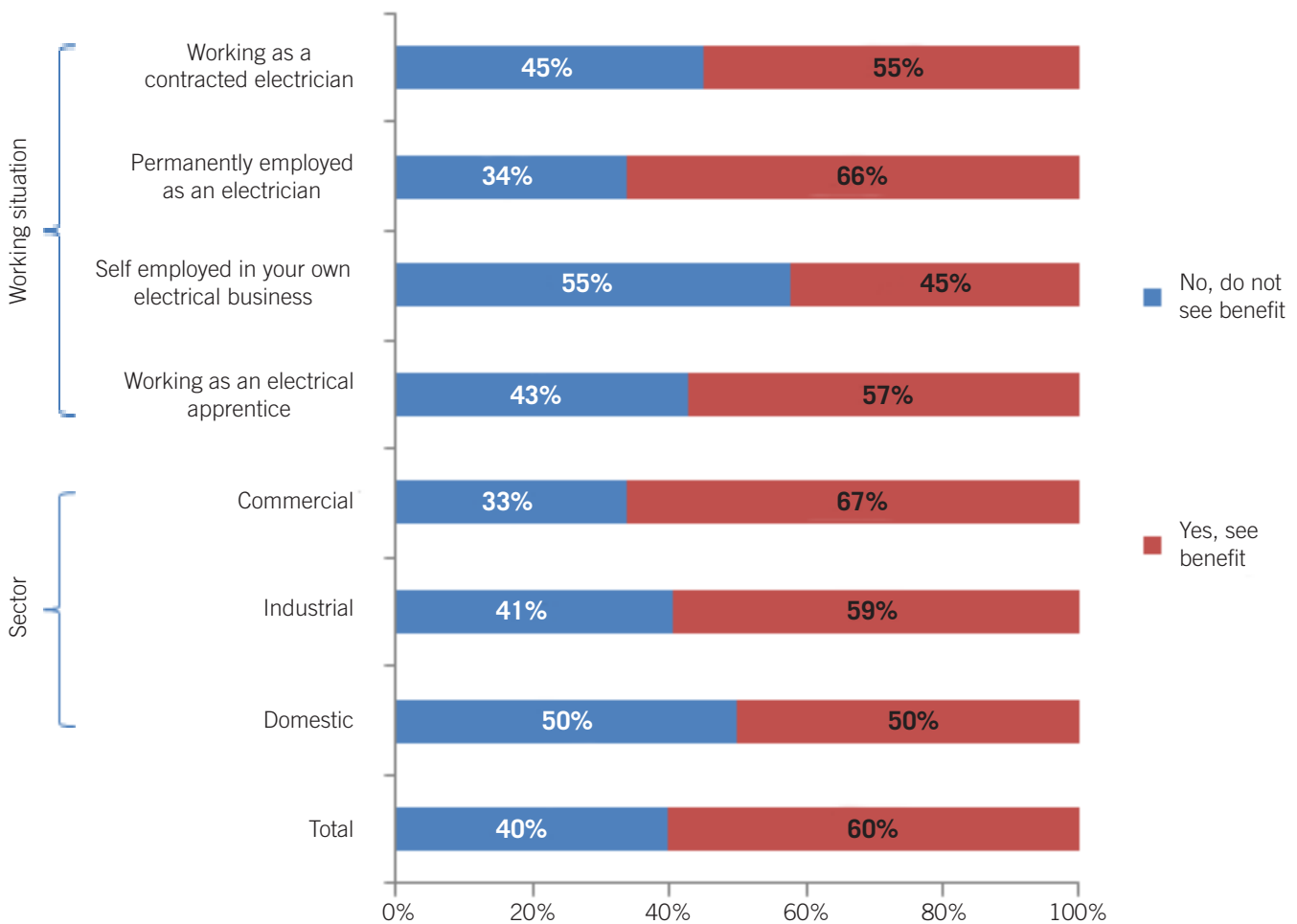
- Indicates the employee takes pride in their job.
- Enables greater recognition from peers that the employee is competent, which in turn encourages others to develop.
- Provides enhanced confidence for customers.

The other half stated the reasons why post-nominal qualifications hold no value:

- They are not a customer requirement and rarely asked for.
- They are not understood by the majority working in the industry.
- Can cause issues when the individual is deemed to be over-qualified for a role. Generally electricians do not require professional qualifications with post-nominals.
- Perceived that a higher rate of pay would need to be paid to the individual with post-nominals.
- Post-nominal qualifications are not a sign of competence or experience, rather that the individual has the paperwork.

## Individuals

Individual participants were asked if they saw any benefit in having a qualification that provides letters after their name that signifies a level of competence. The findings tabled below show that overall it is fairly evenly matched in terms of seeing a benefit or not. A higher proportion of those working in the commercial sector see a benefit than those working in the domestic and industrial sectors.



Base: all CATI respondents (200)

## 12. Views – Professional Registration

### Awareness of Professional Registration

A third of employers interviewed were aware of Professional Registration qualifications. A definition statement (detailed below) was read to the remaining two-thirds of employers so that further views could be explored.

- *“Professional Registration is a qualification that demonstrates a recognised level of technical competence, commitment to professional behaviour and continuous learning; additionally you can add the letters after your name. It is regulated by the Engineering Council and you can apply for it through professional institutions like the IET”.*

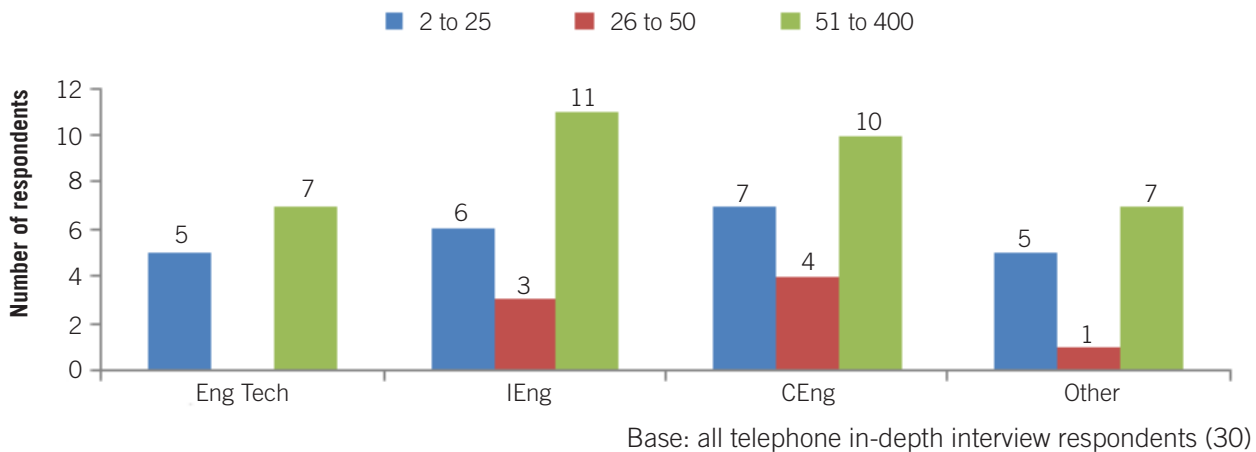
After hearing the Professional Registration definition statement, employers were asked if Professional Registration could, in their opinion, be considered as a relevant measure of competency, which they might recognise and label as the preferred and most acceptable level.

Twenty-eight employers (*base 30*) agreed it would be an acceptable level and measure of competency.

To measure the prevalence of Professional Registration, employers were asked if they were aware of the different categories of Professional Registration.



By company size:



'Other' consisted of qualifications or industry bodies such as NICEIC, JIB, NAPIT and Part P – none of which are related to Professional Registration qualifications – indicating a level of confusion and misunderstanding about what Professional Registration is.

## 13. Employing professionally qualified electricians

### Employers

#### Electrician recruitment – specific requirements

All employers agreed on the following list of key attributes that they would expect when recruiting electricians:

- Qualification via an industry recognised apprenticeship.
- Up-to-date qualification of the IET Wiring Regulations.
- Relevant on-the-job experience.
- Current validity of a JIB/ECS competence card scheme.

In addition, employers stated that an electrician becomes even more employable when they are able to demonstrate they have:

- Interest in the industry through membership of organisations such as the IET, NAPIT, NICEIC, JIB.
- Strong communication skills, especially with clients.
- The ability to work on their own initiative.

Employers did not include a requirement for an electrician to hold a Professional Registration qualification such as EngTech. The specific requirements listed above, however, demonstrate alignment to the current EngTech competency framework 'UKSPEC' maintained by the Engineering Council.

#### Benefits of employing professionally registered electricians

Half of the employers indicated the following benefits to employing electricians who are professionally registered:

- Enhanced standard of work carried out.
- A programme of continuous professional development undertaken by the individual as a requirement of their Professional Registration status leaves the employer more time to focus on new business and projects rather than employee development.
- Reduced insurance fees available for employees with a higher level of competence.
- Reduced use of contractors.
- Enhanced company reputation and the opportunity to bid and tender for contracts previously not available to organisations without registered engineers/technicians.

To explore this point further, employers were asked if their company would be viewed differently by customers or competitors if a number of professionally registered electricians were employed. 13 employers (*base 30*) agreed their companies would be viewed differently. They believed it would increase the overall professionalism of the company and increase the level of confidence for customers. They considered it may even raise their profile over their competitors.

## Employers' concerns

The biggest concerns about employing professionally registered electricians were:

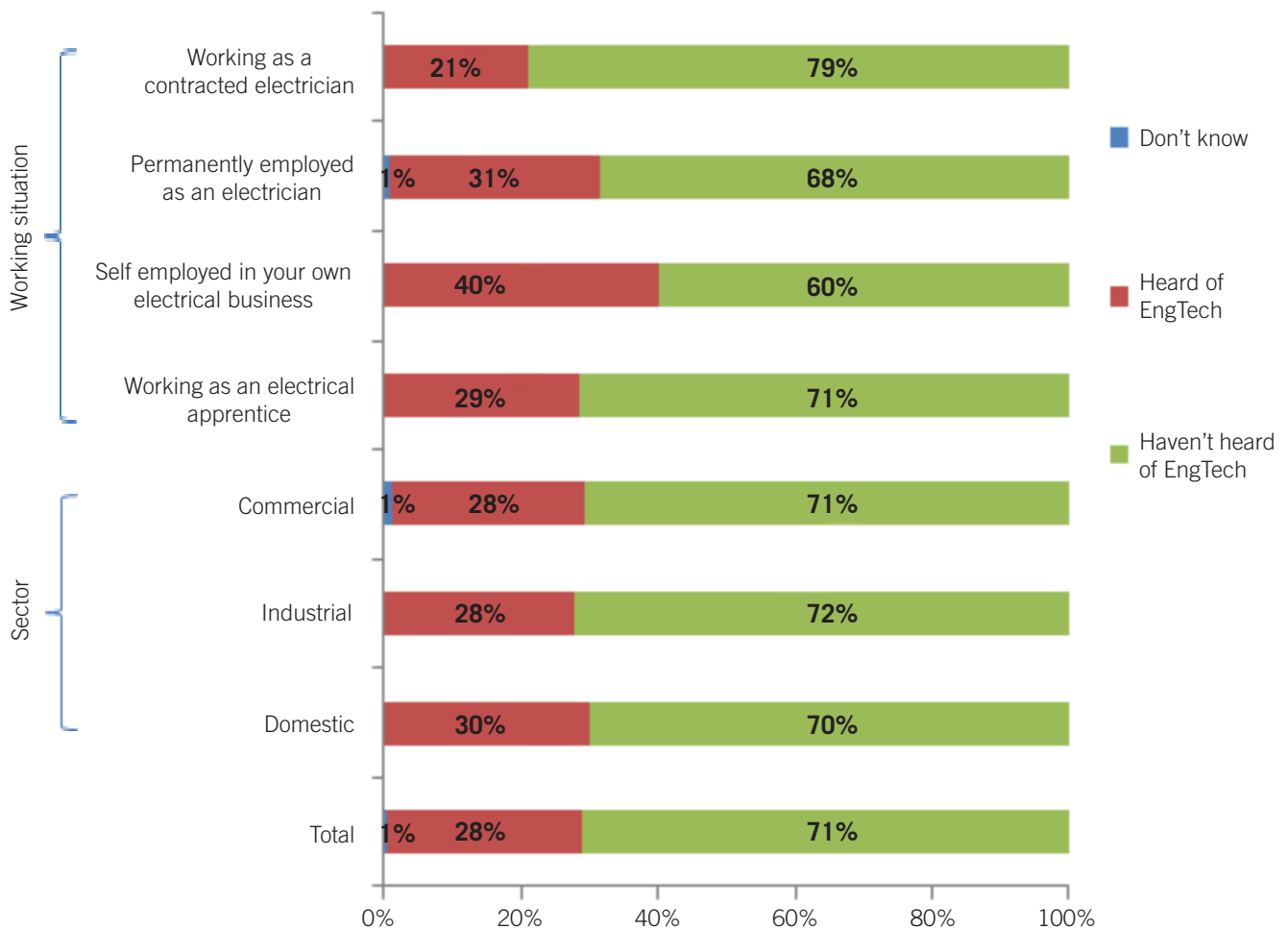
- a. The amount and frequency of additional financial support required
  - *"It wouldn't reduce the training costs because you know they would be forever going on different courses, you know, if they can identify a course they think is going to suit them then they would go for that. I think the only saving we're going to get is by not getting in a contractor at a vast fortune per hour".*
- b. Electricians will consider they are over qualified and leave
  - *"Well put it this way, if we encourage for someone to go for EngTech or one of the other professional qualifications, I don't think they'd be staying with us. That's the other way of looking at it because obviously they would probably attract a higher salary doing a job that's more sort of down that route rather than what we are limited to, which is testing and inspection and maintenance and call-out work".*
  - *"We do not see much of it because in fact what happens is on the odd occasion that we've had really good people we haven't been able to keep them, they've gone elsewhere and I fully accept that".*

## 14. EngTech awareness

### Individuals

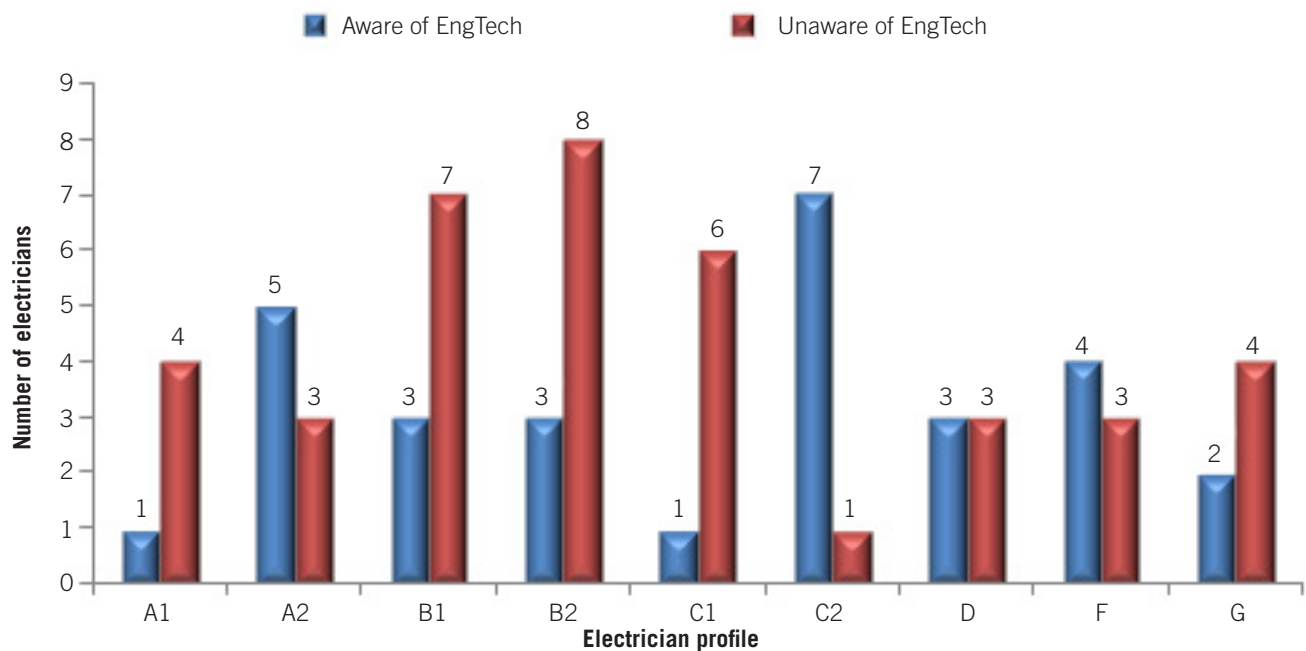
#### Individual awareness of EngTech

Awareness of EngTech (based on the name, rather than a definition) was explored. Individual participants (*base 200*) were asked if they had heard of EngTech, or Engineering Technician.



Base: all CATI respondents (200)

## Individuals



Base: all focus group respondents (68)

EngTech awareness was highest amongst permanent electricians aged 36-60 (group A2), industrial apprentices (group C2) and those who had retrained from another industry (group F). However, a smaller number of electricians in other groups had heard of EngTech through previous job roles within the armed forces and/or the engineering industry.

## Employer awareness of EngTech

### Employers

Twelve employers (base 30) were aware of EngTech.

## 15. Perceptions of EngTech

### Individuals

The initial perceptions of EngTech were explored with the focus group participants and results are tabled, for each group, below.

<p><b>A1 – Permanently employed electricians (Aged 21-35)</b></p>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Majority are intrigued by the proposition and sound positive</li> <li><input checked="" type="checkbox"/> They value this level of recognition as it would help identify competent electricians</li> <li><input type="checkbox"/> Concerned that although it may express competence, it is still academic and requires more practical application</li> <li><input type="checkbox"/> Concerned that EngTech will become another qualification ‘gimmick’ and become meaningless</li> </ul>
<p><b>A2 – Permanently employed electricians (Aged 36-60)</b></p>	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> A few are interested and are keen to understand how valid it is in the industry</li> <li><input type="checkbox"/> View it as a qualification to move into a hands-off job rather than a hands-on, electrical job</li> <li><input type="checkbox"/> More sceptical of the qualification, as it appears they have encountered similar qualifications or ‘gimmicks’ before</li> <li><input type="checkbox"/> Do not feel it will make a difference to their job, e.g. <b>“Not bothered, worked without a JIB card for 10 years”</b></li> </ul>

<p><b>B1 – Contracted electricians (Aged 21-35)</b></p>	<ul style="list-style-type: none"> <li>☑ Approximately half the contracted electricians sounded interested in the qualification; however, they need additional information to be able to make a definitive decision <b><i>“I have heard of it and consider it to be worthwhile and would like to attain it but have never been sure entirely what is required for it (although I know a description is available)”</i></b></li> <li>☑ Some electricians are interested in the idea but understand it will have costs associated with it. They seem willing to give it a chance if it raises their fees and salaries</li> <li>☒ One contractor felt it was beyond their scope and not a requirement</li> <li>☒ Others were not familiar with it and instantly saw it as a <b><i>“money-maker”</i></b>. This is a level of scepticism seen with other groups</li> <li>☒ They are concerned that employers are not asking for it, therefore there is no benefit associated with its cost</li> </ul>
<p><b>B2 – Contracted electricians (Aged 36-60)</b></p>	<ul style="list-style-type: none"> <li>☑ The majority of contractors found the EngTech proposition intriguing as they are interested in learning and progressing further</li> <li>☒ Concerned that EngTech is simply <b><i>“another piece of paper”</i></b>, <b><i>“another yearly subscription”</i></b> or that it is merely a <b><i>“rubber stamp”</i></b></li> <li>☒ Contractors feel the JIB card currently available takes into account one’s competence, experience and qualifications, so they do not feel EngTech is needed</li> <li>☒ Concerned that it would not be recognised as clients do not understand certifications or are not aware of them</li> </ul>
<p><b>C1 – Electrical apprentices (Domestic/ Commercial)</b></p>	<ul style="list-style-type: none"> <li>☒ The apprentices in this group are domestic or commercially focused and see no value in what is a qualification for qualifications.</li> <li>☒ Apprentices see the EngTech qualification as simply <b><i>“letters after your name”</i></b> with no other benefits</li> <li>☒ Apprentices do not believe it is well recognised and they could focus their efforts on a more relevant qualification after their NVQ such as 2391 or AM2</li> </ul>
<p><b>C2 – Electrical apprentices (Industrial)</b></p>	<ul style="list-style-type: none"> <li>☑ With a high level of awareness among apprentices, EngTech is received well</li> <li>☑ EngTech is deemed a good, quality qualification which provides that <b><i>“one extra thing”</i></b> which can top others who also have a Level 3 apprenticeship. It is considered a <b><i>“step above the rest”</i></b></li> <li>☑ Seen as a “stepping stone” to further achievements, such as BEng later in one’s career: <b><i>“Yeah there are not a lot of ways to progress in my job and by having this [EngTech] you are already one step on the way”</i></b></li> <li>☒ Industrial apprentices do not see any downsides of EngTech initially</li> </ul>
<p><b>D – Newly qualified electricians</b></p>	<ul style="list-style-type: none"> <li>☑ There is a high level of understanding among newly qualified electricians. Although only three are aware of EngTech, they seem to know how it works</li> <li>☑ Seen as an advantage in moving up the career ladder</li> <li>☑ A lot of questions put forward on how to achieve it, and what the requirements are, indicating interest</li> <li>☒ However, after realising it is a <b><i>“qualification for having qualifications”</i></b>, the optimistic views changed into scepticism: <b><i>“Ah another money spinner”</i></b></li> <li>☒ Confusion over what it provides a self-employed electrician or what it provides that NVQ and 2391 qualifications do not currently provide</li> <li>☒ EngTech requires more recognition in the industry and clear entry criteria</li> <li>☒ Professional registration is not deemed important for electricians, but maybe for supervisors, designers or managers</li> <li>☒ Letters after one’s name are not valued throughout the entire industry</li> </ul>
<p><b>F – Electricians (retrained from another industry)</b></p>	<ul style="list-style-type: none"> <li>☑ Positive views that it is a ‘professional qualification’, as it gives the right impression to a customer, even if they do not know what it means</li> <li>☑ Also, electricians were not aware it is a ‘professional’ level, like CEng, which again adds prestige</li> <li>☒ One respondent was an EngTech previously and had been in the Armed Forces and felt they did not receive any real benefits from the IET or EngTech. He also felt that customers had no recognition of it, so it provided nothing advantageous</li> </ul>

<b>G – Electricians with no formal qualifications</b>	<ul style="list-style-type: none"> <li>☑ It is seen as a ‘nice to have’ and probably a good idea as long as the public know what it means</li> <li>☒ Electricians do not believe many people will have heard of EngTech, especially customers, which means it will not be valued: <b>“ my clients have never heard of Part P let alone anything else”</b></li> <li>☒ Non-qualified electricians are not qualification-orientated and therefore were not enthusiastic about a qualification which carries no importance for them</li> </ul>
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Low EngTech awareness by those working in the domestic and commercial sectors was noted. The majority of participants, across all groups, felt the JIB/ECS competence card was the most representative competence measurement.

Experienced electricians appeared sceptical about new qualifications and standards being introduced to measure competency and stated that their scepticism was influenced by previous experience of legislative changes.

## Views from participants familiar with EngTech

Participants with previous knowledge of EngTech tended not to consider it a suitable qualification for electrical employees or contractors. They perceive EngTech to be a qualification predominantly suited to electrical engineers or those involved in the design roles.

- *“EngTech is more for electrical engineers rather than contractors isn't it? I don't think it really carries through to the lower types of electrical contractors. You might find a large organisation would have a couple of EngTech personnel around and also for a complex industrial site, however there is some technical knowledge needed but most sort of domestic, industrial, commercial jobs don't need that level of qualification to be honest”.*
- *“I haven't associated [EngTech] with electrical contractors or electricians. Maybe I'm a bit old-fashioned here, but [the industry] is still sort of differentiated between craft qualifications and the more technical design qualifications, and I've always associated the Engineering Council with the technical and design qualification rather than the craft qualification”.*

## Views from employers familiar with EngTech

### Employers

Almost all employers saw EngTech as a qualification for higher, supervisory levels. The following quote represents the views of multiple employers:

- *“My perception is that those qualifications are for people who don't do the work, they're for the managers. Managers are very good at passing exams but don't necessarily know what they're doing. Sounds extremely bad, but that's my perception”.*
- *Although only a minority of employers believe EngTech is too easy to obtain, it is worth including this feedback as individual participants touched on a similar point, earlier in the research, when discussing views about measurements of competency. Participants felt that professional qualifications are seen as having a less stringent assessment process, and often perceived EngTech application to be just about filling in a form.*
- *“I think it would be excellent if we could promote it and get people to work towards that, it is a professional recognition. The only problem with EngTech is you can get EngTech with people like the Institute of Engineering and Technology without actually having any electrical qualifications, because it is not specific to electrical engineering”.*

## Views from employers unfamiliar with EngTech

Employers were provided with the EngTech description statement before being probed further about their views about EngTech.

Approximately half the employers viewed it positively and stated that they would look more favourably on an electrician who is willing to push himself/herself further within the industry and gain this qualification, particularly in terms of development support.

Employers viewed EngTech as a recent qualification to the electrical industry and as such saw this as advantageous to the individual and the company, with competence aligned to current practices and up to date.

- *“If someone has a degree it could be 20 years ago. Having EngTech in the last three years, or whatever it is, they will hopefully have been reviewed and re-subscribed. It gives me the impression that it's recent and they are competent with current practices”.*

Employers shared the view that EngTech is a relevant standard of competence, useful in benchmarking an individual's skill-level during recruitment as well as providing an opportunity for individual recognition and a chance to raise the overall profile of organisations.

- *"I think it's a good thing, on a personal point of view having looked at doing it myself. It would be useful if I was seeking employment elsewhere. I do believe employers look at it as a good standard of competence and professionalism and a willingness to further yourself and learn, which is important".*
- *"From an electrical point of view, if I was recruiting and I had contractors coming on site if these people had these things at the end of their name or on a letterhead or something like that, I've got no problem with that because it does give us a bit more confidence in dealing with these people if they've gone through the process of achieving that standard, then we will recognise it, no problem at all".*
- *"I think there's good value, because you've got confidence that if someone's got that, I wouldn't say you could fully trust them, but at least you're starting to know that they've had professional training in the past and they are regulated by a minimum qualification. It adds value to the individual; some people are probably more motivated if they have that".*
- *"It's good if, say for instance, our engineers are talking to a customer, they can put the letters after their name, and it gives the customer the confidence that they are educated and trained to the correct level".*
- *A minority of employers felt EngTech was not relevant to electricians or organisations mainly because it is not currently seen as a requirement within the industry for electricians to be EngTech qualified.*
- *"[Regarding letters after someone's name] I just think they're all misleading, you are only as good as the person you are and you can have all the relevant qualifications but not necessarily be the best person for the job".*
- *"Well [it sounds like] it can be time-consuming to get, at the moment if they're out there working and able to secure work without it, then I'm not sure how many are going to be bothered to pursue it".*

## Perceived benefits of EngTech

### Individuals

Overall, individual participants perceive the benefits of EngTech as:

- A mechanism to structure an electrician's career.
- An enabler to maintaining up-to-date knowledge through continual development and learning.
- A qualification that can provide personal differentiation.
- An independent validation of an electrician's competence level.

Permanently employed electricians and those early in their career (groups A2 and B2) viewed the benefits of EngTech as providing a competitive edge over others, increasing earnings, enabling career progression, adding structure to a career pathway and increasing technical knowledge.

More experienced electricians (group A1) did not see a clear benefit in obtaining EngTech. They had strong opinions about the lack of personal benefit derived from EngTech and felt EngTech was simply a qualification to prove you have reached a level via another qualification, for example: *"I get the feeling it gives none [i.e. no benefit] except prove you have reached that level".*

Experienced contractors (group B1) focused on the personal benefit of EngTech as an enabler for increasing self respect and recognition from others within the industry, demonstrating a level of professionalism. Contractors also noted the benefit of continued personal development associated with EngTech and saw this as a key benefit to their industry knowledge and employability.

Apprentices had varying views on EngTech. Those operating as domestic and commercial electricians could not see any benefit to possessing EngTech. It was not clear how EngTech would provide them with personal differentiation, at their stage (embarking on a career): *"You are still turning up as a qualified electrician [if you possess EngTech]"*.

Industrial apprentices believed EngTech would enable them to showcase the high standards of competence they possess and differentiate them from other electricians who would have taken a less traditional (and lower-quality) route *"It cuts out those guys on eight-week courses as well, as we have the experience that they don't"*. Industrial apprentices also felt it would offer them better job opportunities as they could highlight to potential employers personal competence and qualification at a higher level.

Newly qualified electricians' views were mixed. Half of the participants valued it as a tool for helping them advance in their career and emphasising their professionalism and competence, while the other half believed it would provide independent validation of competence, increased technical knowledge and continual development.

Electricians who had retrained from another discipline/industry sector felt EngTech was a good qualification that could add structure to their career, a competitive edge over others and international recognition.

Electricians who possessed no formal qualifications did not see a benefit to EngTech qualification. With low recognition within the electrical industry they felt the qualification was not relevant to electricians:

- *“Unless it is advertised extensively to the wider audience, i.e. Joe Public, exactly what it means, it will be worth not a lot to me. I am still fighting non Part P sparkies for work because no one told the public!”*

## Perceived benefits of EngTech to employers

### Employers

Employers believe EngTech is sufficiently skill based. However, the majority view it as an academic qualification. But this was not perceived in a negative manner. Rather, employers understand that academic knowledge and learning goes hand in hand with practical experience for all-round competence. The issue is more about relevancy to the industry.

- *“I think most people think of it as academic. I don't think it's thought of as skills-based. I think the only thing in our trade that's thought of as skills-based is either the NVQ or the City and Guilds”.*
- *“I would see that person as a skilled electrical engineer – that doesn't mean to say that he could do domestic installations. In other words, he was more technically qualified, but it's understanding the basics”.*

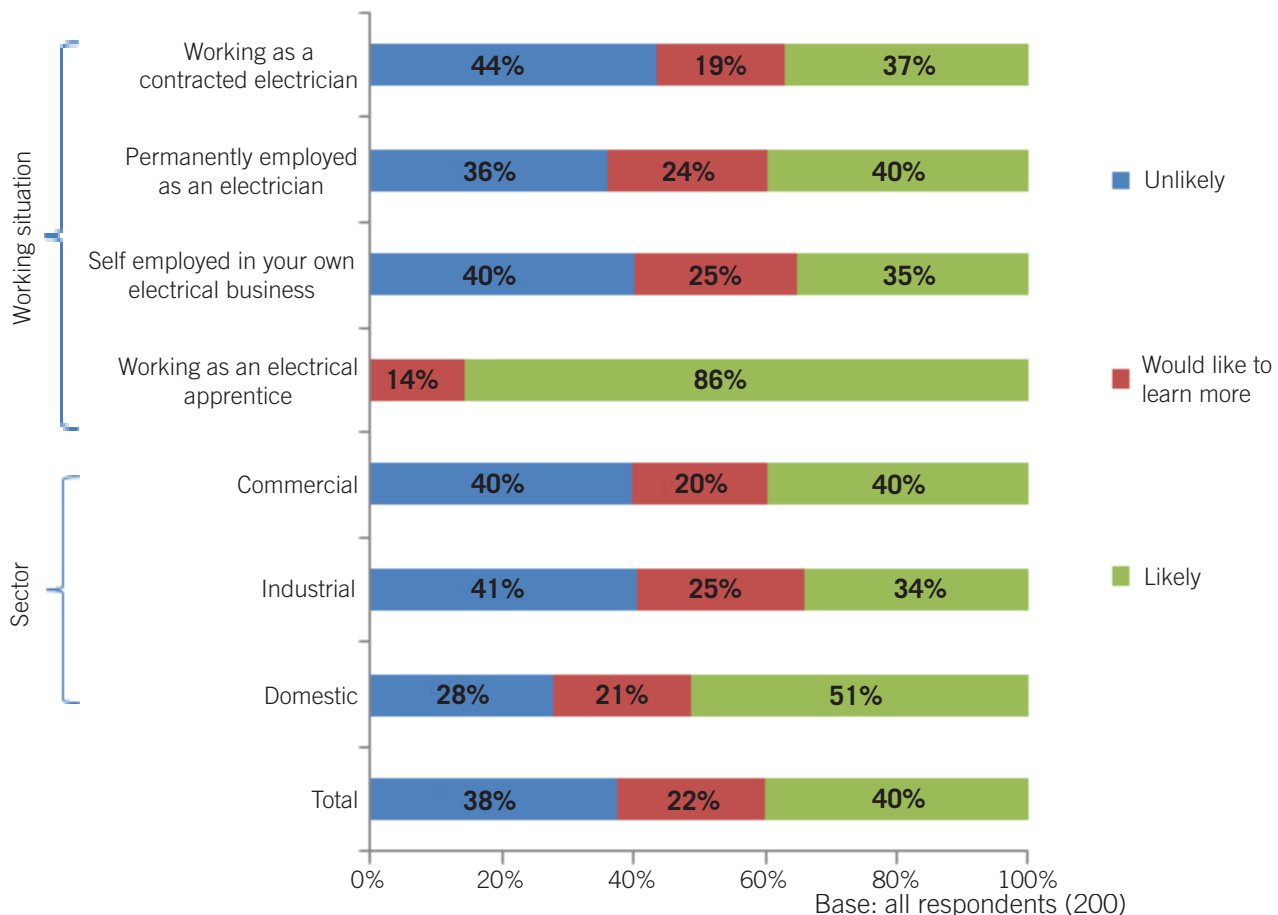
There were mixed views across the group of 30 employers interviewed about the value of EngTech in providing a competitive advantage for contract tendering. The majority, however, felt that whilst there is still very low awareness and recognition of EngTech within the industry it might be some time before a competitive advantage from EngTech uptake could provide benefit to an organisation.

## 16. Propensity for employers to consider and fund EngTech

Employers were read the following statement and asked how likely they would be to consider EngTech in the future.

EngTech, or Engineering Technician, is a qualification that is regulated by the Engineering Council and offered by professional organisations such as the IET. It demonstrates a recognised level of technical competence, commitment to professional behaviour and continuous learning and in addition you can add the letters EngTech after your name.

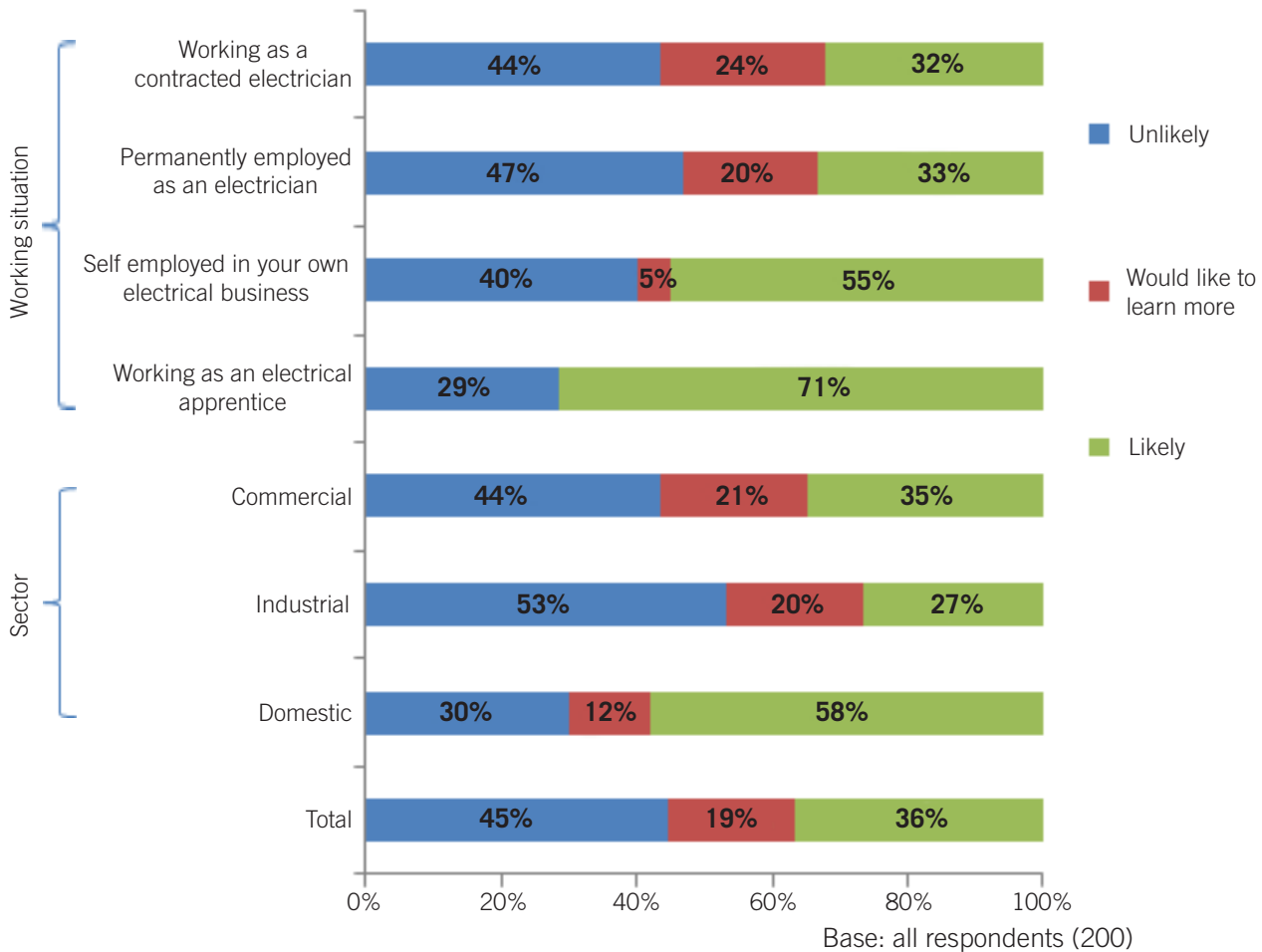
It is achieved by being independently evaluated and you must obtain references from those who have assessed your work. There are no formal examinations but a practical review of your competencies as an electrician. It is also internationally recognised by employers.



## Propensity to consider EngTech – based on the fee

### Individuals

After explaining to participants that in order to apply for EngTech, individuals are required to become a member of a professional institution licensed to award the qualification, which includes membership costs ranging from £80 to £150 and a yearly renewal fee of £15.80, they were asked how likely they would be to consider EngTech in the future.



The propensity to consider EngTech reduced from 40% to 37% of all electricians when fees were explained. To understand if there were other reasons, apart from costs, affecting their decision to consider EngTech, participants were asked to explain in more detail their feelings and reasons. This enabled the following list of reasons to be extracted demonstrating that costs are only one of many reasons why EngTech may not be considered:

- Electricians do not feel they need any more qualifications. They already consider themselves 'qualified'
- Electricians do not have the time to consider another qualification, with their busy schedules and priorities with other qualifications e.g. degrees
- Electricians do not feel they need the qualification when they are currently taking on enough work, and they are not struggling
- Electricians do not see the benefits of having EngTech, as it is not recognised by employers or in the industry
- Electricians who are currently members of multiple industry bodies are not keen on taking on another subscription

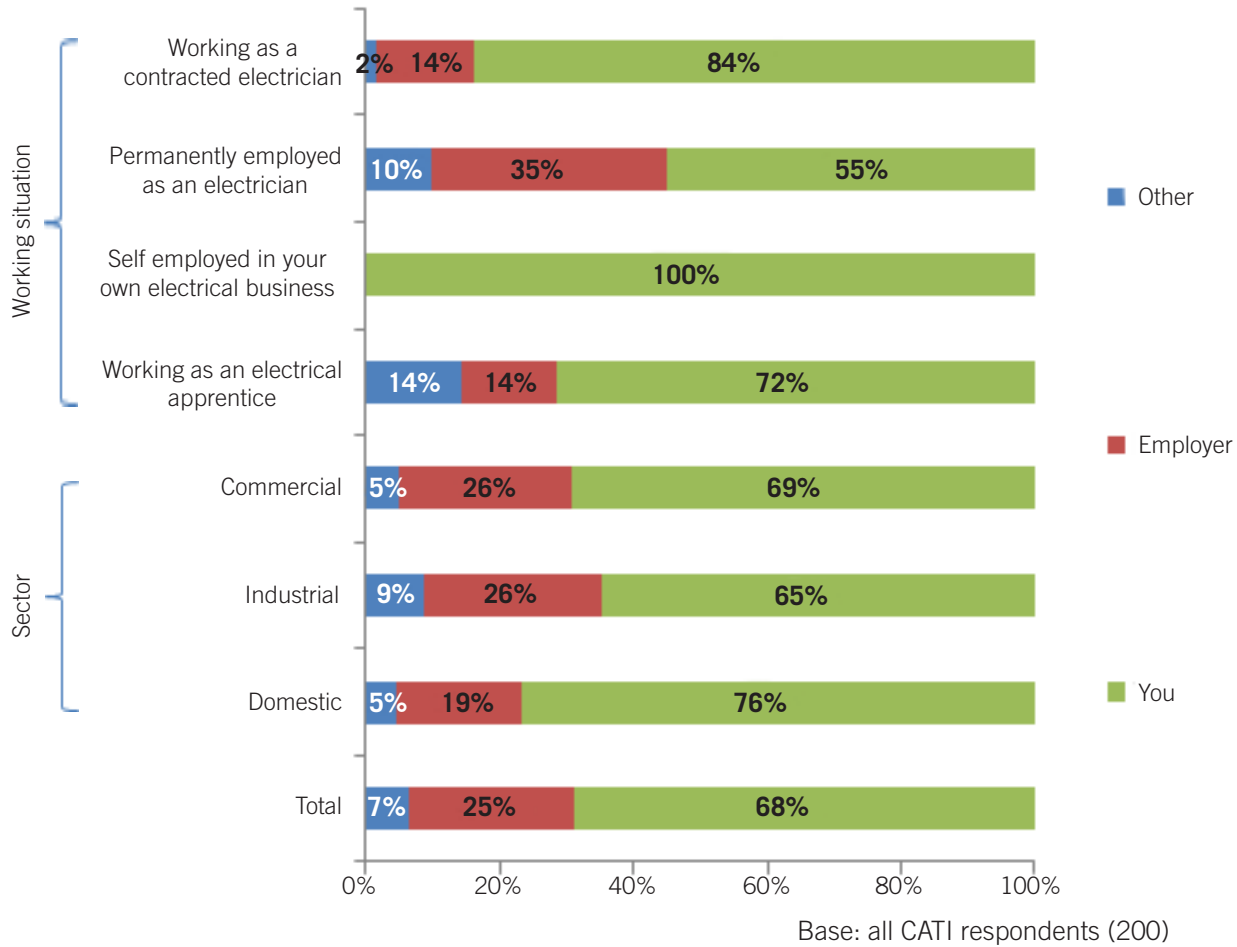
The reasons given mirror the concerns raised by electricians during the focus group research.



## Funding EngTech

### Individuals

Participants were asked how they would fund membership and Professional Registration:



'Other' responses refer to joint funding by individual and employer equally.

## 17. A tailored membership package/service for electricians

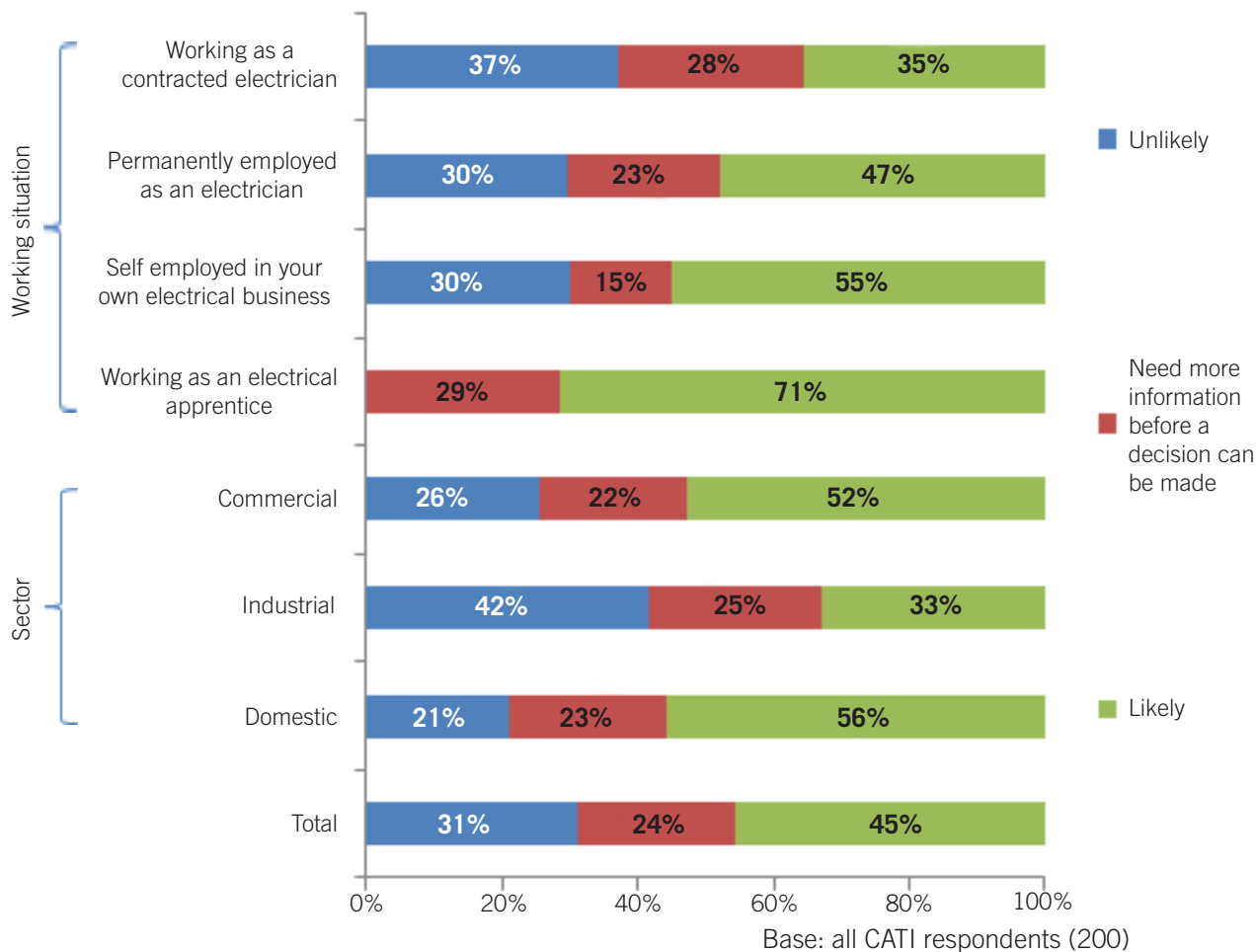
### Individuals

All focus group participants (*base 68*) were asked for their thoughts about a tailored membership package/service, specifically for electricians, that might include membership of a professional body, a discount on electrical books, training, career guidance and updates on the Wiring Regulations.

- The majority welcomed the idea mainly due to two key reasons: (i) the 'convenience' of a one-stop shop and (ii) discounts from the IET Wiring Regulations and interim amendments.
- There was also very keen interest in access to career guidance from a professional membership body which they believed would greatly benefit electricians, especially those early in their career and apprentices who appear to be confused about how to progress.
- The majority found the concept of a reduced annual fee more agreeable than paying larger one-off fees for Wiring Regulation updates every few years.
- Electricians (groups A1, A2, B1, B2) suggested the package would probably be developed for employer appeal also since many employers fund the Wiring Regulation updates for their staff.

### Individuals

Participants were asked, if the IET were to offer a bespoke package for electricians which included discounts to the IET Wiring Regulations and interim amendments, technical support, continued support and guidance throughout an electrician's working life, as well as help towards gaining EngTech, how likely they might be to consider signing up to such a package.



46% of electricians would be likely to consider it. This is 6% more than those likely to consider EngTech as a stand-alone qualification and not part of a bespoke package.

Key reasons why 31% stated they would be unlikely to take up a bespoke package were collected and are listed below:

- Electricians already receive this service from the NICEIC or ECA bodies; this proposition offers nothing additional or unique in their opinion.
- The service simply is not required and this is viewed as just another expense.
- EngTech is not recognised by employers in the main and therefore seems pointless.

## Employers

All employers (*base 30*) confirmed they would be interested in finding out more details about a bespoke electrician membership package/service if the following options were offered:

### Standard Service:

- IET Wiring Regulations amendments/updates
- Mentoring for electricians
- Off-site training courses, including e-Learning and training that can be undertaken outside working hours

### Additional Service(s):

- Guidance – career pathways, personal development or promotion
- Guidance – competence measurement (especially to assist with recruitment) and monitoring
- Guidance – liability insurance
- Access to a directory of local business services to support their organisation including contract bidding and tendering

A small minority of employers advised they already receive a similar form of membership from NAPIT. It is worth noting here that during most focus groups NAPIT was also mentioned, and in particular its good reputation. One example of a quote from an employer highlights this:

- *“The National Association of Professional Inspectors and Testers (NAPIT). We are a member of that organisation and it's very useful because we have very regular technical updates. We have very regular information about best practice and we have regular meetings as a trade association. I think they're one of the ones [bodies] that actually do a lot of things that the others don't do. We have got a benchmark for electricians who no other organisation seems to have”.*

## Fees

### Employers

Regarding fees relating to a proposed electrician membership package/service, employers offered the following views:

- Smaller companies either had no view on how much a service of this type would cost or (most of them) believed it would probably be in the region of £100.
- Medium-sized companies mentioned fees in the region of £500-£1,000.
- Large companies mentioned fees in the region of £1,000-£3,000.

### Individuals

Throughout the focus groups, a theme that commonly occurred was the irritating number of registrations and memberships already available. Along with this, many felt their employers are not interested in paying for additional registrations unless there is a clear financial benefit to the organisation to do so.

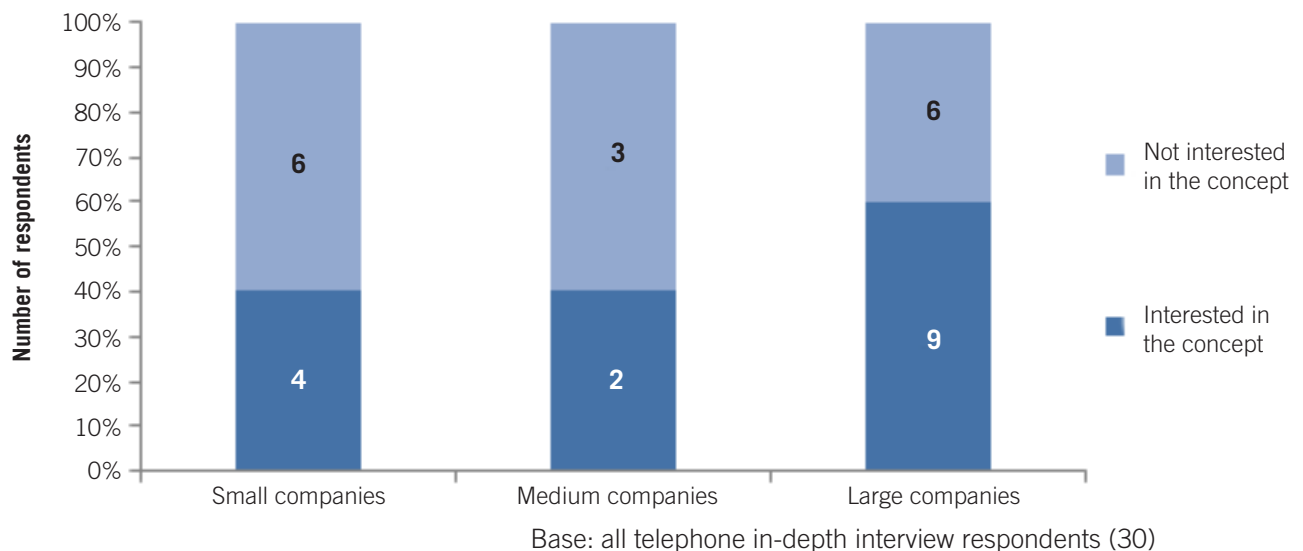
- *“Aren't there already enough of those? If you're saying that you've already got the IET we know that registration's taking place with Part P, the NIC, the ECA, I wouldn't want to see another organisation because I think we're already sinking under these things. Now they're trying to get us to register with Constructionline. Then a new one has come along, we have to register with BRE, then we have to register with this organisation or that organisation. We're suddenly finding whereas it used to be if you were in the Association of Consulting Engineers that used to be a measure of your professionalism, we now have to be registered with CSCS to get on to building sites and it just goes on and on. I think we're sinking under registration organisations. I would like to see them rationalised and reduced. We would only join such an organisation if we were being commercially hindered by not joining it”.*

## An employer networking service

### Employers

Views regarding a potential employer networking service which would enable employers to network at relevant events with other electricians/contractors were explored.

Fifteen employers (predominantly larger companies) confirmed their interest if such a service were available.



Employers felt a service of this type could potentially offer the following benefits:

- as a non-monetary service it would enable a company or individual to stay up to date with industry developments, competence and legislation.
- it could provide help for business expansion through a work-sharing option (possibly making use of other companies' competencies and expertise).
- it would offer like minded companies to exchange best practice information and ideas to help both parties solve problems and gain additional work.

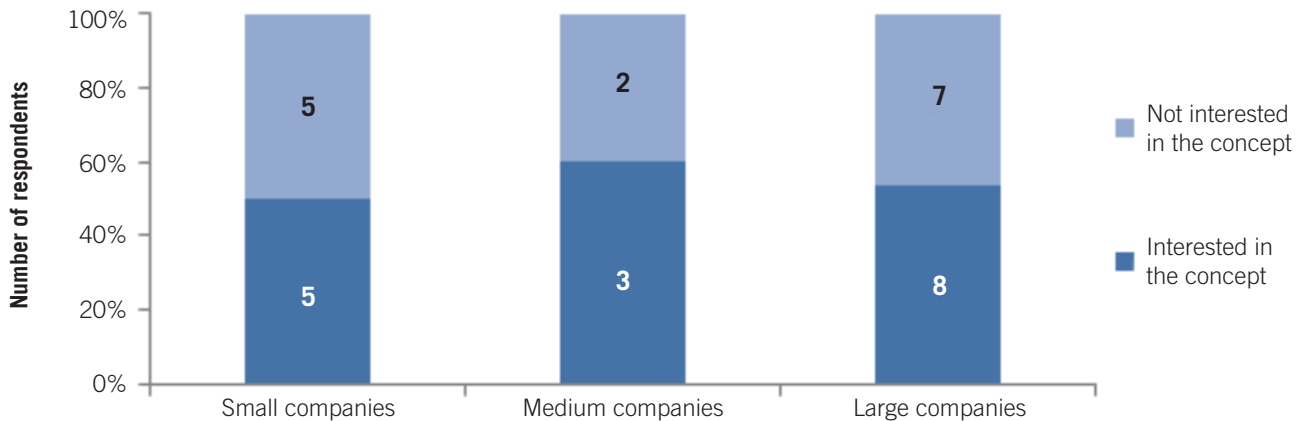
All felt the service could work well if it was held as an early evening/weekend networking event at either quarterly or annual intervals.

## EngTech mapped apprenticeships

### Employers

Employers were asked if they would value apprenticeship schemes mapped to the EngTech Professional Registration standard, with an option to map on the job and training included.

Sixteen employers found the concept appealing. There appear to be no significant differences in opinions by company size:



Base: all telephone in-depth interview respondents (30)

### Barriers

Although costs were not mentioned by the researcher when exploring this idea, the main reason for those employers who stated they were not interested in the concept focused on potential costs of mapping. Employers confirmed that they were not prepared to pay for additional scheme fees to manage a 'mapping option' to an existing apprenticeship scheme. Their preference, from a financial perspective would be to utilise the services of an external training supplier who they believe would provide this support. Employers added that the lack of work within the industry influences the number of apprentice roles available.

- "We'd have to increase turnover for that to change. We certainly couldn't take an apprentice on just now without probably another 20% turnover to support an extra guy".
- "Because of the state of the economy at this time, like a lot of firms, we've not had the turnover this year that we had in previous years".
- "Purely because the type of work that we do means that we need more senior guys with years of experience. They can't assess other people's work if they haven't got experience behind them".
- Setting up an apprenticeship scheme was seen by employers as a very involved process and many did not know where/who to approach for guidance. Collective views on this point are noted below:
- "No idea [what I would do], need to contact the IET or someone I suppose".
- "If I was going to go anywhere and set a scheme up and do it in the proper way then I would go to the institute, it's as simple as that. The IET".
- "Yeah some sort of liaison with the local college would be good. But that's the way it's been done in the past, I mean a lot of it's done for me. Usually by a site visit, general site visits from assessors really, from the college".
- "Help with administration and the policing of the [apprenticeship]".
- "We're not totally resourced to run an apprentice internally. That's why we use training services people. External training services people to do that for us".
- "I think support in key areas of training (so you know where to provide key areas of training) within the development".
- "I think when it comes to the setting up we would be looking for some help, some guidelines, obviously things have changed since we last had apprentices".
- "... And obviously some sort of financial incentive. The last scheme we did with the chamber of commerce they paid a percentage of the apprentice's wage. You don't get productivity from an apprentice because at the end of the day they're there to be trained. We would be looking for something like that".
- "If we were going to go down that road I would expect somebody to hold my hand through the entire process and basically do all the legwork for me. Otherwise if we were to be gaining we might as well carry on with the way we currently recruit".

Concerns were also expressed by the majority of employers about new initiatives involving new qualifications:

- "Well I'd need to know that the scheme was there for the long term and it's not another one of these five-minute wonders that appears for two or three, four years and then gets bought out and merges and disappears into the ether never to be heard of again".



# Appendix 4



## Appendix 4 - End notes

- <sup>1</sup> BIS Skills for Growth, The National Skills Strategy, November 2009
- <sup>2</sup> The Electrotechnical Certification Scheme (ECS) is jointly owned by the Joint Industry Board (JIB) and the Scottish Joint Industry Board (SJIB). The JIB administers the scheme in England, Wales and Northern Ireland and the SJIB administers the scheme in Scotland.
- <sup>3</sup> Engineering Technician (EngTech) is a professional title awarded by the Engineering Council
- <sup>4</sup> Post-nominals – also called post-nominal initials, titles or designatory letters – are letters placed after the name of a person to indicate that the individual holds a specific accreditation, qualification, position or honour. For example: Mr J Smith EngTech. Post-nominals provide public recognition of the individual's commitment to continued professional development and commitment to the entire profession. Post-nominals may appear on business cards, correspondence, professional profiles and similar documentation as soon as the individual receives the award.
- <sup>5</sup> BIS Skills for Sustainable Growth strategy, 2010
- <sup>6</sup> Qualified Supervisor - The ECS has agreed with both the ECA and the National Inspection Council for Electrical Installation Contracting (NICEIC) a method of identifying “Qualified Supervisors” on ECS cards. To obtain the Qualified Supervisor endorsement the cardholder must be employed by an organisation which is certificated to the Electrotechnical Assessment Scheme (EAS) or enrolled on the NICEIC Approved Contractors Scheme and recorded as a Qualified Supervisor within the terms of certification or enrolment. An example of the card can be seen later in this document.  
  
The endorsement will identify the cardholder's employer and will also include a logo identifying which scheme has enrolled the Qualified Supervisor. The endorsement is only valid while the card holder is employed by the organisation shown on the card. The card will need to be returned for replacement if the holder changes employer.
- <sup>7</sup> In the UK the standards for the design and construction of buildings are governed by the Building Regulations. Their aim is to ensure the health and safety of people in or around those buildings as well as having requirements for energy conservation and access to and about buildings. There are specific regulations for England and Wales, Scotland and Northern Ireland. In England and Wales the Building Regulations 2010 apply. The Building Regulations 2000 and all amendments were revoked on 1 October 2010 and are no longer in effect. Part P of the Building Regulations, which specifically deals with electrical safety in dwellings, came into effect on 1 January 2005. In Scotland the Building (Scotland) Regulations 2004 apply. In Northern Ireland the Building Regulations (Northern Ireland) 2000 apply.

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