



2010 Survey of Non-Registered Engineers

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Executive Summary

About This Document

This document outlines the findings from the **2010 Survey of Non-Registered Engineers**. The Engineering Council and EngineeringUK have biennially conducted research into the working experience of registered engineers, but this is the first time that non-registered engineers, who are also not members of a professional engineering institution (PEI), have been surveyed. The Engineering Council and EngineeringUK wanted to understand more about this group, why they have not registered and what could be done to encourage them to register in the future.

Companies

We began the research by contacting companies by telephone and speaking to the person responsible for the training and development of engineers within their company. This took place during April and May 2010. The job title of this person varied widely from company to company including HR Manager, Head of Engineering, etc. We spoke to **224 organisations in total** and conducted a short interview with each. We asked each to distribute the survey to engineers working in their organisation.

Individuals

A total of 191 engineers responded to the survey through the method above. We supplemented this with various direct mail approaches during June 2010 and reached a total of **678 completed interviews**.

To be eligible for the survey these engineers were required to:

- Not be registered
- Not be a member of a PEI
- Have a minimum qualification level of an A-Level/Scottish Higher qualification S/NVQ level 3 or higher qualification

Profile of Company Representatives

Looking first at the organisations we spoke to:

- We spoke to HR and staff in **different sizes** of company – 55% had 100 or more employees and just 39% had less than 100 employees. The remaining 5% did not know or refused to say how many employees there were in their organisation
- We spoke to organisations from **a mix of sectors** with manufacturing and repair (27%), transport (15%) and construction/engineering activities (13%) the top three
- The companies employed different numbers of engineers, but all were required to employ engineers to qualify for the survey

Profile of Individuals

- **The vast majority of respondents were male (94%)**
- Respondents were from different age groups
- **79% of respondents reported as white British**
- The three industry sectors most reported were manufacturing (32%), energy/oil/gas/petroleum (21%) and construction/distribution (10%).
- Most (71%) of responding engineers worked in England primarily, but we also included Scotland, Wales, Northern Ireland and also respondents who work primarily outside of the UK
- **54% of engineers worked in larger firms with more than 250 employees** and 43% worked in firms with less than 250 employees, with the remaining 3% saying don't know or refusing to say how many employees were working in their organisation
- 83% of engineers were directly employed by a company

Awareness of Registration

Company Representatives

76% of those responsible for the training and development of engineers said in interview that they were aware of registration. Respondents from smaller companies (less than 250 employees) were less likely to be aware (73%) than companies with 250 or more employees (90%) and respondents from manufacturing/repair companies were less likely to be aware (67%). However, despite the majority saying they were aware **46% of this 'aware' group said that they had hardly any knowledge.** Most were familiar with CEng (80%), but **awareness was lower for IEng (63%), EngTech (47%) and ICTTech (21%).**

Individuals

We asked engineers whether they were aware that they could become registered through a professional engineering institution appropriate to their role. 59% were aware. Awareness was lower for those primarily working outside of the UK with 57% who primarily work abroad not aware.

The majority who knew something about registration were aware of CEng (86%) and IEng (70%). However, **awareness was lower for EngTech (49% aware).** **None of those working in IT/Computing/Software (26 respondents) had heard of ICTTech.**

'Aware' respondents reported that key ways they had heard about registration was from teaching staff at a Higher Education college (39%), at place of work (21%), from employer (13%), engineering institution (7%), teaching staff at school (3%) and 18% mentioned a range of miscellaneous sources. **Non-graduate engineers were more likely to have heard about registration in their place of work (27% compared to 16% of graduate engineers).**

Extent That Registration Is Valued By Organisations

We asked those responsible for the training and development of engineers whether they value registration. **Only around a third or more felt registration was either essential or highly valued** (43% for CEng, 38% IEng and 34% EngTech).

The key reasons given for valuing registration were that it would **demonstrate a level of competence** (44% EngTech, 42% IEng and 48% CEng), it **encourages CPD** (27% EngTech, 27% IEng and 32% CEng) and **increases staff motivation** (12% EngTech, 11% IEng and 13% CEng).

The key reasons (selected from a menu) for not valuing registration were that it was **'not required for the job'** (46% EngTech, 48% IEng and 57% CEng) and **'lack of awareness'** (28% EngTech, 23% IEng and 18% CEng).

The key suggestions given for the Engineering Council to increase uptake of registration were **to increase awareness**. 52% said an increase in awareness amongst employers and 47% said an increase in awareness amongst employees could increase uptake.

43% did not know how many engineers were registered and 36% of the respondents said that none of their engineers were registered. The remaining gave various numbers of engineers registered.

Individual's Motives for Registering/Not Registering

The two key reasons given by the 'aware' group for not registering were that they **had just never got round to it** (35% and 20% giving as main reason) and that they perceived there were **no benefits to registration** (34% and 20% giving as main reason). **59% said they would be likely to consider registration in the future. Younger respondents in particular were more likely to consider registration** (82% of 18-34 year olds).

The group who said there were no benefits to registration were also more likely to say it was too expensive (37% of this group) and not valued in my industry (41% of this group). The group who found the registration process too complex were also more likely to say the process was too time consuming (58% of this group).

The key motives suggested by respondents in favour of registration were career development (64%), greater professional status (61%) and personal satisfaction (55%). Younger respondents were more likely to agree with statements that 'registration would be helpful in my career development' (84% of 18-34 year olds) and 'it would give me focus for my professional development' (46% of 18-34 year olds).

We asked what the professional engineering institutions could do to encourage registration in the future. The two key means to encourage registration that were selected, were to **increase the value of registration industry wide (44%)** and **make the registration process simpler (41%)**. The cost of registration was cited as a particular barrier for younger respondents (18-34) with 51% agreeing with the statement 'decrease the cost of registration'.

Non-graduate engineers were more likely to say that they didn't believe that they were eligible to apply for registration (24% of non-graduate engineers vs 12% of graduate engineers).

Career Development

For 51% of engineers, CPD was reported as very important with most of the remaining respondents saying that it was at least fairly important. Employees of companies and those working primarily outside of the UK were more likely to report that it was important.

87% felt they were able to keep their engineering competence adequately up to date. Respondents from the manufacturing sector were less likely to agree. Selections from a menu about how to help keep competence up to date included online access to professional training courses, more/better range of training courses, more financial support from employer for training, more on the job training and more/better range of training courses.

46% reported that they maintain a formal record of their professional development activities. Respondents from the manufacturing sector were less likely to report that they do this.

Attitudes to Registration

We asked all respondents to tell us whether they agreed or disagreed with a range of statements about engineering. **Agreement was mixed regarding the benefits of registration and the extent to which registration is valued, which may have been influenced by a lack of knowledge about registration so findings should be treated with caution.** However, the results for the "aware" group were similar to those who were not aware suggesting either widespread lack of knowledge on these areas or neutral levels of opinion (results for each group are given below):

- 39% of the group aware of registration and 41% of those not aware agreed that *being a registered engineer means I could earn a higher salary*
- 37% of the group aware of registration and 45% of those not aware felt that they could *see benefits in registering*
- Almost half (46% aware; 48% not aware) agreed that *registration would help me develop skills*
- A minority (16% aware; 20% not aware) agreed that *being a registered engineer is good value for money with most of the remaining not knowing*
- Less than a fifth (18% aware; 14% not aware) disagreed that they would be *more secure in their job as a result of being registered*
- Less than half (38% aware; 41% not aware) agreed that *my employer would value registration*
- Nearly a third (33% aware; 32% not aware) agreed that *other engineers recommend registration*
- Just under one third (31% aware; 29% not aware) agreed that *my work colleagues would value the fact that I am registered* with more graduate engineers agreeing than non-graduate engineers

However, there was agreement amongst the majority that *registration would provide personal satisfaction* (67% aware; 71% not aware) and *help me keep up to date with industry developments* (56% aware; 65% not aware).

Just under half agreed *that engineers like me are valued for the work they do* (46% aware; 49% not aware). A minority agreed that they were *dissatisfied with being an engineer* (16% aware; 14% not aware).

Younger respondents (18-34) tended to offer more positive views on the career benefits of registration. For example just 27% of 18-34 year olds felt that they *don't see any benefits to registration* compared to 39% overall.

Benefits and Working Hours

The mean annual income (without overtime, bonus or commission payouts) was reported as £38,804 and the most common income band was £25,001 to £35,000 (24%). The median (without overtime, bonus or commission payouts) income was £35,000.

The average (mean) yearly overtime, bonus and commission payout was £5,225. The most common income band was £2,001 to £5,000 (11%). The median figure was £4,000.

The mean annual income (with overtime, bonus or commission payouts) was reported as £44,029. The median (with overtime, bonus or commission payouts) income was £39,000.

The average number of hours they worked per week was 42 hours. The most common band for hours worked was 40-45 (40%).

38% of engineers reported that they had had their pay rate increased over the last 12 months. **But in almost all other cases the proportion of engineers reporting that their overall pay and benefits had decreased was higher than those who reported that it had increased** (bonus, pension, private medical insurance, car scheme, overtime, travel subsistence and London area/allowance).

Summary and Suggestions

The numbers of responses to this survey were reasonably robust (224 people responsible for the training and development of engineers and 678 individual engineers). However, sectoral coverage was limited and all were self-selecting. Identifying employees working in roles equivalent to the roles of registered graduate and non-graduate engineers proved particularly difficult although rule-of-thumb descriptions were provided to the company respondents to facilitate returns from individuals. The survey screened out people working in non-graduate engineer roles without level 3 qualifications so may have missed the views of many who would, through competence gained through working experience, have been eligible to apply for registration. However, this was a challenging first attempt at a non-registrant, non-member survey and some tentative suggestions are offered below.

47% of responding engineers reported that they often found out about registration from teaching staff in Higher Education (Figure 11) so the **benefits need to be clearly conveyed to those in universities (students and staff)**. Students are not all young people, but it has also been indicated that young engineers are positive about the benefits of registration.

However, and probably because technicians are much more likely to progress through the Further Education and Skills sector (FE colleges, training providers and so forth), non-graduate engineers reported that they were much less likely to find out about registration from staff in a university. 27% reported that they became aware of registration through their place of work (Figure 11). Unfortunately we did not ask specifically about the influence of teaching staff in the FE and Skills sector, but it seems possible that **registration should be further promoted within vocational education and training courses and amongst staff within workplace learning (such as Apprenticeship supervisors) and through employers more generally**.

The 18-34 year old group were more positive about registration and hence **this may be a good stage to promote registration**. Older respondents appear to be more likely to be dismissive of registration. However, Registrant statistics (2009) reveal a picture of an average age of 35.6 for CEng, 38.1 for IEng and 37.5 for EngTech first registration. Younger engineers were more likely to agree with statements that registration would be helpful in their career development and that it would give them focus in their professional development. However, the terms used in the section on professional development may not have been widely familiar ones.

Cost was reported as a particular barrier for the younger age group and hence **some sort of early career discount might be considered**. As for all groups, perceptions of the registration process as time consuming and complex should be eliminated.

The education and training (which may be at any age) and early career phases appear to be important opportunities to communicate the relevance of registration to non-graduate engineers. **A focus on EngTech and its value will be important**.

Employers

People responsible for the training and development of engineers appear often not to be aware of or to place a great deal of value on registration. Employees also report that they feel that employers are less likely to value registration. However, those individuals who report that they value registration point predominantly to the fact that registration provides the means to recognise competence. We might surmise that employers would not retain people who are not (measured by their needs) competent, so might be less interested in this feature regarding existing employees but might be more interested when it comes to recruitment. **Stronger messages such as improved retention, improved quality of work, better marketability to clients, etc could be pushed.**

The manufacturing sector could be a key focus for communication as respondents from this sector reported that they were less likely to feel they could keep their engineering competence up to date and keep a record of their professional activities. However, as noted above, coverage of engineering and ICT sectors was very limited.

Awareness of registration amongst those working outside of the UK appeared to be particularly low. **Promoting to those who work outside of the UK might be important.**

Mid to Late Career

Older respondents report that they are less likely to consider registration (although Registrant statistics seem to imply otherwise). This group could be targeted through the workplace and engineering media (including job sites). More tangible and immediate benefits such as greater job opportunities could be promoted to this group. In addition there are a proportion who, whilst aware of registration are not aware that they are eligible for registration. Promoting understanding of the broader requirements for registration (i.e. not just academic achievement) may prompt some in later career to consider it.

Introduction

Background and Objectives

The Engineering Council is the regulatory body for the engineering profession in the UK. It works through a number of professional engineering institutions to assure the competence of individuals and to approve or accredit education programmes and professional development programmes.

Formal recognition of engineers occurs at three broad levels and works on a progressive structure. For the purposes of this project a **rule-of-thumb description** was required to describe individuals working at levels equivalent to Engineering Technician (EngTech), Incorporated Engineer (IEng) and Chartered Engineer (CEng). Because company gatekeepers were mainly HR staff, reference to CIPD levels were included to aid understanding.

Engineering Technicians (EngTech)

Those working at engineering technician level might have completed (or be near to completing) an Advanced Apprenticeship. They would be working at or above Level 3 in the Qualifications and Credit Framework (level 6 in Scotland), and might hold a BTEC Diploma in Engineering. If they don't hold paper qualifications they might have at least 3-4 years engineering experience and might work in a supervisory role.

(This would be the engineering equivalent to CIPD foundation level)

PROFESSIONAL ENGINEERS

Incorporated engineers (IEng)

Engineers working at IEng level would typically have a Bachelors degree plus at least 3-4 years of post-qualification work experience. Alternatively, they could have the relevant amount of engineering work experience (6 years plus) to have built up knowledge and skills, and would probably work in middle management.

(This would be the engineering equivalent to CIPD intermediate level)

Chartered engineers (CEng)

Engineers working at CEng level would typically have a Masters or MEng degree plus around 4-6 years of post-qualification work experience. Alternatively, they could have the relevant amount of work experience (10 years plus) to have built up knowledge and skills, and would probably be in senior management.

(This would be the engineering equivalent to CIPD advanced level)

In January 2010 there were just under 231,000 engineers registered with the Engineering Council. A total of 23 professional engineering institutions (PEIs) had at least 1,000 registrants in membership and 13 engineering institutions had fewer than 1,000.

The Engineering Council and EngineeringUK have biennially conducted research into the working experience of registered engineers, which seeks evidence of the benefits of registration, the salaries earned by registrants as well as collecting more generic information on the engineering sector and the registration processes.

In 2010 the Engineering Council and EngineeringUK decided to conduct a survey of non-registered engineers who are also not members of a PEI to understand more about this group, why they have not registered and what can be done to encourage them to register in the future:

- Awareness/knowledge of registration
- Reasons for not registering
- Attitudes to registering in the future
- Views on the potential benefits of registration
- Data on salary and other employee conditions to compare with registered engineers data

The study also surveyed the opinions of companies who employ engineers:

- Awareness/knowledge of registration
- Number of registered engineers
- Extent to which registration is valued/not valued
- Views on how registration could be promoted

Research Methodology

We began the research by contacting companies by telephone and speaking to the person responsible for the training and development of engineers within their company. The job title of the person we spoke to varied widely from company to company including HR Manager, Head of Engineering, etc. This took place in April and May 2010. They received a letter explaining the background to the study and containing definitions of the different types of engineer.

Companies from across the UK were selected. They all had more than 50 employees to ensure sufficient numbers of engineers who could receive the survey. They were drawn from manufacturing, mining & quarrying, construction and engineering, utilities, transport, telecommunications, larger FE colleges and the armed forces.

We interviewed 224 in total and conducted a short interview with each.

As part of this process we asked each of these individuals to distribute a web survey to non-registered engineers working for them. To be eligible for the survey these engineers were required to:

- Not be registered
- Not be a member of a PEI
- Have a minimum qualification level of an A-Level/Scottish Higher qualification S/NVQ level 3 or higher qualification

A total of 191 individuals responded to the web survey distributed via employers, which was a lower response rate than anticipated because:

- The people we spoke to were often not aware of which engineers were and were not registered/a member of a PEI. As a result, most appeared to send the survey out indiscriminately and a number of engineers who came to take part screened out of the survey (as either registered or a member of a PEI)
- Response rate amongst non-registered engineers was very low

In order to add to the total of 191 we also took the following steps to distribute the survey to a wide group of engineers:

- Direct email to 11,750 via EngTips (a forum: <http://www.eng-tips.com/>) (312 completes)
- Direct email to 14,500 via the Engineer (magazine: <http://www.theengineer.co.uk>) (106 completes)
- Sponsorship of the Engineer newsletter distributed to 35,000 (magazine: <http://www.theengineer.co.uk>) (35 completes)
- Inclusion in the STEMNet Ambassadors newsletter (34 completes)

After all these steps were taken we received a total of 678 completes. A total of 225 who clicked on the survey were already registered, 378 were members of a PEI and 68 did not know. A total of 122 did not have the minimum level of qualifications we were looking for.

As a result of our additional sources for individual engineer responses the employer data in this report is therefore not all related in any sense to the individual data and the two should be treated separately.

Research Findings

Introduction

This section outlines the key findings from the non-registered engineer survey and the survey of organisations. Comparisons are made by sub-group (e.g. industry sector, gender, age, etc) where relevant and statistically significant at a 95% confidence level. The appendix contains the questionnaires used in both surveys.

In the company representative interviews we split results by type of engineer (CEng, IEng and EngTech) using agreed definitions. However, it was not possible to do this for the engineer survey as there are so many factors involved in the registration requirements.

Company Findings - Profile of Company Representative Interviews

This section refers to the interviews we conducted with people responsible for the training and development of engineers.

We asked respondents about industry sector and the size of their company:

Q) How many employees are there in your company?

Q) Sector

The responses to this question are summarised in figure 1 below:

We spoke to organisations from a range of sizes. The sample was split between 55% with 100 or more employees and 39% with less than 100 employees. The remaining 5% did not know or refused to say how many employees there were in their organisation.

We spoke to organisations from a range of sectors. The top three identified their business as manufacturing and repair (27%), transport (15%) and construction/engineering activities (13%).

**FIGURE 1:
RESPONDENT PROFILE**

		%
Number of Employees Q) How many employees are there in your company?	Less than 50	17
	50 – 99	22
	100 – 250	25
	More than 250	30
	Don't know/Refused	5
Industry Sector	Manufacturing & repair	27
	Transport	15
	Construction & engineering activities	13
	Utilities	9
	Mining & Quarrying	5
	Civil Protection	4
	Education	4
	Telecoms	4
	Other	20

Base: All respondents (224)

We asked respondents how many engineers they had working for them:

- Q) How many Engineering Technicians do you have working in your company and within your responsibility?
- Q) How many Professional Engineers (i.e. degree level and above) do you have working in your company and within your responsibility?

The following definitions were given by the Engineering Council by letter.

ENGINEERING TECHNICIANS (EngTech)

Those working at engineering technician level might have completed (or be near to completing) an Apprenticeship. They would be working at or above Level 3 in the Qualifications and Credit Framework (level 6 in Scotland), and might hold a BTEC or Diploma in Engineering. If they don't hold paper qualifications they might have at least 3-4 years engineering experience and might work in a supervisory role.

(This would be the engineering equivalent to CIPD foundation level)

INCORPORATED ENGINEERS (IEng)

Engineers working at IEng level would typically have a Bachelors degree plus at least 3-4 years of post-qualification work experience. Alternatively, they could have the relevant amount of engineering work experience (6 years plus) to have built up knowledge and skills, and would probably work in middle management.

(This would be the engineering equivalent to CIPD intermediate level)

CHARTERED ENGINEERS (CEng)

Engineers working at CEng level would typically have a Masters or MEng degree plus around 4-6 years of post-qualification work experience. Alternatively, they could have the relevant amount of work experience (10 years plus) to have built up knowledge and skills, and would probably be in senior management.

(This would be the engineering equivalent to CIPD advanced level)

The responses to this question are summarised in figure 2 below:

Companies employed different numbers of professional engineers and engineering technicians from none to more than 50. All company representatives had at least 1 engineer or technician working for them.

**FIGURE 2:
RESPONDENT PROFILE**

Q) How many ... do you have working in your company?	Professional Engineers	Engineering Technicians
	%	%
None	14	6
1 – 2	22	8
3 – 4	12	10
5 – 6	7	8
7 – 8	4	9
9 – 10	5	5
11 – 12	2	5
13 – 14	0	1
15 – 20	6	8
21 – 30	6	6
31 – 50	3	8
More than 50	4	10
Don't know	15	15

Base: All respondents (224)

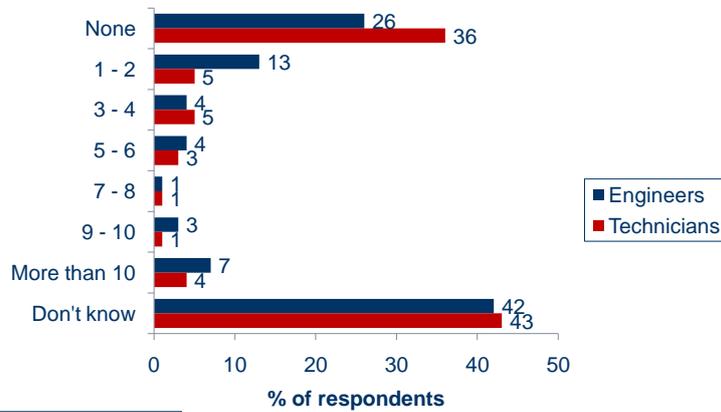
We asked all respondents (including those who were not aware of registration):

Q) How many non-graduate engineers/professional graduate engineers do you have working in your company and within your responsibility

The responses to this question are summarised in figure 3 below:

FIGURE 3: ENGINEERS/TECHNICIANS

Q) How many professional engineers/technicians do you have working in your company and within your responsibility who are registered in this way?



Base: All respondents (224)

43% did not know how many professional engineers were registered and 42% did not know how many technicians were registered. Of the remaining respondents the majority said that none of the professional engineers (36%) and technicians (26%) employed by them were registered.

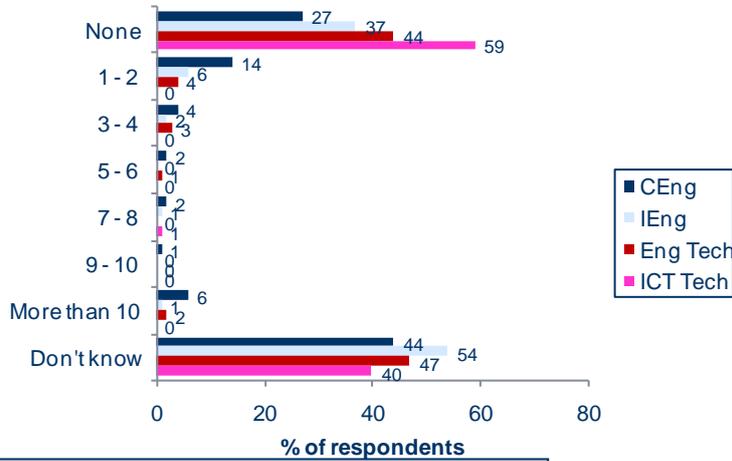
We asked all respondents who were aware of registration about how many were registered at each different level (CEng, IEng, EngTech and ICTTech):

Q) How many engineers are registered at this level?

The responses to this question are summarised in figure 4 below:

FIGURE 4: ENGINEERS/TECHNICIANS

Q) How many engineers are registered at this level?



Base: All respondents aware engineers can become registered (170)

Around half said that they did not know how many CEng, IEng, EngTech and ICTTech were registered (44% CEng, 54% IEng, 47% EngTech and 40% ICTTech). Of the remaining respondents the majority said that none of their professional engineers and professional technicians were registered in this way (27% CEng, 37% IEng, 44% EngTech, 59% ICTTech).

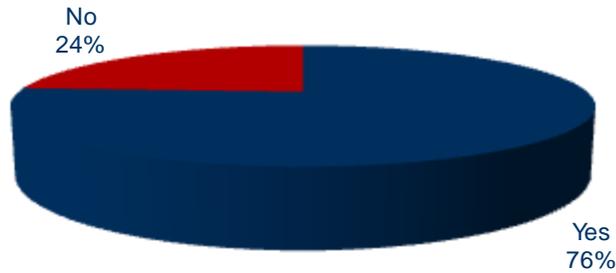
Awareness of Registration

Q) Are you aware that these engineers can become registered with a professional engineering institution appropriate to their role?

The responses to this question are summarised in figure 5 below:

FIGURE 5: AWARENESS OF REGISTRATION

Q) Are you aware that these engineers can become registered with a professional engineering institution appropriate to their role?



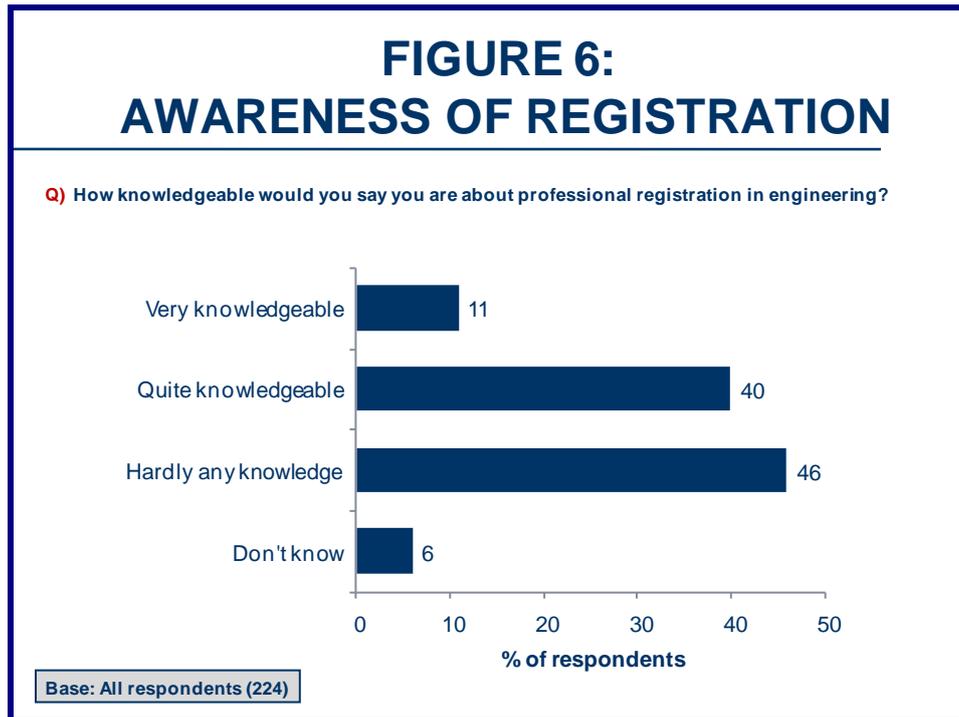
Base: All respondents (224)

76% said that they were aware, although 24% of respondents said that they were not aware. Respondents from larger companies were more likely to be aware (90% of those with more than 250 employees were aware). Respondents from manufacturing/repair companies were less likely to be aware (33% from this sector were not aware compared to 24% overall).

We asked all respondents who said they were aware of registration about their perceived knowledge of registration:

Q) How knowledgeable would you say you are about professional registration in engineering?

The responses to this question are summarised in figure 6 below:

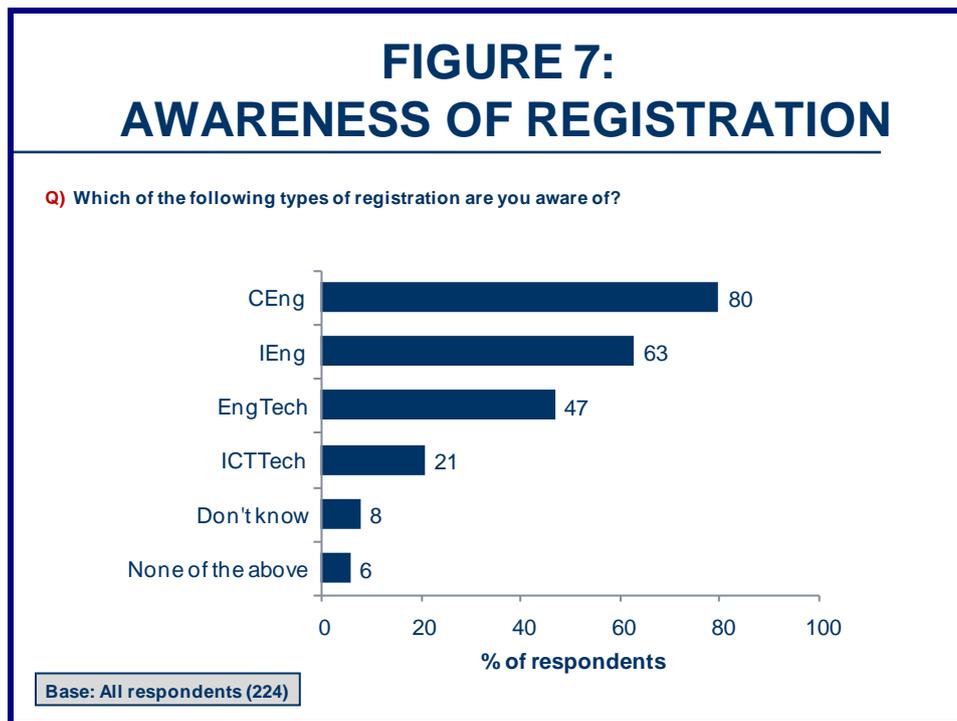


Knowledge amongst those aware was low with 46% saying they had hardly any knowledge and only 11% saying they were very knowledgeable. Levels of knowledge were higher in large companies with 66% of those with more than 250 employees saying they were quite or very knowledgeable compared to around a half (51%) overall. Levels of knowledge were also lower in manufacturing and repair with 69% saying that they had hardly any knowledge (compared to just 46% overall).

We asked all respondents who said they were aware of registration about their knowledge of different types of registration:

Q) Which of the following types of registration are you aware of?

The responses to this question are summarised in figure 7 below:



Most said that they were familiar with CEng (80%), but reported awareness was lower for IEng (63%), EngTech (47%) and ICTTech (21%). Again, larger companies (250+ employees) were more likely to be aware of CEng (97%), IEng (85%) and EngTech (72%).

Extent to Which Registration is Valued By Organisations

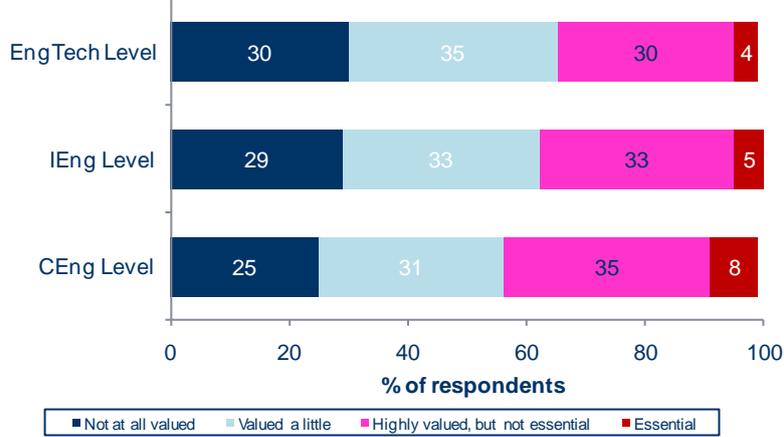
We asked all respondents (including those who were not aware of registration):

Q) To what extent does your company value professional registration amongst each of the following groups ... ? (CEng, IEng, EngTech)

The responses to this question are summarised in figure 8 below:

FIGURE 8: VALUE OF REGISTRATION

Q) To what extent does your company value professional registration amongst each of the following groups?



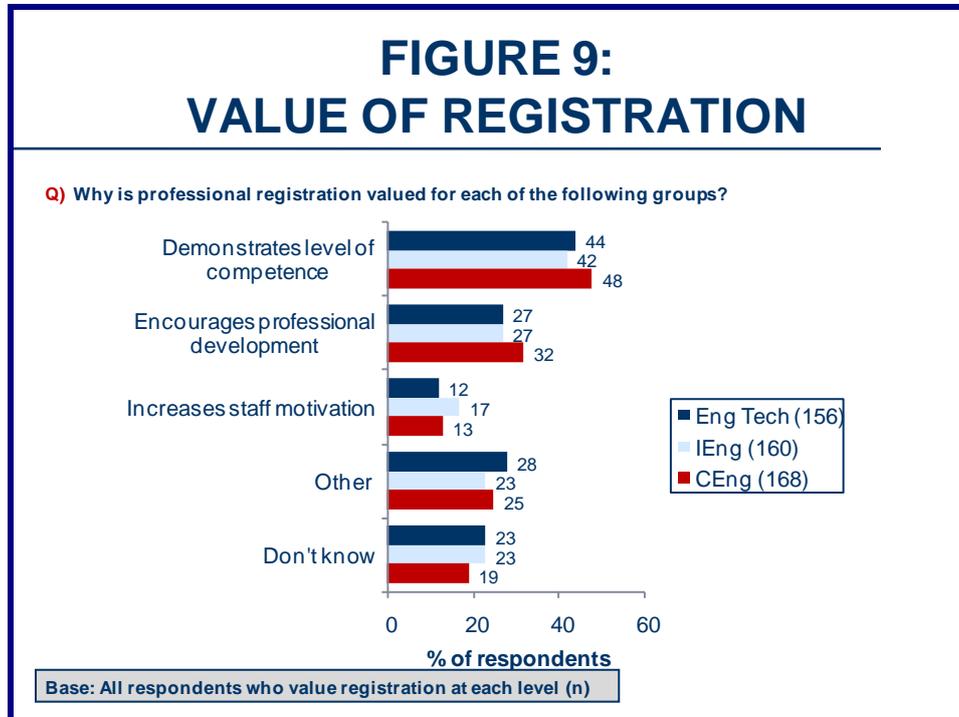
Base: All respondents (224)

Less than half said that they felt registration was either essential or highly valued for any of the categories (43% for CEng, 38% IEng and 34% EngTech). Those who were aware of registration were more likely to value it as either essential or highly valued (39% of those aware valued EngTech vs 19% not aware; 43% of those aware valued IEng vs 24% not aware and 50% of those aware valued EngTech vs 24% not aware).

We asked all respondents (including those who were not aware of registration):

Q) Why is professional registration valued for each of the following groups?

The responses to this question are summarised in figure 9 below:



The reasons given for valuing registration were similar across registration types. The key reason for valuing each type of registration was that it would demonstrate a level of competence (44% EngTech, 42% IEng and 48% CEng). This was followed by encourages CPD (27% EngTech, 27% IEng and 32% CEng) and increases staff motivation (12% EngTech, 11% IEng and 13% CEng). Miscellaneous comments included “improves the companies CV” and “valued for a minority of employees”.

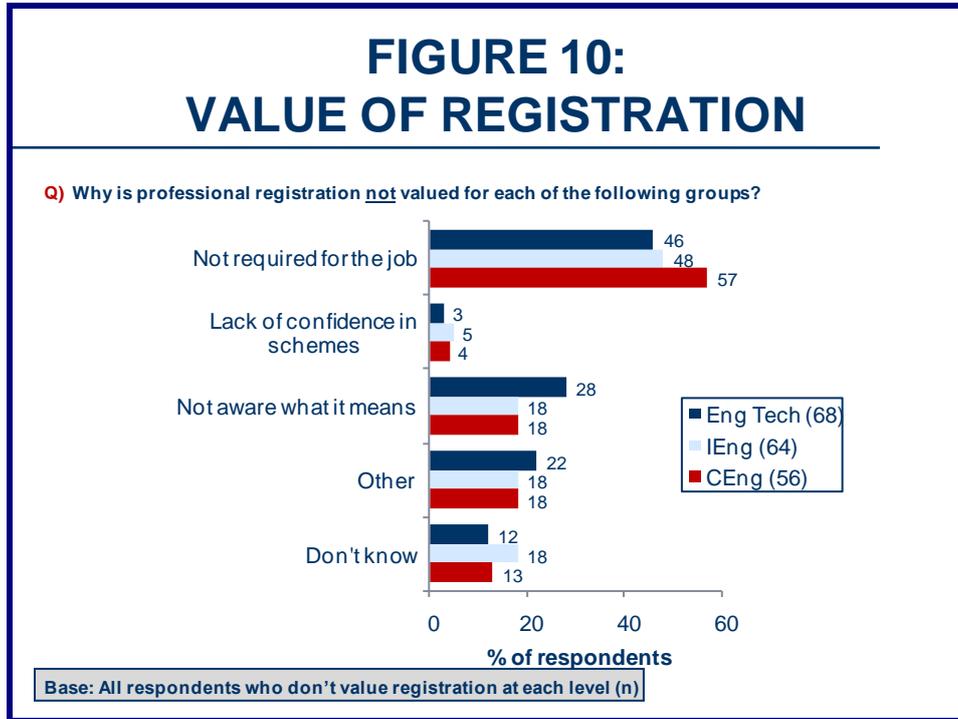
The table below outlines the results for reasons given for valuing registration by the group who are aware of registration vs those not aware.

	Eng Tech Aware	Eng Tech <u>Not</u> Aware	IEng Aware	IEng <u>Not</u> Aware	CEng Aware	CEng <u>Not</u> aware
Demonstrates level of competence	45%	50%	44%	43%	51%	45%
Encourages professional development	28%	25%	29%	19%	35%	20%
Increases staff motivation	13%	5%	12%	0%	14%	0%

We asked all respondents (including those who were not aware of registration):

Q) Why is professional registration not valued for each of the following groups?

The responses to this question are summarised in figure 10 below:



The reasons given for not valuing registration were similar across registration types. The key reason for not valuing each type of registration was that it was not required for the job (46% EngTech, 48% IEng and 57% CEng). This was followed by lack of awareness of professional registration, particularly for EngTech (28% EngTech, 23% IEng and 18% CEng) and lack confidence in registration schemes (3% EngTech, 5% IEng and 4% CEng). Miscellaneous comments included “experience counts more than qualifications”.

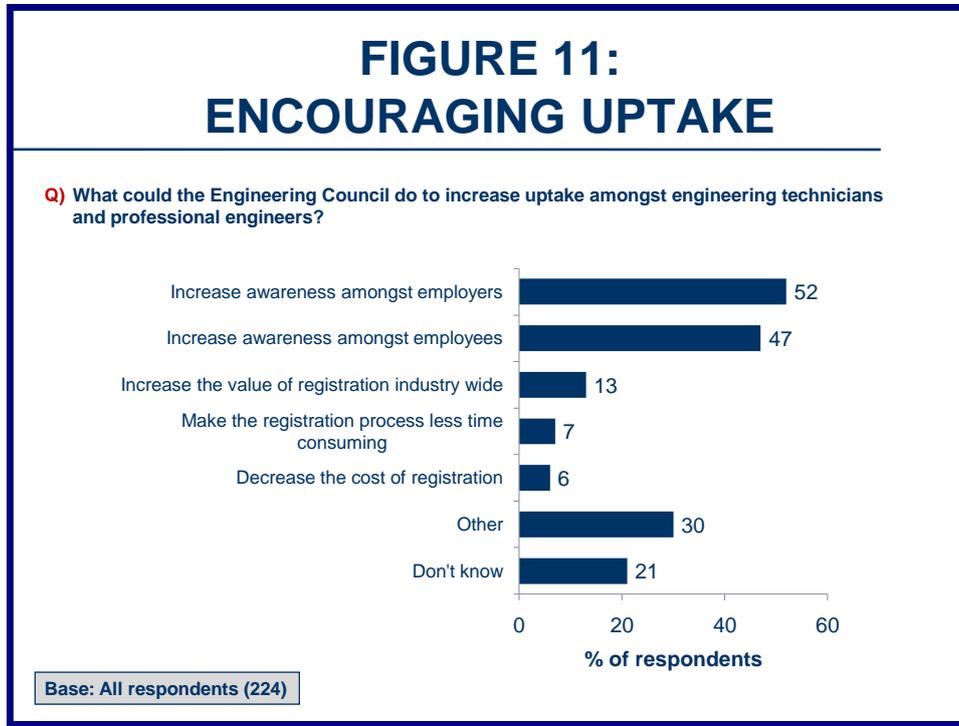
The table below outlines the results for reasons given for not valuing registration by the group who are aware of registration vs those not aware.

	Eng Tech Aware	Eng Tech Not Aware	IEng Aware	IEng Not Aware	CEng Aware	CEng Not aware
Not required for the job	45%	48%	46%	55%	60%	57%
Lack of confidence in the schemes	5%	0%	8%	0%	7%	0%
Not aware of what it means	24%	39%	21%	32%	10%	30%

We asked all respondents (including those who were not aware of registration):

Q) What could the Engineering Council do to increase uptake of registration amongst engineering technicians and professional engineers?

The responses to this question are summarised in figure 11 below:



52% said an increase in awareness amongst employers and 47% said an increase in awareness amongst employees could increase uptake. A smaller proportion said increase the value of registration industry wide (13%), make the process less time consuming (7%) and decrease the cost of registration (6%). 30% gave an “other” reason and 21% did not know.

Profile of Non-Registered Engineer Survey Completes

This section refers to the web survey distributed to engineers.

The following profiling questions were asked of all respondents:

- Q) Gender**
- Q) Age**
- Q) Ethnic group**

The responses to this question are summarised in figure 12 below:

FIGURE 12: RESPONDENT PROFILE

		%
Gender	Male	94
	Female	6
Age	18-24	4
	25-34	21
	35-44	24
	45-54	29
	55-64	20
	65+	2
Ethnic Group	White British	79
	White Other	6
	Other	10
	Refused	4

Base: All respondents (678)

94% of respondents were male. Respondents were from a spread of age groups. Female respondents were more likely to be younger (58% under 35 compared to 23% of males).

The most common ethnic group was White British (79%). Non-graduate engineers were much more likely to report as White British (92% compared to 68% of graduate engineers) than graduate engineers. Graduate engineers were more likely than non-graduate engineers to be Other White (9%) and Indian (5%) as well as other ethnic groups.

We asked respondents about their employment background including industry sector, primary place of work and the size of their company:

- Q) Please read through the list and select the one sector of the economy that is most appropriate to your employer/firm
- Q) Primary place of work
- Q) Number of employees

The responses to this question are summarised in figure 13 below:

FIGURE 13: RESPONDENT PROFILE

	%
Industry Sector	
Q) Please read through the following list and select the one sector of the economy that is most appropriate to your employer/firm	
Manufacturing	32
Energy/Gas/Oil/Petroleum	21
Construction/Distribution	10
Utilities	5
Transport	5
IT/Computing/Software	4
Agriculture/Food Industry	3
Other	20
Primary Workplace	
Q) Where is your primary place of work?	
England	71
Scotland	11
Wales	5
Northern Ireland	4
Multiple locations in UK	4
Outside UK	7
No. of Employees	
Q) How many employees are there in your organisation in all locations?	
1 – 49	22
50 – 99	9
100 – 250	12
250 +	54

Base: All respondents (678)

The three sectors selected most were manufacturing (32%), energy/oil/gas/petroleum (21%) and construction/distribution (10%). Other sectors included utilities, transport, IT/computing/software, agriculture/food industry, local authority, armed forces/defence, higher education and a number of miscellaneous mentions.

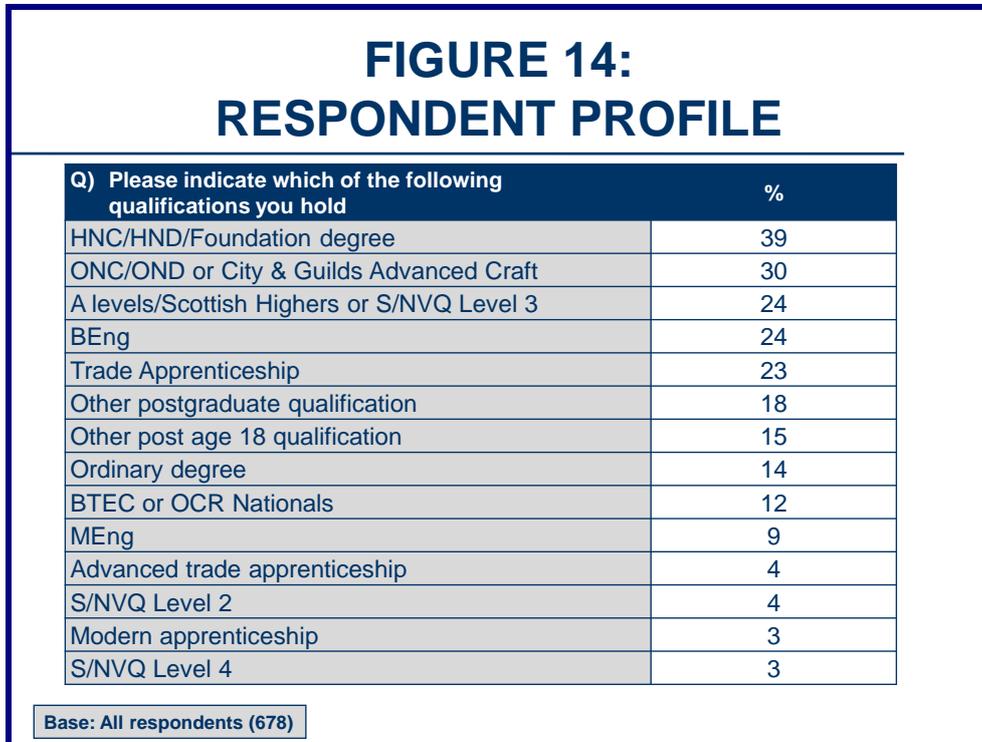
Most respondents said that they worked in England primarily (71%), but some also identified Scotland (11%), Wales (5%), Northern Ireland (4%), multiple locations in UK (4%) and outside of the UK (7%). Numbers add to more than 100% due to rounding.

54% of engineers recorded that they worked in larger firms with more than 250 employees, with the remaining 46% working for SMEs (i.e. less than 250 employees). 22% worked for small companies (1-49 employees) and 21% worked for medium sized companies (50-250). The remaining respondents did not know or refused to answer.

We asked respondents about their level of qualification:

Q) Please indicate which of the following qualifications you hold

The responses to this question are summarised in figure 14 below:

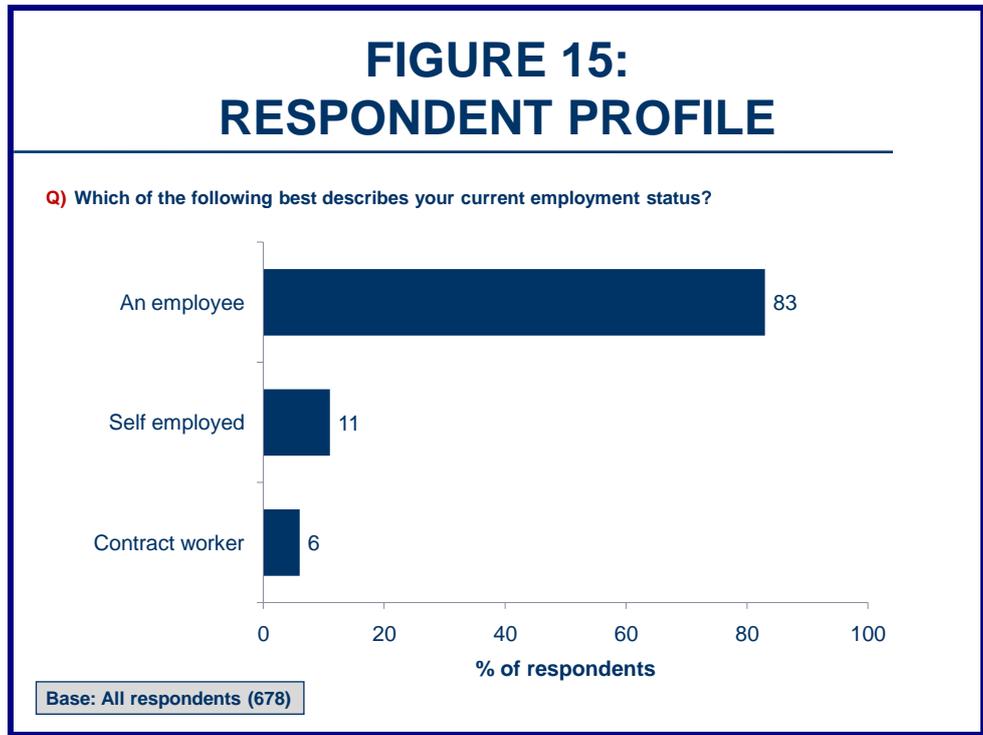


Respondents were prompted with a list of qualifications from a pre-determined list (with an 'other' option at the end) and asked to say which qualifications they had. Responses add to more than 100% due to the fact that many respondents held multiple qualifications.

We asked respondents about their current employment status:

Q) Which of the following best describes your current employment status?

The responses to this question are summarised in figure 15 below:



Most (83%) reported that they were employed by a company. However, 11% were self employed (including principal or partner in a firm) and some were contract workers (6%). Older respondents were more likely than younger respondents to be self employed (14% of 45-54 year olds and 17% of 55-64 year olds were self employed compared to just 2% of 18-34 year olds).

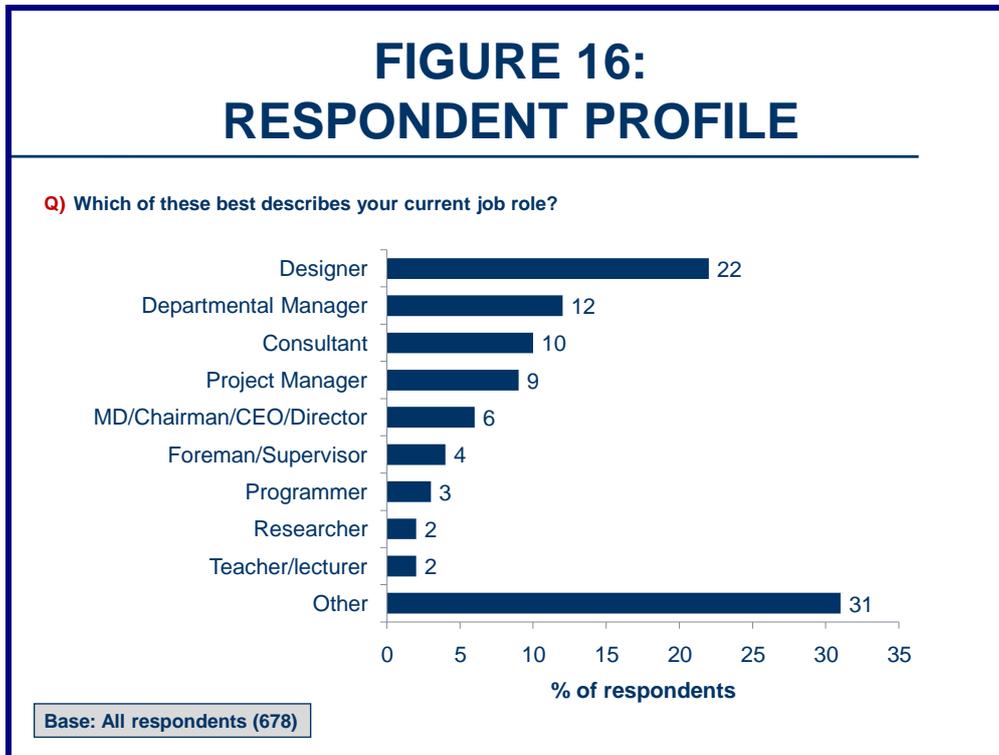
Construction/distribution workers reported that they were more likely to be self employed (21% of those from this sector were self employed), whereas those from energy/gas/oil/petroleum were less likely to be self employed (6% were self employed).

Energy/gas/oil petroleum and utilities sector workers were more likely to be contract workers (9% and 11% respectively), whereas manufacturing workers were less likely to be contract workers (3%).

We asked respondents about their current job role:

Q) Which of these best describes your job role?

The responses to this question are summarised in figure 16 below:



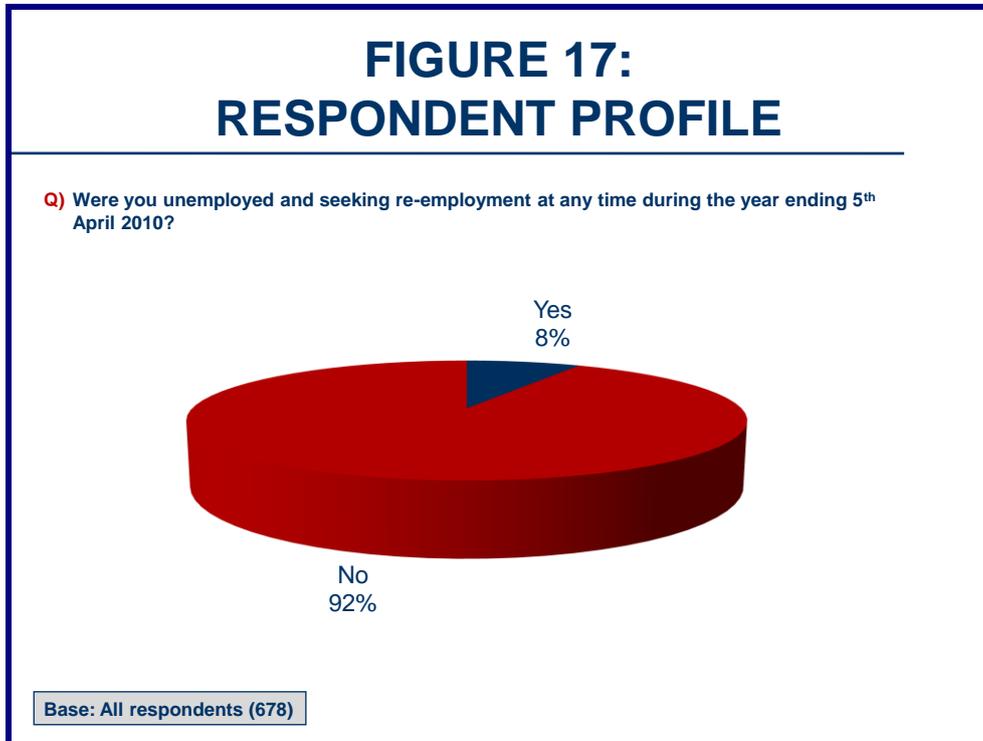
The five job roles selected most often were designer (22%), departmental manager (12%), consultant (10%), project manager (9%) and MD/CE/Chairman/Other Director (6%). A number of other miscellaneous roles were given.

Female respondents were more likely to be consultants (21% were consultants vs 10% of men) and teachers/lecturers (7% were consultants vs 1% men) than male respondents.

We asked respondents about their employment status in the previous year:

Q) Were you unemployed and seeking re-employment at any time during the year ending 5th April 2010?

The responses to this question are summarised in figure 17 below:



8% reported that they were unemployed and seeking re-employment in the previous year.

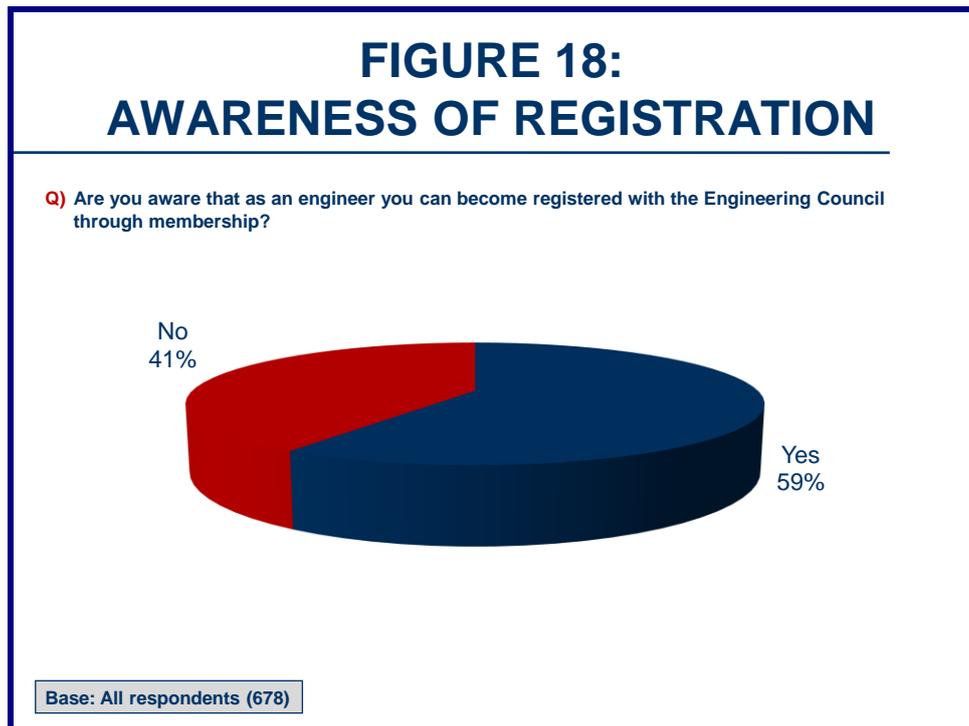
Scottish respondents were less likely to report that they have been seeking re-employment (just 3% were compared to 8% overall).

Awareness of Registration – Non-Registered Engineer Survey

We asked respondents to indicate whether they were aware of registration:

Q) Are you aware that as an engineer or technician you can become registered with a professional engineering institution appropriate to your role? There are 35 of these institutions including for example the Institution of Civil Engineers (ICE) and the Society of Operations Engineers (SOE).

The responses to this question are summarised in figure 18 below:

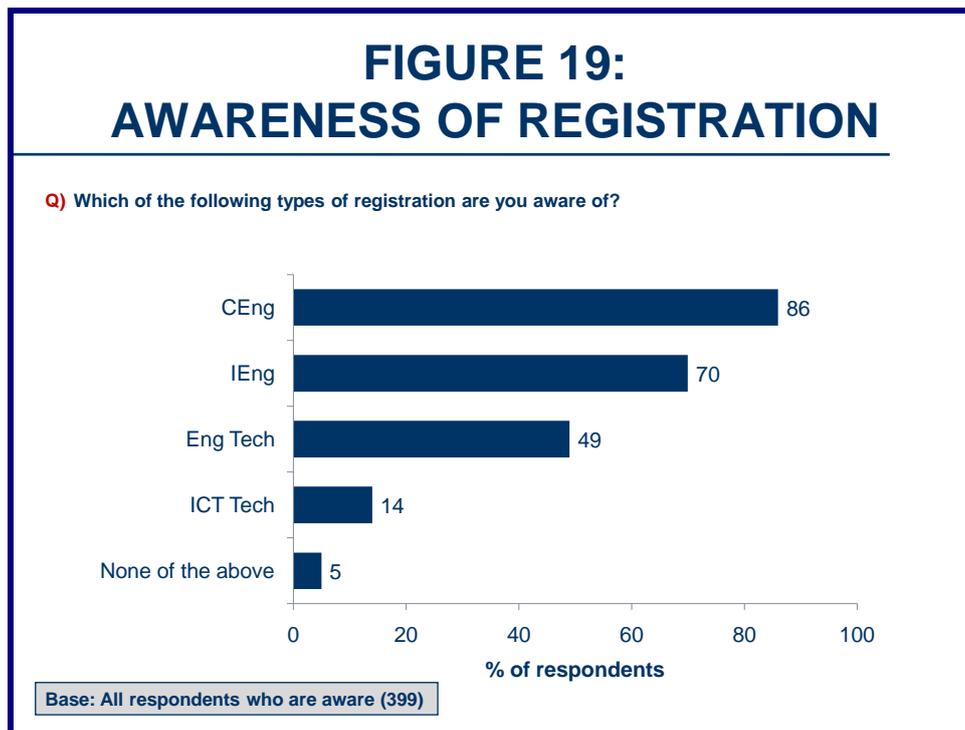


Levels of knowledge were low. 48% of non-graduate engineers and 35% of graduate engineers were not aware. Awareness was lower for those who primarily work abroad with 57% not aware. Awareness was higher in construction/distribution (68%) and utilities (69%).

The next question was asked only of those who said they were aware of registration in the question above.

Q) Which of the following types of registration are you aware of?

The responses to this question are summarised in figure 19 below:



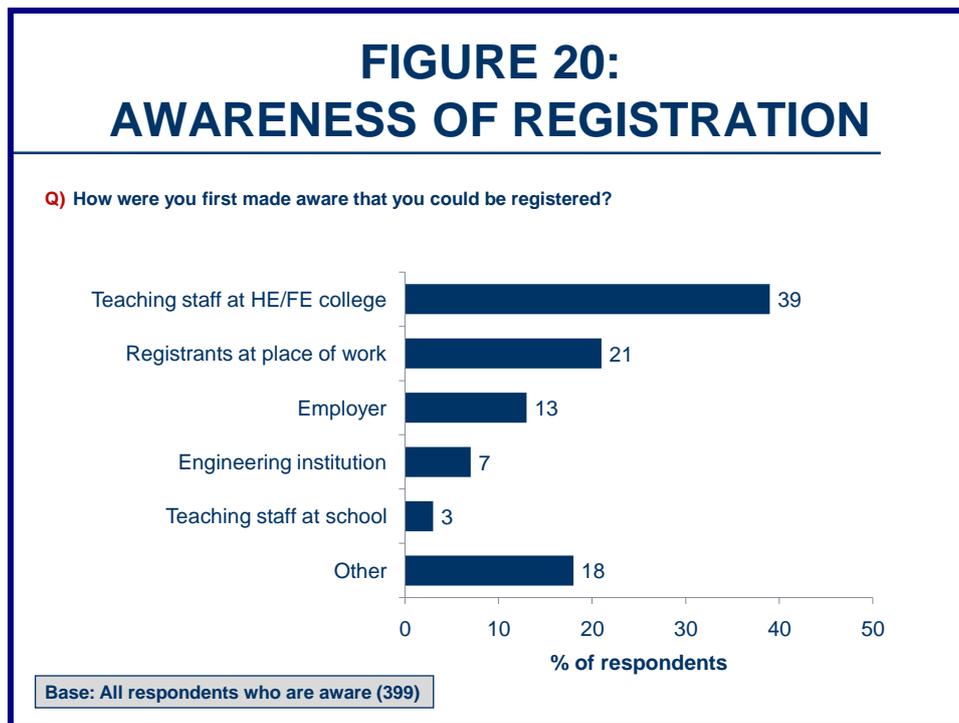
The majority who knew about registration said that they were aware of CEng and IEng, although fewer non-graduate engineers knew about CEng (91% of graduate engineers and 79% of non-graduate engineers aware of CEng and 69% of graduate engineers and 72% of non-graduate engineers aware of IEng). Awareness was lower for EngTech, particularly amongst graduate engineers, with just less than half of graduate engineers (41%) and nearly two thirds of non-graduate engineers (61%) aware. Awareness was low for ICTTech (10% of graduate engineers and 18% of non-graduate engineers). A small minority had not heard of any of the registration types (4% of graduate engineers and 7% of non-graduate engineers).

None of those working in IT/Computing/Software had heard of ICTTech.

The next question was asked of those who said they were aware of registration in the question above only.

Q) How were you first made aware that you could be registered?

The responses to this question are summarised in figure 20 below:



The key method for finding out about professional registration by graduate engineers was from teaching staff at further or higher education establishments (47%). Non-graduate engineers were less likely to have been informed about professional registration during education with 28% learning about it from teachers during further education.

The next key way of finding out about professional registration was from registrants at their place of work (21%), particularly for non-graduate engineers (27% of non-graduate engineers compared to 16% of non-graduate engineers).

Other key methods of finding out about professional registration included from employer (13%), an engineering institution (7%) and by teaching staff at school (3%).

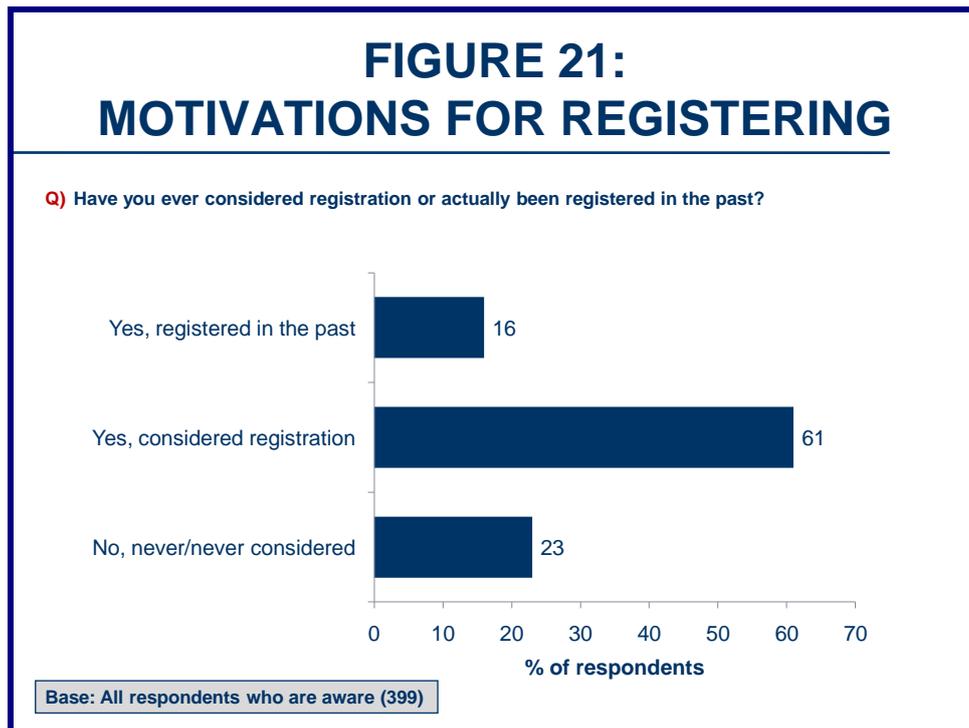
Additional miscellaneous mentions include Internet, used to be registered and general awareness.

Motivations for Registering/Not Registering

The next question was asked only of those who said that they were aware of registration.

Q) Have you ever considered registration or actually been registered in the past?

The responses to this question are summarised in figure 21 below:

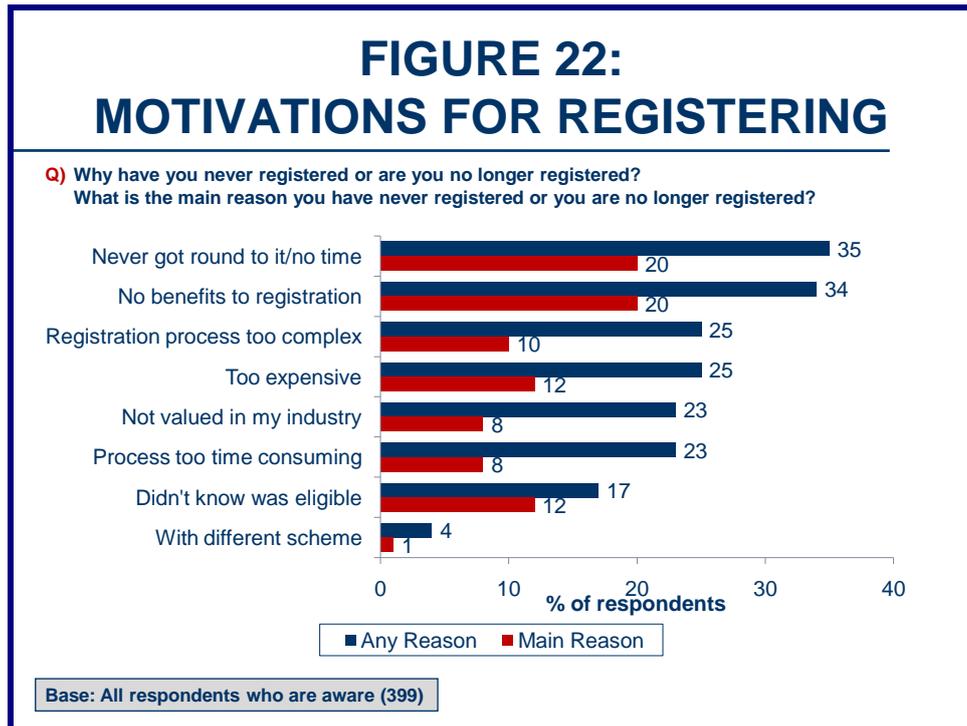


16% of those who were aware of registration had been registered in the past. The majority had at least considered registration in the past (61%) with very few not having been registered or having considered it (23%). 33% of non-graduate engineers and 16% of graduate engineers had not considered registration in the past.

The next two questions were asked only of those who said that they were aware of registration.

- Q) Why have you never registered or are you no longer registered?
- Q) What is the main reason you have never registered or are you no longer registered?

The responses to these questions are summarised in figure 22 below:



The two key reasons given for not registering at all were that they had just never got round to it (35%) and that they perceived there were no benefits to registration (34%). These were also the main reasons given by 40%.

There were also some tangible barriers to registration mentioned, including the process being too complex (25%), too expensive (25%) and too time consuming (23%). Graduate engineers were more likely to say too complex (29% of graduate engineers said too complex vs 19% of non-graduate engineers).

A proportion also said that they felt registration was not valued in their industry (23%). This was the main reason given for less than 1 in 10 (8%).

Non-graduate engineers were more likely to say that they didn't believe that they were eligible to apply for registration (24% of non-graduate engineers vs 12% of graduate engineers). This was the main reason given for 16% of non-graduate engineers, but just 9% of graduate engineers.

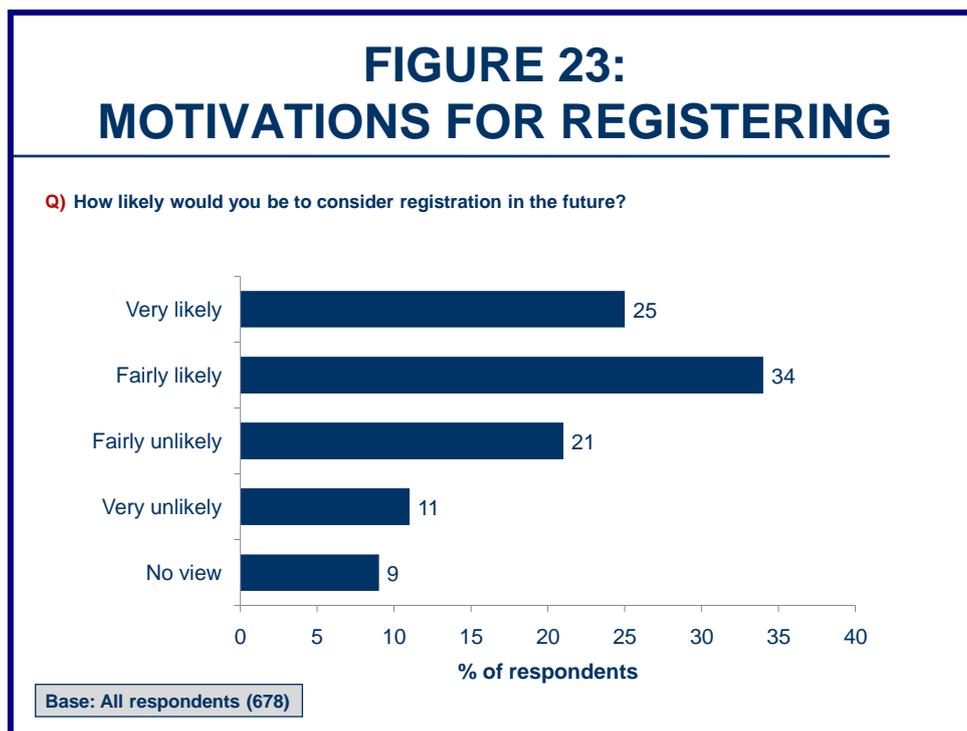
Younger respondents were less likely to say that they felt there were no benefits to registration (18% of 18-34 year olds vs 34% overall) and less likely to say that registration was not valued in their industry (16% of 18-34 year olds vs 23% overall). The main reasons that were most often selected by younger respondents (18-34 year old) were that they had never got round to it/found the time (39%), that it was too expensive (27%) or that they didn't believe they were eligible (19%).

The group who said there were no benefits to registration were also more likely to say it was too expensive (37% of this group) and not valued in my industry (41% of this group). The group who found the registration process too complex were also more likely to say the process was too time consuming (58% of this group).

The next question was asked of all responding to the survey (those who were and were not aware of registration).

Q) How likely would you be to consider registration in the future?

The responses to this question are summarised in figure 23 below:



59% said that they would be likely to consider registration in the future, but graduate engineers were more likely to consider it than non-graduate engineers. 65% of graduate engineers and 53% of non-graduate engineers said they would consider registration.

Those who were aware of registration were more likely to dismiss it than those who were not aware (37% who were aware were fairly or very unlikely compared to 25% of those not aware).

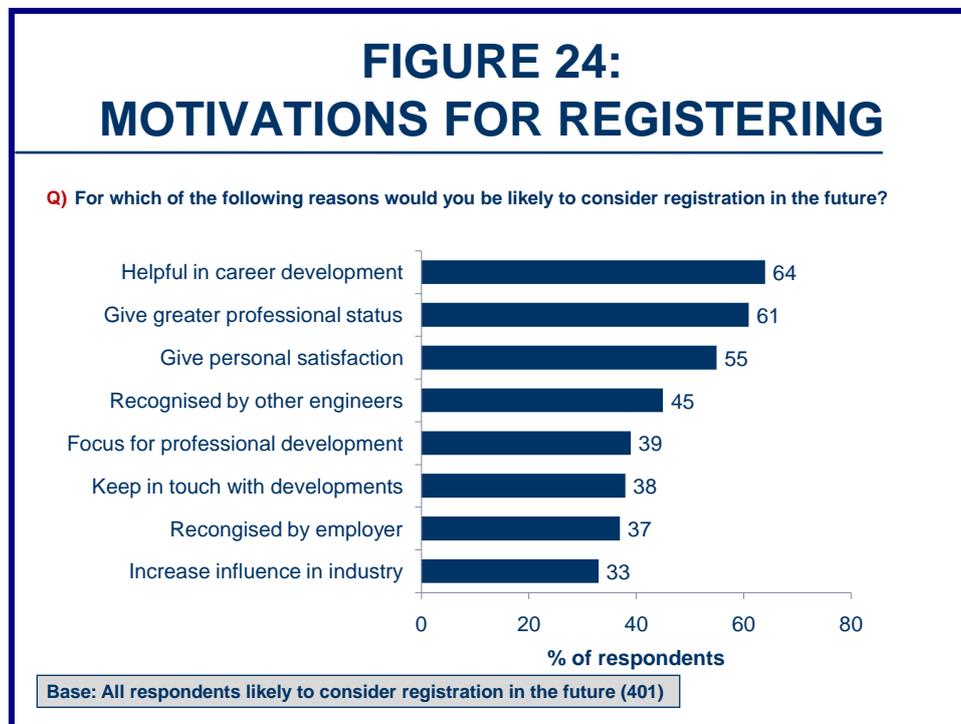
Younger respondents were much more likely to be open to considering registration (82% of 18-34 years olds would be fairly or very likely to consider registration compared to 59% of the total and just 37% of 55-64 year olds).

Respondents from construction/distribution were more likely to be open to consider registration (72% were fairly or very likely to consider registration compared to 59% overall), whereas respondents from transport were less likely (just 45% fairly or very likely compared to 59% overall)

The next question was asked of all saying that they would be likely to consider registration in the future.

Q) For which of the following reasons would you be likely to consider registration?

The responses to this question are summarised in figure 24 below:



A number of reasons were given for considering registration with the majority saying it would be helpful in my career development (64%), particularly graduate engineers (69% of graduate engineers and 57% of non-graduate engineers), it would give me greater professional status (61%) and it would give me personal satisfaction (55%).

Other reasons included recognition of professional skills and experience by other engineers (45%) and by their employer (37%), keeping in touch with developments (38%), focus for their professional development (39%) and it would increase my influence within my organisation or industry (33%).

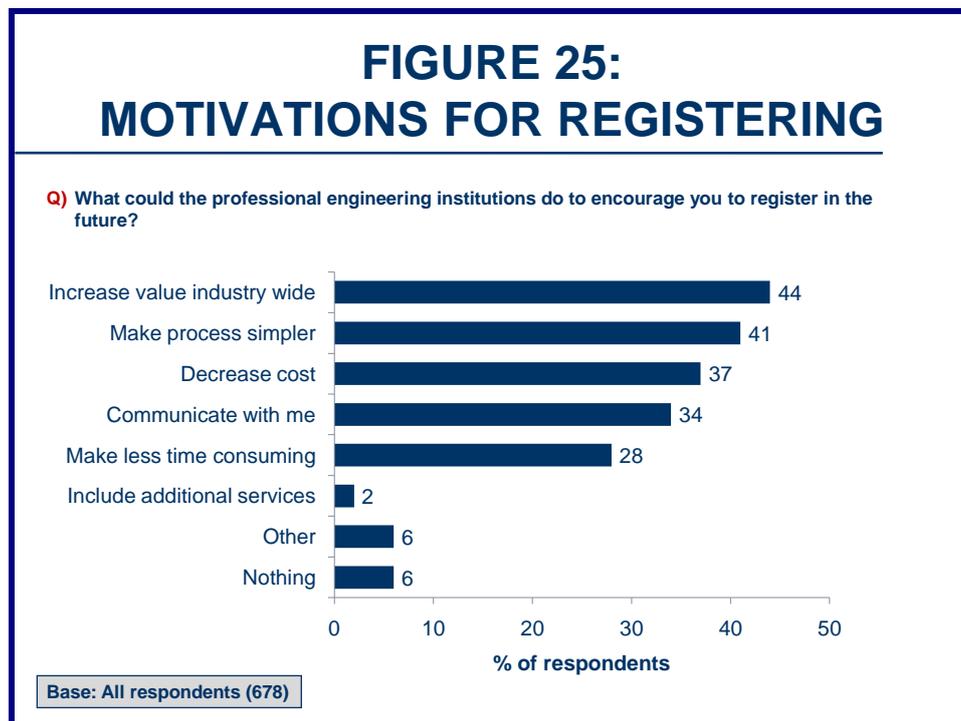
Company employees were more likely to say that registration would be helpful in my career development (68% compared to 39% of those not employed by a company), give me personal satisfaction (57% compared to 41% of others), give me focus for my professional development (41% compared to 23% of others) and my professional skills and experience would be recognised by my employer (39% vs 23% of others).

Younger respondents were more likely to say that registration would be helpful in my career development (84% of 18-34 year olds vs 64% overall) and it would give me focus for my professional development (46% of 18-34 year olds vs 39% overall).

The next question was asked of all responding to the survey (those who were and were not aware of registration).

Q) What could the professional engineering institutions do to encourage you to register in the future?

The responses to this question are summarised in figure 25 below:



The two key means to encourage registration that were selected were to increase the value of registration industry wide (44%) and make the registration process simpler (41%).

These two key means were closely followed in rank order by decreasing the cost of registration (37%), communicating with me about registration (34%), and making the registration process less time consuming (28%). Miscellaneous mentions included promote/advertise more widely, outline the benefits more clearly and make registration a legal requirement in order to be called an engineer.

Those who were aware of registration were more likely to say make the registration process simpler (44% aware: 35% not aware) and less time consuming (34% aware: 20% not aware). Those who were not aware of registration were more likely to say communicate with me about registration (47% not aware; 25% aware).

Those who were likely to consider registration in the future were more likely to say make the process simpler (48% likely; 29% not likely), communicate with me about registration (41% likely; 19% not likely) and make the registration process less time consuming (32% likely; 23% not likely). Those who were not likely to consider registration in the future were more likely to say increase the value of registration industry wide (50% unlikely; 40% likely).

The cost of registration was a particular barrier for younger respondents (18-34 year olds) with 51% saying decrease the cost of registration. This was the area for improvement given most often by this age group.

Career Development

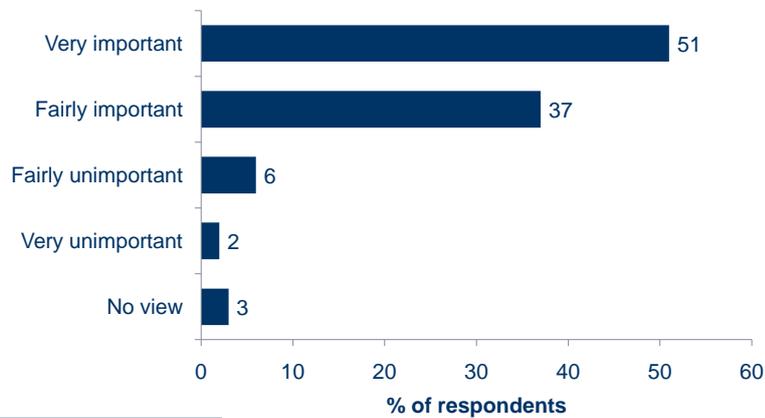
The next question was asked of all respondents.

Q) How important to you is Continuing Professional Development (CPD), ensuring that your skills and expertise are relevant and up to date?

The responses to this question are summarised in figure 26 below:

FIGURE 26: CAREER DEVELOPMENT

Q) How important to you is Continuing Professional Development (CPD), ensuring that your skills and expertise are relevant and up to date?



Base: All respondents (678)

CPD was very important to 51% with most of the remaining saying it was at least fairly important (37%).

CPD remained important across age groups except for a slight drop in importance at the ages of 55-64 with 14% saying it was fairly or very unimportant (compared to just 8% overall).

Employees of companies were more likely to say CPD was important (90% vs 79% of others).

CPD was particularly important to those who were primarily working outside of the UK (72% said it was very important compared to 51% overall).

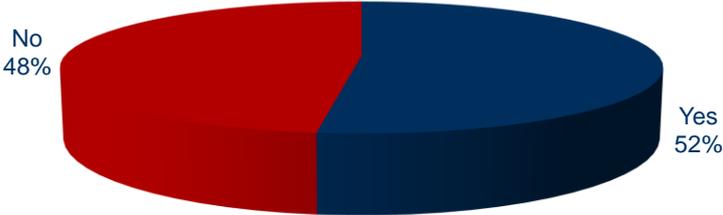
The next question was asked of all respondents.

Q) Do you plan your professional development objectives?

The responses to this question are summarised in figure 27 below:

FIGURE 27: CAREER DEVELOPMENT

Q) Do you plan your professional development objectives?



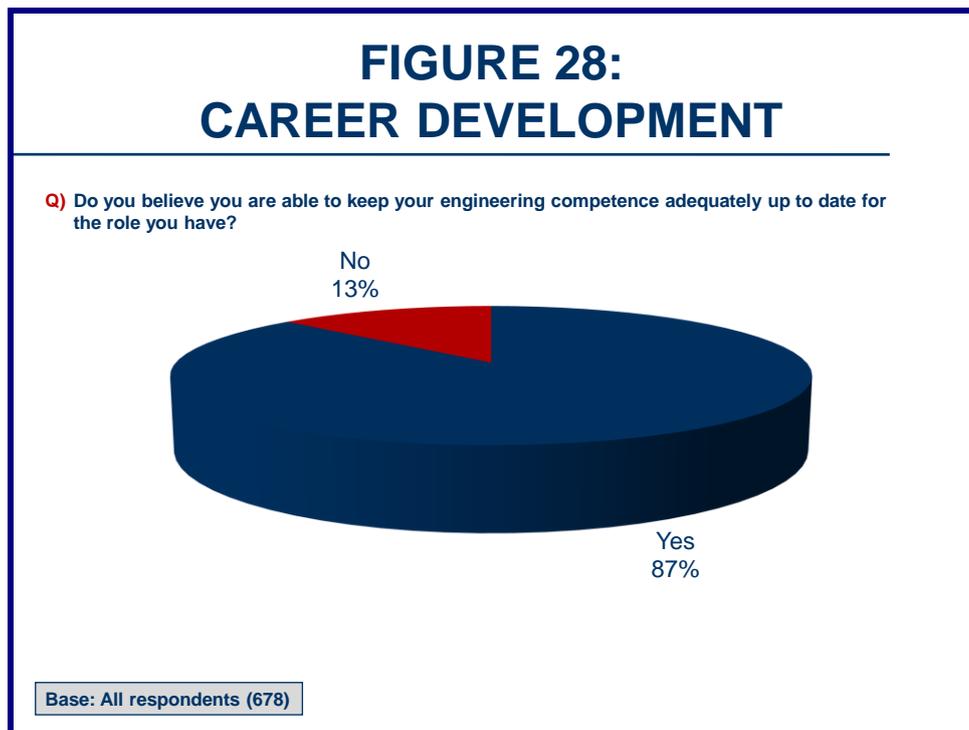
Base: All respondents (678)

52% of engineers plan their professional development objectives. 57% of graduate engineers indicated that they plan their professional development objectives compared to 46% of non-graduate engineers. Propensity to plan professional development objectives decreased with age with 65% of 18-34 year olds doing so compared to just 39% of 55-64 year olds. Respondents working in the manufacturing sector were less likely to plan their objectives (57% did not plan their professional development objectives compared to 48% overall).

The next question was asked of all respondents.

Q) Do you believe you are able to keep your engineering competence adequately up to date?

The responses to this question are summarised in figure 28 below:



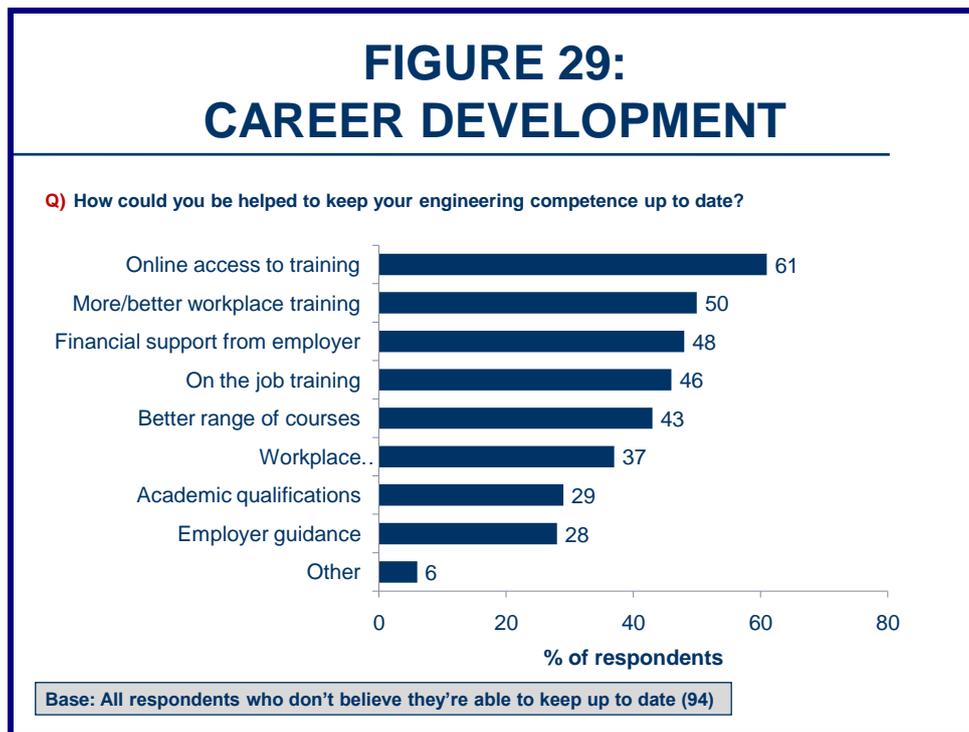
87% reported that they were able to keep their engineering competence adequately up to date.

Respondents from the manufacturing sector were less likely to agree that they could keep their engineering competence up to date (22% said no to this question compared to just 14% overall).

The next question was asked of all respondents who did not believe they were able to keep their engineering competence up to date.

Q) How could you be helped to keep your engineering competence up to date?

The responses to this question are summarised in figure 29 below:



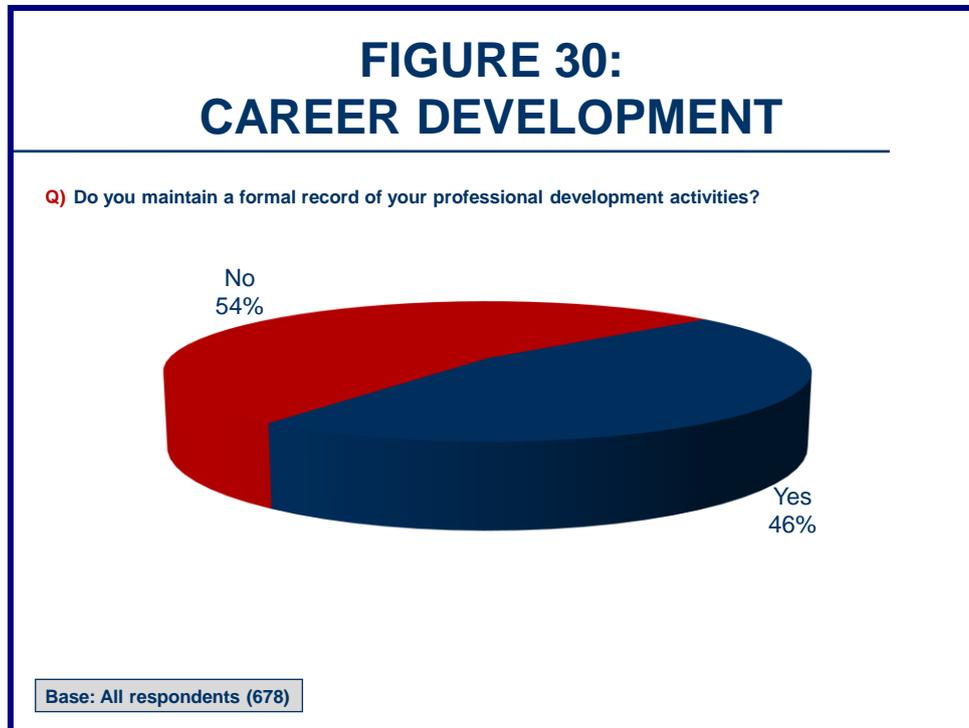
This group were interested in a range of suggestions we gave including online access to professional training courses (61%), more/better range of training courses at place of work (50%) more financial support from employer for training (48%), more on the job training (46%) and more/better range of training courses (43%).

Respondents were able to tick more than one box.

The next question was asked of all respondents:

Q) Do you maintain a formal record of your professional development activities?

The responses to this question are summarised in figure 30 below:



46% of engineers said that they maintain a formal record of their professional development activities. Female respondents were less likely to do this (35%) than male respondents (47%); even though women in our sample did tend to be younger. Younger respondents were more likely to maintain a formal record of their professional development activities (53% of 18-34 year olds did compared to just 38% of 55-64 year olds).

Employees of companies were more likely to maintain a formal record of their professional development objectives (48% did, compared to 37% of others).

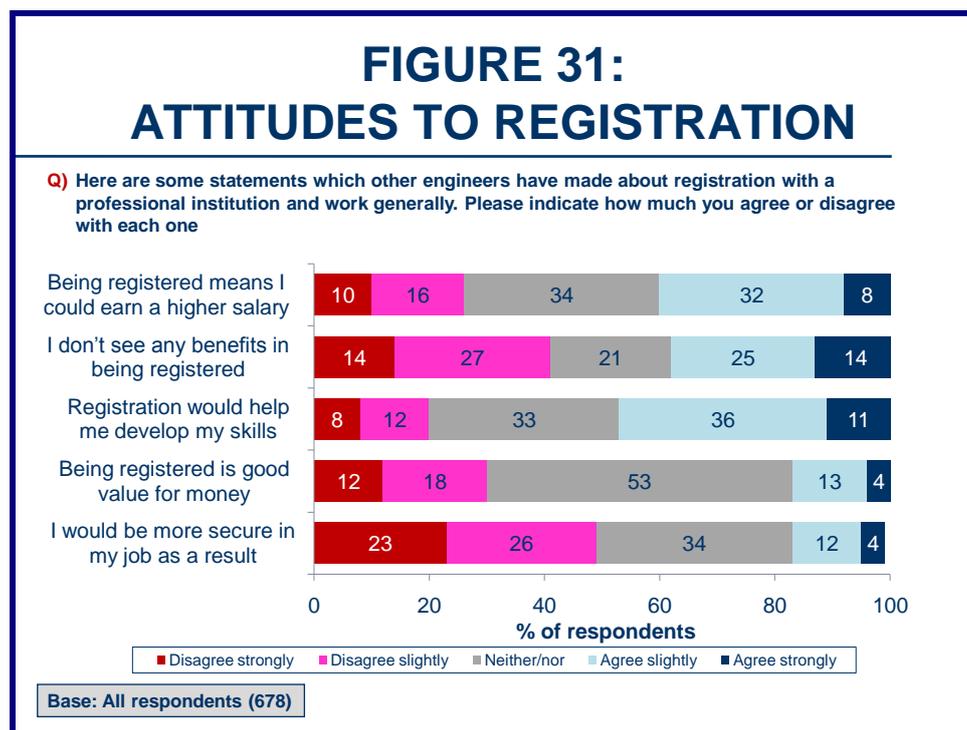
Respondents working in the manufacturing industry were less likely to maintain a formal record of their professional development objectives (61% did not compared to 54% overall).

Attitudes to Registration

We asked all respondents to tell us whether they agreed or disagreed with a range of statements about engineering:

Q) Here are some statements which other engineers have made about registration with a professional institution and their work generally. Please indicate how much you agree or disagree with each one by ticking the appropriate box. Agree strongly, agree slightly, neither agree nor disagree, disagree slightly, disagree strongly.

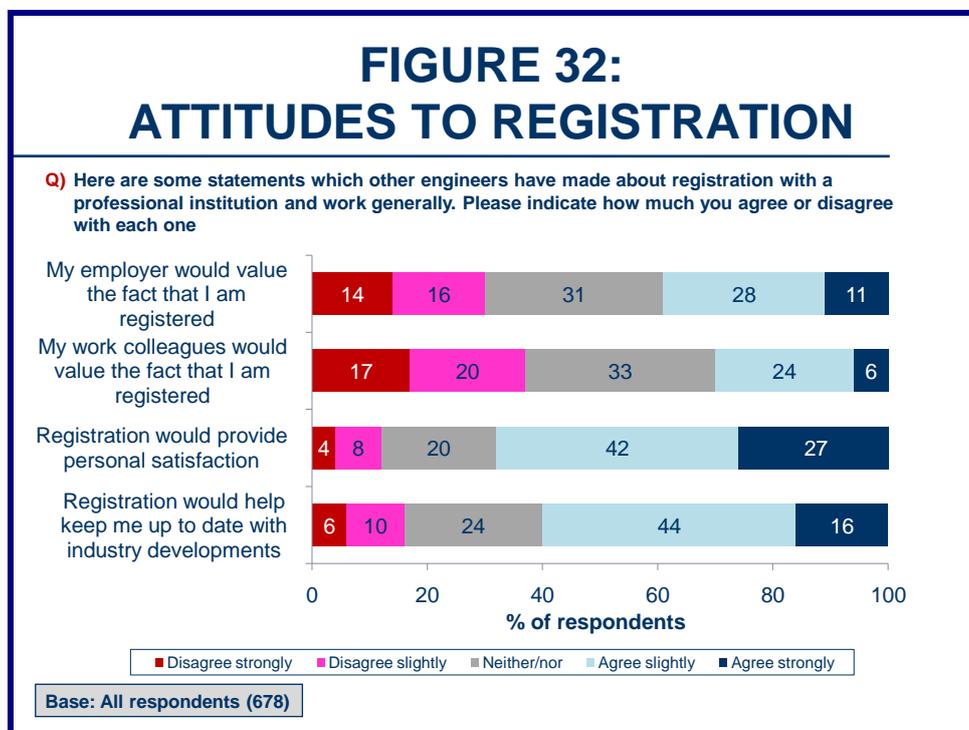
The responses to this question are summarised in figures 31-33 below:



Agreement was mixed with regards to the benefits of registration. This also reflects the lack of knowledge some respondents have and thus an inclination to neither agree or disagree with a statement. However, the results for the “aware” group were similar to those who were not aware suggesting either widespread lack of knowledge on these areas or neutral levels of opinion (results for each group are given below):

- Less than half agreed that being a *registered engineer means I could earn a higher salary* (39% aware; 41% not aware) with more graduate engineers agreeing (44%) than non-graduate engineers (35%). Younger respondents were more likely to agree (52% of 18-34 year olds agreed compared to 40% overall). Construction/distribution were more likely to agree (54% compared to 40% overall), whereas Utilities were less likely to agree (17% compared to 40% overall)

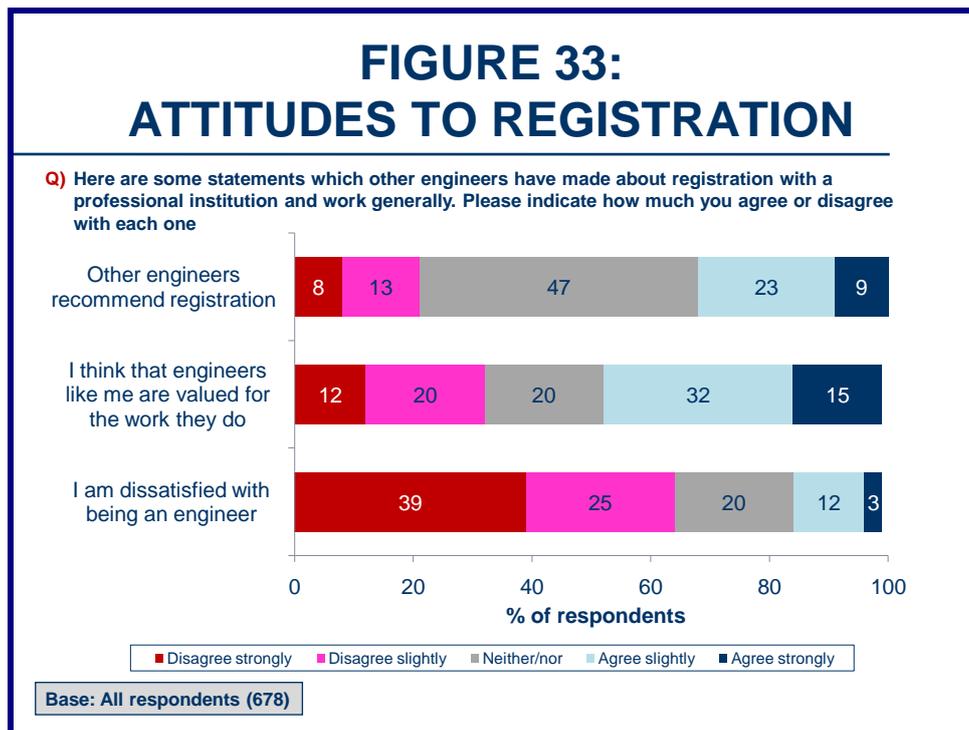
- Less than half disagreed that they *don't see any benefits in registering* (44% aware; 32% not aware). Younger respondents were less likely to agree (27% of 18-34 year olds agreed compared to 39% overall). Construction/distribution were less likely to agree (29% compared to 39% overall), whereas Manufacturing were more likely to agree (46% compared to 39% overall)
- Less than half agreed that *registration would help me develop skills* (46% aware; 48% not aware). Younger respondents were less likely to agree (55% of 18-34 year olds agreed compared to 47% overall).
- 16% of those aware and 20% of those not aware agreed that *being a registered engineer is good value for money* (16% aware; 20% not aware), although 53% neither agreed nor disagreed, suggesting that many do not know. Those who were aware of registration were more likely to disagree (37% compared to 19% not aware).
- 18% of those aware and 14% of those not aware agreed that they would be *more secure in their job as a result of being registered* with 49% disagreeing.



Agreement was mixed with regards to the extent to which registration is valued. This also reflects the lack of knowledge some respondents have and thus an inclination to neither agree or disagree with a statement.

- 38% of those aware and 41% of those not aware agreed that *my employer would value registration*. Younger respondents were more likely to agree with this statement (47% of 18-34 year olds agreed compared to 39% of the total). Energy/gas/oil/petroleum were more likely to agree (53% compared to 39% of the total) whereas manufacturing were less likely to agree (29% compared to 39% of the total).

- There was agreement amongst the majority that *registration would provide personal satisfaction* (67% aware; 71% not aware). In addition a majority agreed that registration would *help me keep up to date with industry developments* (56% aware; 65% not aware).
- 31% of those aware and 29% of those not aware agreed that *my work colleagues would value the fact that I am registered* with more graduate engineers agreeing than non-graduate engineers. Female respondents were more likely to disagree with this statement (53% disagreed compared to 35% of male respondents).



46% of those aware and 49% of those not aware agreed that *graduate engineers like me are valued for the work they do*. Higher paid engineers were more likely to agree than others (60% of those paid £45,001-£50,000 agreed compared to just 41% of those paid £15,001-£20,000).

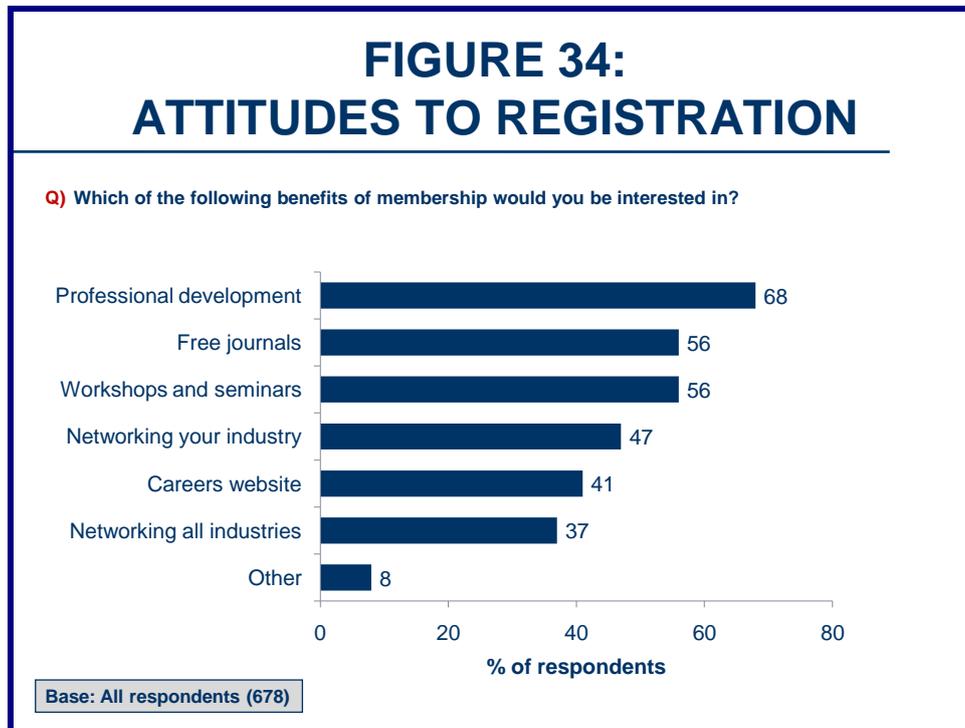
33% of those aware and 32% of those not aware agreed that *other graduate engineers recommend registration*. Note that those not aware must have been making some assumptions when answering this question as presumably they would not have direct experience of recommendation.

A minority agreed that they were *dissatisfied with being an engineer* (16% aware; 14% not aware).

We asked all respondents to tell us which benefits of registration they would be interested in:

Q) Which of the following benefits would you be interested in?

The responses to this question are summarised in figure 34 below:



There was interest amongst the majority in continuing professional development, particularly amongst graduate engineers (68%), free journals, particularly amongst graduate engineers (61% of graduate engineers and 51% of non-graduate engineers) and workshops/seminars (56%). There was also interest in networking opportunities with those in your industry (47%), networking opportunities with those employed in all industries (37%) and a careers website (41%).

Employees of companies were more likely to be interested in CPD (70% vs 54% of others), free journals (59% vs 45% of others) and workshops/seminars (58% vs 47% of others).

Younger respondents were more likely to be interested in CPD (79% of 18-34 year olds vs 68% of the total), free journals (66% of 18-34 year olds vs 56% of the total) and workshops/seminars (66% of 18-34 year olds vs 56% of the total).

Benefits and Working Hours

This section refers to the web survey distributed to engineers.

The next two questions were asked of all respondents:

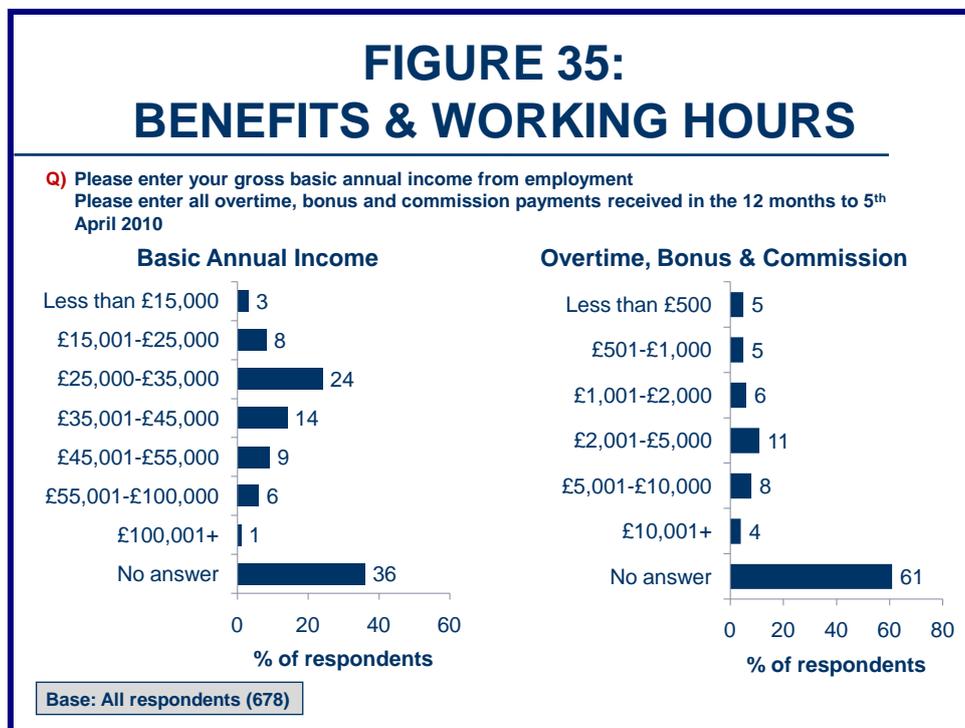
Q) Please enter your gross basic annual income from employment, including any London or large town allowance, before deduction of Income Tax, National Insurance and Pension contributions, as at 5th April 2010.

(Exclude any overtime, bonus and commission payments, unearned income and pension from previous employment.)

If you are solely or partly self-employed, please state net profit before tax for the year 2009/10 less expense allowed for tax, but before the deduction of personal, capital or other expenses. If your financial year ends at a date other than 5th April, please estimate your net profit before tax for your financial year ending between 6th April 2009 and 5th April 2010.

Q) Please enter all overtime, bonus and commission payments received in the 12 months to 5th April 2010.

The responses to these questions are summarised in figure 35 below:



Many did not answer this question (36% for salary and 61% for overtime, etc). This could be that they refused or in the case of overtime, bonus and commissions that they did not know or did not receive any.

The average (mean) reported annual income was £38,804. The mode income band was £25,001 to £35,000 (24%). The median income was £35,000.

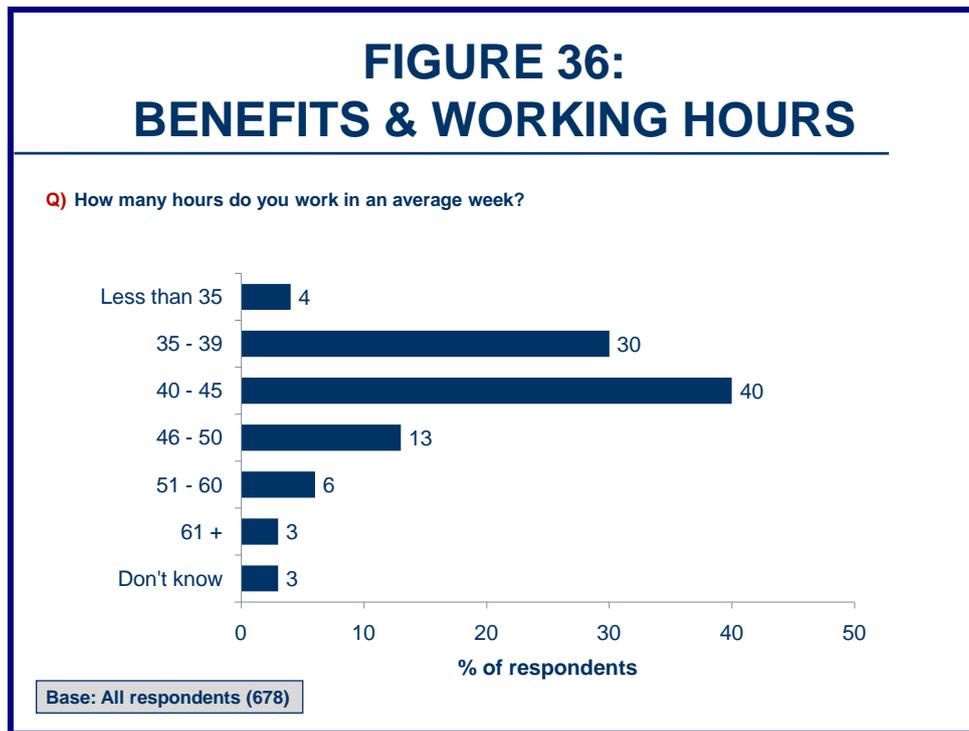
The average (mean) yearly overtime, bonus and commission payout was £5,225. The most common income band was £2,001 to £5,000 (11%). The median figure was £4,000.

The mean annual income (with overtime, bonus or commission payouts) was reported as £44,029. The median (with overtime, bonus or commission payouts) income was £39,000.

The next question was asked of all respondents:

Q) How many hours do you work in an average week

The responses to this question are summarised in figure 36 below:

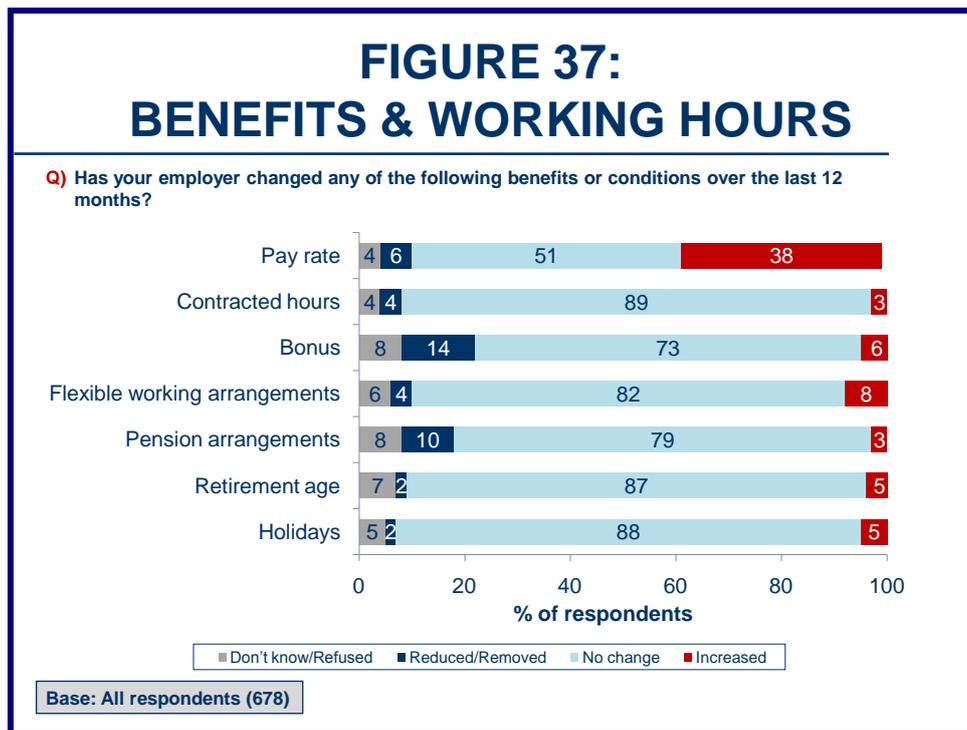


The average (mean) number of hours they worked per week was 42 hours. The most common band for hours worked was 40-45 (40%). The median number of hours was 40.

The next question was asked of all respondents:

Q) Has your employer changed any of the following benefits or conditions over the last 12 months?

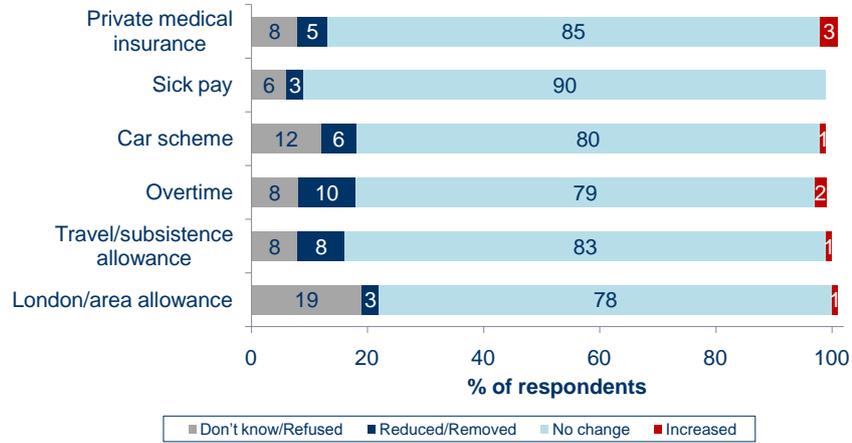
The responses to this question are summarised in figures 37 and 38 below:



38% said that their pay rate had increased. 51% said it had remained the same. In a range of other areas the proportion saying their entitlement had decreased was higher than those who felt it had increased – bonus (6% increase vs 14% reduced/removed), pension arrangements (3% increase vs 10% reduced/removed), contracted hours (4% increased vs 3% decreased). Retirement age (2% reduced/removed vs 5% increased) and holidays (2% reduced/removed vs 5% increased) and flexible working arrangements (4% reduced/removed vs 8% increased) had seen a net increase.

FIGURE 38: BENEFITS & WORKING HOURS

Q) Has your employer changed any of the following benefits or conditions over the last 12 months?



Base: All respondents (678)

In all the areas given above entitlement decreased – private medical insurance (3% increase vs 5% reduced/removed), sick pay (none increased vs 3% reduced/removed), car scheme (1% increased vs 6% reduced/removed), overtime (2% increased vs 10% reduced/removed), travel/subsistence allowance (1% increased vs 8% reduced/removed) and London area/allowance (1% increased vs 3% reduced/removed).