Improving employment opportunities for diverse engineering graduates
Learning from a pilot project 2015 to 2018
“The project is another thing to keep diversity on the agenda, and make it wider than just about women.”
Acknowledgements

This report is largely based on the evaluation of a three-year pilot engineering engagement programme – successful delivery of which would not have been possible without the support and commitment of the engineering employers below.

The Royal Academy of Engineering would like to thank each and every one for working together collaboratively to make the pilot a success, not only for individual benefit but for the benefit of the profession as a whole.
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Foreword

Engineering employers across the UK regularly outline the need for more engineers with the key skills that they require. When the UK exits the European Union, the demand for home-grown engineers is likely to increase even further.

There are global challenges ahead. To address them, we need an increased skills base and an abundance of innovation and creativity. To support the UK economy and the increased adoption of digitalisation across our economy, as well as meeting society’s needs in the 21st century, all engineering employers must take action to ensure that we encourage people from all backgrounds to follow an exciting career in engineering.

There should certainly be no exclusion or barriers, either knowingly or unconsciously biased. It is pleasing that many engineering companies are now actively seeking to address skills shortages through an enhanced focus on inspiring, attracting, recruiting and retaining people from diverse backgrounds. It is vital that we include people with different experiences, ideas and perspectives to make sure we are best placed to respond with the best and most innovative solutions to current and emerging problems. The Royal Academy of Engineering aims to make the UK a leading nation for engineering innovation. That requires a diversity of ideas, which in turn means employing a variety of people from diverse backgrounds with diverse experiences.

Yet the data in this report clearly shows that women and ethnic minority engineering graduates are less likely than their white male counterparts to make the transition from their university degrees into engineering jobs. I don’t have any data on people from the LGBT+ community, but as a member of that group, I know that we are significantly underrepresented in our industry. If we are to succeed in meeting our future ambitions, we must do much more to encourage the progression of all underrepresented groups into engineering employment.

The Royal Academy of Engineering should be applauded for taking a lead role in galvanising a collective employer effort to raise the profile of engineering and encourage more graduates to join our profession. I recommend involvement in the Graduate Engineering Engagement Programme to employers across the engineering sector, in order to integrate the learning from the pilot programme into their graduate recruitment practices.

Engineering graduates have already made a significant investment in developing their skills for the profession. It is now our turn as employers to repay that investment and give young people from all backgrounds the opportunity to join our exciting and rewarding profession.
"Participating in this event has convinced me that a career in engineering will be diverse and exciting."
1.0 Executive summary

This report gives insights into action to increase the transition of diverse engineering graduates into engineering employment. It provides:

- Key drivers for increasing the transition of engineering graduates into engineering employment.
- An overview of the ethnicity and gender composition of engineering graduates across UK universities.
- Insight into the employment of graduates by gender and ethnicity.
- A description of non-educational barriers faced by engineering graduates from ethnic minority backgrounds seeking to transition into engineering employment.
- Findings from a three-year engagement pilot project to remove barriers and proactively encourage more engineering students to transition into engineering employment.
- Learning from the pilot for engineering employers seeking to increase the diversity of their graduate recruits.

1.1 Drivers for increasing engineering graduate recruitment

The engineering skills challenge has been widely communicated over the past few years. EngineeringUK estimates that the country needs over 1.2 million more engineers and technicians between 2014 and 2024 - with a shortfall of 37,000 and 59,000 engineering graduates and technicians needed to fill core engineering roles. Many organisations recognise that recruiting from a more diverse pool of talent can help address this gap, by inspiring, attracting, recruiting and retaining more people from underrepresented groups into the profession.

Aside from addressing the skills challenge, there are other motivations for increasing diversity and inclusion (D&I) across engineering employment. These include the positive impact D&I has on the performance of individual engineers, financial bottom line, innovation and creativity. Research by the Royal Academy of Engineering found that engineers who feel included in their organisations are more motivated, more committed and perform better. The engineering profession needs to harness and capitalise on D&I if it is to maximise its contribution to UK plc and play a lead role in the Fourth Industrial Revolution.

1.2 Engineering graduate employment

In 2015-16, 15.6% of first degree qualifiers were female and 26.1% were from ethnic minority backgrounds across 114 higher education institutions offering engineering degrees. By comparison, as at April 2018, ethnic minority people and women made up 7.8% and 9.3% of the engineering workforce respectively.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>% of engineering workforce</th>
<th>% first degree qualifiers</th>
<th>% of working population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (female)</td>
<td>9.3%</td>
<td>15.6%</td>
<td>46.9%</td>
</tr>
<tr>
<td>Ethnic minority</td>
<td>7.8%</td>
<td>26.1%</td>
<td>12%</td>
</tr>
</tbody>
</table>

In the same year, analysis of Higher Education Statistics Authority (HESA) data revealed differential employment outcomes linked to gender, ethnicity, attainment and type of university attended. The table below illustrates rates of engineering graduate employment in engineering occupations.

Table 2: Engineering transition into engineering employment

| In engineering employment six months after graduation (2015/16) **(2014/15 data) |
|---|---|
| All engineering graduates | 62% |
| White | 65.6% |
| BAME | 48.6% |
| Female | 52% |
| Male | 56% |
| 2:1 or higher | 60%** |
| 2:2 or lower | 40%** |

** Data taken from HESA Destinations of Leavers from Higher Education 2013/14

1.3 Barriers to the employment of diverse engineering graduates

As can be seen from the table above, graduates with higher attainment who are white and male are more likely to transition into engineering employment. In a fair society, it is to be expected that those who perform well should have the most opportunity to succeed. However, regression analysis on diversity characteristics and other factors examined showed that even when degree class and university type were taken into account, ethnic minority graduates were still more than twice as likely to be unemployed six months after graduation.

This suggests that ethnic minority engineering graduates face non-educational barriers to employment such as:

- limited engineering employer monitoring of gender and ethnicity within their workforces and graduate recruitment – with more attention given to the former
- limited access to work experience and internships
- limited engineering social capital and engagement with engineering employers
- self-selecting out because of lack of explicit encouragement to apply for roles in the sector
- conscious and unconscious bias.

1.4 Engineering Engagement Programme (EEP) pilot project findings

The Academy delivered the EEP pilot between 2015 and 2018 in partnership with 14 engineering employers and an external provider as part of its D&I Programme. The pilot’s purpose was to remove barriers faced by students from underrepresented groups and encourage employers to recruit a more diverse workforce from the UK engineering undergraduate cohort.

Participants

Employers involved across all three years of the pilot included AECOM, Amey, Arup, Atkins, BAE Systems, Capita, CH2M, Leonardo, Metaswitch Networks, Network Rail, Renishaw, Rolls-Royce plc, Siemens and Thales. In partnership with the Academy and a third-party supplier, they steered the delivery of 11 events and engaged with over 450 engineering students and recent graduates who were 30% female, 91% BAME and 74% from newer universities or socio-economically disadvantaged backgrounds.

Employer benefits

Employers engaged in the pilot reported that it has benefited their organisation by:

1. Raising brand visibility among a wider, more diverse range of engineering students, and across a wider range of universities.
2. Improving brand recognition as a forward-thinking pioneer of D&I within and beyond the profession.

3. Accessing a pre-filtered talent pool of female, BAME and socioeconomically disadvantaged engineering students and graduates as part of their talent D&I strategies.

4. Making engineering a career destination of choice among a higher proportion of engineering undergraduates and graduates.

5. Participating in an Academy-led collaboration to address shared strategic concerns regarding the engineering talent pipeline leakage and workforce D&I for the benefit of all.

6. Sharing experiences and lessons learned, to improve D&I when recruiting engineering graduates and help retain higher proportions of these graduates within the profession. This includes identification of practices that attract or deter students from underrepresented groups.

7. Leading by example and championing the changes needed to improve underrepresentation of women, ethnic minority groups and those from a socioeconomically disadvantaged backgrounds in the engineering workforce.

**Student benefits**

A total of 468 students took part in the pilot engagement programme, of which some have already graduated and others are yet to do so. By the start of 2018, 91 students had secured engineering opportunities as graduate employees and in placements and internships. It should be noted that this is not a complete picture and these figures are expected to rise because the peak years for graduation of all EEP students fall in 2018, 2019 and 2020 – see section 3 for more information.

**Conclusions**

At the end of the three-year pilot, the Academy conducted an evaluation to assess the impact of the programme. It is too early to assess the full impact of the pilot because: it is attempting to address barriers deeply rooted in engineering culture and practice; many students who have taken part are yet to graduate or seek out employment opportunities; and the lack of diversity monitoring across engineering employer organisations. As a result, the Academy will continue the programme for an extended period of time to allow for a comprehensive assessment of impact. More detail on conclusions can be found in section 3.4.

**1.5 Learning for the engineering profession**

The pilot project has resulted in four key learnings for other organisations seeking to increase the diversity of their graduate intake.

**Learning one:** Students from underrepresented groups need active encouragement and social capital to increase success in accessing engineering employment.

**Learning two:** Long-term face-to-face intervention is necessary to promote relationships between students from underrepresented groups and employers in the sector to change both student and employer perceptions, behaviours and employment outcomes.

**Learning three:** Transparency of recruitment practice and networking are effective approaches for supporting transition into engineering employment.

**Learning four:** Recruitment data needs to inform evaluation to help accurately assess the extent of transition into engineering employment by diversity group.

Section 4 of this report gives more detail on each of the learnings and suggests positive action engineering employers can take to increase the diversity of their graduate recruits.

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3 Social capital is defined as ‘The networks of relationships among people who live and work in a particular society, enabling that society to function effectively’ http://communityworksinc.com/?s=social+capital

4 Positive action is one of the Government’s range of measures aimed at ending discrimination in the workplace under the Equality Act 2010. It can be used in two areas: “encouragement and training” and “recruitment and promotion”. In recruitment and promotion, it allows an employer, when faced with two or more candidates of equal merit, to select a candidate from a particular group (e.g. a particular racial group, age group or gender) that faces a disadvantage or is under represented in its workforce over a candidate who is not from that group, to achieve diversity in its workforce. Personnel Today, 2011 www.personneltoday.com/hr/legal-qa-positive-action-under-the-equality-act-2010/
“We usually employ Oxford and Cambridge white males... and here we met a real diversity of universities and social backgrounds.”
2.0 Introduction

This report sets out the rationale and context for the employment of diverse engineering graduates and presents findings from a three-year EEP pilot, which sought to minimise barriers to the transition of female, ethnic minority and socioeconomically disadvantaged engineering graduates from a wide range of universities into engineering employment.

It presents the case for action; data on the diversity of UK domiciled engineering students; their employment after graduation; the barriers they face in seeking employment; and findings from the EEP pilot. It also provides learning for engineering employers seeking to increase the diversity of their graduate recruits and to translate the pilot into a longer-term Academy-led programme.

2.1 The Academy D&I Programme

The Academy has the vision of an inclusive engineering profession that inspires, attracts, recruits and retains people from diverse backgrounds into both engineering employment and professional registration. To achieve this, since 2011, it has been collaborating with engineering employers and professional engineering institutions (PEIs) to act to increase D&I across the profession through delivery of three strategic aims:

1. Providing insight on barriers to increasing D&I in engineering.
2. Engaging in partnerships to remove barriers to increasing D&I in engineering.
3. Delivering impact through effective communications.

Delivery of the EEP demonstrates the D&I Programme in action. It has provided insights to remove barriers and has been delivered in collaboration with 14 engineering employers. This report communicates findings to inform the profession (and the Academy) of further action to increase D&I across engineering employment.

2.2 Drivers for increasing engineering graduate employment

The UK is facing an engineering skills challenge. Despite ongoing demand, there continues to be significant underrepresentation of many groups in the sector and the diversity of the UK population will continue to increase.

One way engineering employers and others can meet this demand is by taking a proactive approach to extending the reach of their recruitment to attract underrepresented groups. Aside from the need to address the skills gap, UK plc will need to draw on the innovation and creativity of engineers to secure its place at the forefront of the Fourth Industrial Revolution.

The UK needs more engineers

The engineering skills gap is significant. At the time of initiating the project and for the three years since, EngineeringUK, has highlighted a shortfall in supply compared with current and future industry skills demand. In its 2018 annual state of engineering report, EngineeringUK estimates that the country needs over 1.2 million more engineers and technicians between 2014 and 2024. The current supply of graduates from engineering and allied subjects is not sufficient to meet that demand. The latest data shows an annual demand of:

- 124,000 engineers and technicians with ‘core engineering skills’ required to 2024
- 79,000 people with ‘mixed application of engineering knowledge’ alongside other skill sets required to 2024.

The data suggests an estimated annual shortfall of between 37,000 and 59,000 engineering graduates and technicians to fill core engineering roles. In addition, the consequences of Brexit may mean that the employment of home-grown engineers from diverse backgrounds becomes even more critical to growing the engineering skills needed to give the UK a competitive edge.

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Meanwhile, many qualified engineers are being overlooked

Employers expend significant effort and funds trying to recruit graduate engineers. Costs for hiring graduates varies depending on sectors, but on average across engineering, typical recruitment costs average around £3,000 per hire. Despite the ongoing skills challenge and significant costs of recruitment, many talented and qualified graduates from underrepresented groups – females, ethnic minorities and those from socioeconomically disadvantaged backgrounds and from non-Russell Group universities – are available and currently underrepresented in the engineering workforce. For example, over recent years, ethnic minority engineering graduates have represented up to 27% of the UK domiciled graduate engineering first degree qualifiers in line with the proportions of the ethnic minority population. However only 7.8% are in engineering employment.

Diversity drives innovation and creativity

Aside from meeting the skills demands of the future, there is overwhelming evidence that D&I drives innovation, creativity and financial performance. Some examples of this evidence are presented below.

An academic study of cultural diversity, innovation and entrepreneurship in London businesses revealed that those run by culturally diverse leadership teams were more likely to develop new products than those with homogenous leadership.

A Deloitte study titled *Waiter is that inclusion in my soup?* demonstrates a tangible uplift in business performance when employees think that their workplace is highly supportive of D&I.

In 2017, McKinsey found that companies in the top quartile for gender diversity on their executive teams were 15% more likely to experience above-average profitability than companies in the fourth quartile. For ethnic and cultural diversity, it found a 33% likelihood of outperformance against the average.

In 2017, Academy research on culture and inclusion in engineering found that inclusion benefits the performance of individual engineers, with 80% reporting increased motivation, 68% increased performance and 52% increased commitment to their organisation.

Table 3: Proportions of ethnic minority and female engineering students inside and outside the Russell Group

<table>
<thead>
<tr>
<th>Diversity</th>
<th>Russell Group</th>
<th>Non-Russell Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>5.9%</td>
<td>7.2%</td>
</tr>
<tr>
<td>Ethnic minority</td>
<td>7%</td>
<td>16.8%</td>
</tr>
</tbody>
</table>

There is diversity among UK-domiciled engineering undergraduates

The most recent data available (2015 to 2016) shows that among first degree qualifiers in engineering and technology, 15.6% are female and 27% are from ethnic minority backgrounds. However, ethnic minorities are significantly more likely to study in non-Russell group universities. The proportions across the different types of universities are highlighted in the table below.

*6 What is the average cost to hire a graduate? www.grb.uk.com/employer-services/graduate-recruiter-faq/what-is-the-average-cost-to-hire-a-graduate

*7 Labour Force Survey data analysis, Royal Academy of Engineering, 2018


*10 Creating cultures where all engineers thrive, Royal Academy of Engineering, 2017 www.raeng.org.uk/inclusivemulticulturalities

“It enabled us to engage with people that we might not normally get to, and existing prejudices can often mean that people are sifted out without the opportunity to get in front of us.”
2.3 Engineering graduate employment

Despite those from ethnic minority backgrounds and the newer post-92 universities representing a significant proportion of the UK engineering graduate cohort, they have weaker employment outcomes than their white male counterparts and those from Russell Group universities. Analysis conducted by the Careers Research & Advisory Centre (CRAC) on behalf of the Academy has examined employment of engineering graduates. The study, *Employment outcomes of engineering graduates: key factors and diversity characteristics*, examined employment outcomes based on cohorts 2009/10 to 2013/14 in the Destinations of Leavers of Higher Education (DLHE) data.

Various factors affecting employment outcomes including gender, ethnicity, university type and degree class were investigated. The research highlighted that, overall, engineering has positive employment outcomes, with many engineering graduates entering employment in engineering occupations or continuing with further study. It also highlighted differences in employment outcomes – see table 4.

2.4 Barriers to the employment of diverse engineering graduates

Although there is differential attainment across different groups as illustrated in Table 5, additional findings from CRAC research, described in the section above, show that even with similar study and attainment characteristics, students from ethnic minority backgrounds are less likely to have transitioned into engineering employment six months after graduation, suggesting that ethnic minority engineering graduates face additional barriers to securing employment in engineering.

The Higher Education Funding Council for England (HEFCE) highlights four types of explanatory factors for differential degree outcomes, along with suggestions as to how they might be addressed. These factors include:

- curricula and learning (including teaching and assessment practices)
- a sense of ‘belonging’
- social, cultural and economic capital
- psycho-social and identity factors.

### Table 4: Employment outcomes of engineering graduates by diversity characteristic (2015/16 cohort)

<table>
<thead>
<tr>
<th>Diversity Characteristic</th>
<th>In Engineering Employment Six Months After Graduation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All engineering graduates</td>
<td>62%</td>
</tr>
<tr>
<td>White</td>
<td>65.6%</td>
</tr>
<tr>
<td>BAME</td>
<td>48.6%</td>
</tr>
<tr>
<td>Female</td>
<td>52%</td>
</tr>
<tr>
<td>Male</td>
<td>56%</td>
</tr>
</tbody>
</table>

### Table 5: Engineering and technology first degree qualifiers by ethnicity, gender and degree class

<table>
<thead>
<tr>
<th>Gender</th>
<th>Degree Class</th>
<th>Number achieving First Class or Upper Second (2:1) degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Female</td>
<td>79%</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>73.3%</td>
</tr>
<tr>
<td>Ethnic minority</td>
<td>Ethnic minority</td>
<td>68.5%</td>
</tr>
<tr>
<td>White</td>
<td>White</td>
<td>80.4%</td>
</tr>
</tbody>
</table>


When it comes to transferring from degree into engineering employment, it is evident that some of the widely reported issues and concerns that put people off studying engineering (such as perceptions of the industry, parental influence, invisibility of the profession, poor careers advice, and complexity of routes in compared to other professions) have a negative impact on some engineering graduates' decisions to persist in pursuing a career in engineering, despite spending three to five years studying for a degree. Aside from these factors, employer graduate recruitment practices have a role to play in the employment of people from diverse backgrounds. Aspects that may act as a barrier to the recruitment of graduates include:

**Qualification criteria** – Academy-funded research\(^\text{15}\) suggests that recruitment into engineering occupations is more correlated with measures of academic attainment than is the case for graduates overall. To some extent, this would act as a barrier to employment of a fully diverse range of graduates.

**Focus on Russell Group universities** – employers target their recruitment strategies at the Russell Group of universities with lower representation of ethnic minority undergraduates.

**Lack of focus on the recruitment of UK ethnic minority engineers** – in many organisations, the presence of internationally recruited ethnic minority engineers obscures the lack of UK ethnic minority engineers with most engineering employers focused on increasing proportions of women engineers.

**Recruitment diversity monitoring** – monitoring the diversity of recruitment from application to appointment is key to understanding the impact of recruitment processes on candidates from different backgrounds. Although organisations have a general sense of the diversity within their organisations, without data at each stage of the process, it will be more difficult to confirm where in the process different groups leak out.

**Access to work experience and internships** – in many cases this is critical to successful recruitment with some companies only appointing graduates who have participated in at least one relevant placement as part of a course or in between terms. This can present a catch-22 for many disadvantaged candidates/graduates who may not be aware of the need to demonstrate work experience. Even when they are aware, in many cases, lack of social capital hampers success in securing meaningful work experience.

**Conscious and unconscious bias** – a Chartered Institute of Personnel and Development (CIPD) report\(^\text{16}\) highlights the way in which bias impacts the assessment of job candidates. It suggests that employers tend to select people like them or their colleagues, with potential to ‘fit in’, putting people of a different race, gender or socioeconomic status at a disadvantage.

**Potential candidates self-selecting out** – unless specifically encouraged to apply, ethnic minority students or those from less privileged backgrounds may self-select out by not applying, or doing so in lower numbers because they do not think people like them will fit the organisation or its culture.

**Corporate social responsibility (CSR) or a genuine route in?** – schools and other outreach/engagement programmes often sit within organisations’ CSR functions offering taster and insight days to inspire young people from diverse backgrounds into professions. Action to explicitly link CSR and recruitment might have a more positive impact on increasing diversity within organisations rather than a focus on CSR alone.

In 2014, the drivers, statistics and research outlined in this section stimulated the Academy D&I Programme to seek out employer collaboration to take positive action\(^\text{4}\) to address some of the above barriers, and in so doing increase the transition of engineering graduates from diverse backgrounds into engineering employment.

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“We are sharing the power of the brands and going out together – this is the best part of the project. You are not dealing with this as separate companies, you are dealing with this as an industry.”
3.0 Engineering Engagement Programme pilot project

Established by the Academy in 2015, EEP was set up to remove some of the barriers faced by students from underrepresented groups seeking engineering employment, and to encourage employers to recruit a more diverse workforce from the UK engineering undergraduate cohort.

3.1 Aims, objectives and outcomes

The project aimed to provide a vehicle for engineering employers to proactively widen the reach of their engagement with ethnic minority, female and socio-economically disadvantaged engineering and technology students and recent graduates (first degree undergraduate and postgraduate taught students) from across a wide range of universities. It was anticipated that during the course of the project, some of the targeted students would take up graduate employment; while others would secure internships and placements before they graduate, leaving them better placed to secure employment after completing their courses.

The project aimed to deliver the following six key outcomes:

- A diverse range of students – with a diversity profile of approximately twice the 2013/14 engineering graduate population, for example:
  - at least 30% female
  - at least 60% ethnic minority
  - at least 80% from post-92 universities and/or from socio-economically disadvantaged backgrounds (for example, in receipt of financial aid such as free school meals, first generation in family to go to university, or from a single parent background).

- A widening of the pipeline and increase attraction of these students towards the employers involved.

- An increased diversity in engineering employment among the employers involved and an increased capacity to address their future skills needs.

- An increased sharing of good D&I practice among the employers involved and increased collaboration for the good of the profession rather than competition between individual employers.

- Increased employability of the engineering students involved.

The project was run over three phases between 2016 and 2018:

- Phase 1 – to March 2016
- Phase 2 – to March 2017

The Academy established a steering group consisting of the following representatives:

- the Academy
- the Engineering Council and representation from PEIs
- the following engineering employers:
  - AECOM
  - Amey
  - Arup
  - Atkins
  - BAE Systems
  - Capita
  - CH2M
  - Leonardo
  - Metaswitch Networks

17 For simplicity throughout this report, the term ‘student’ (as a participant of the project) refers to those who were still studying at a university at the time, as well as those who had very recently graduated (i.e. within 12 months) and were still seeking employment. In the event, most participants were still studying and were not recent graduates.

18 Yorke, 2006 defines employability as: ‘A set of skills, knowledge and personal attributes that makes an individual more likely to secure and be successful in their chosen occupation(s) to the benefit of themselves, the workforce, the community and the economy.’ (‘Employability in Higher Education: what it is – what it is not’ www.heacademy.ac.uk/resource/employability-higher-education-what-it-what-it-not)

19 Capita and Renishaw were initially involved, but withdrew from the project during Phase 2.
Network Rail
Renishaw
Rolls-Royce plc
Siemens
Thales

In addition, an independent evaluator was appointed to support, advise and report on any evidence collected that showed impact on the students and employers involved as the project developed. Further details of the evaluation methodology can be found at Appendix 1.

3.2 Programme content

In October 2014, a steering group of 12 of the above engineering employers came together to collaborate, design and deliver an engagement programme to address the barriers in section 2.4. They agreed the outcomes in 3.1 and contributed to the identification of an external supplier to craft the programme. Specific action to address barriers included:

- **Review of qualification criteria** – gaining insight into engineering employer degree requirements and exploring potential to extend recruitment criteria to include those with lower second class degrees.

- **Target universities** – included a focus on non-Russell Group universities, although those from socio-economically disadvantaged backgrounds in Russell Group universities could take part.

- **Focus on the recruitment of UK ethnic minority engineers** – only students with a legal right to work in the UK would be targeted.

- **Recruitment diversity monitoring** – all engineering employers were asked for past data on their female and ethnic minority graduate recruits at the start, and periodically to track progress throughout the programme.

- **Access to work experience and internships** – all employers were encouraged to share their timelines and processes for graduate recruitment, and to identify students to engage with further outside the prescribed programme.

- **Conscious and unconscious bias** – Employers on the steering group were also asked to take action to review and further embed inclusive recruitment policy and practice within their organisations.

- **Potential candidates self-selecting out** – all students engaged in the programme were actively encouraged to apply for opportunities at steering group companies. Company representatives attending engagement events were briefed to engage positively with students even if they were not studying degrees of interest to their organisations as the EEP was seen as an opportunity to promote the sector more generally.

- **CSR v recruitment** – all steering group members strongly agreed that the programme should sit within the recruitment functions of their organisations.

In April 2015 after a competitive tendering process, the steering group appointed SEO London as the delivery partner for the EEP. The programme involved:

- identifying and targeting ethnic minority, female and socioeconomically disadvantaged engineering and technology students and recent graduates from a wide range of universities across England, offering and supporting them through a bespoke engagement programme

- linking them to engineering employers, and other opportunities to enhance their employability

- increasing engineering employer capacity and confidence in attracting and engaging with a wider range of universities and diverse engineering and technology students.

During each phase, SEO London ran three or four, one- or two-day EEP events that included the following elements:

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Note: Thales joined during Phase 3.
“The workshops were invaluable and far more insightful than any kind of support and advice I receive at my own university!”
1. **Recruitment** - based on steering group company requirements, SEO London identified, targeted, recruited and supported a diverse range of engineering students to take part. This involved:

- an ongoing campaign with university engineering contacts and diversity groups; and promotion of the programme to individual students using social media, email and other communications
- maintaining a list of students who expressed interest, filtering and supporting them to attend an EEP event best suited to them
- monitoring throughout to ensure the project's diversity profile was met (for example, female, ethnic minority, post-92 university/socioeconomically disadvantaged background) and targeting others as needed
- gathering feedback from students to inform pilot evaluation and improve delivery.

2. **Developing employability** - the targeted engineering students undertook training on employability skills aimed at improving their knowledge of engineering employment opportunities, selection processes and recruitment timelines. Typically, over a two-day EEP event, the busy schedule included sessions led by steering group employer representatives, SEO London and others on:

- which engineering career path?
- competency, strengths-based and technical interviews
- personal branding and CV workshop
- effective networking
- maximising a mentoring relationship
- presentation skills
- Q&A session with a panel of engineers
- introductions to the Royal Academy of Engineering, professional registration and the Engineering Council
- speed networking (see below).

3. **Contact with a range of employers** - the targeted engineering students took part in a 'speed networking' session, where small groups of students and recent graduates met with each employer in turn to enable both parties to ask and answer questions about any opportunities they both offer each other. Employer contact and student CV details were shared in advance of meetings for later follow-up by the employers, and to support students' applications.

4. **An option for employers to mentor some students through to employment** - employers were encouraged to offer mentoring opportunities to engineering students after the EEP events.

5. **An option for students to receive support from SEO London after EEP events** - SEO London could provide guidance on careers, CVs, assessment centres, psychometric tests, applications, mock interviews and access to SEO London's alumni network.

3.3 **Programme impact**

This section provides an overview of the pilot project’s outcomes in terms of the profile of students engaged and the impact on them, the impact on employers and pilot conclusions.

**Student participation**

This section gives an overview of the profile of students involved in the EEP including their backgrounds, engineering discipline and year of study.

All data and other information in this section is based on available data compiled in February 2018. A full profile of the student participants over the course of the project can be found in Appendix 2.

- Over the three years of the project, a total of 468 students and recent graduates took part - with 151 in Phase 1, 136 in Phase 2 and 181 in Phase 3 (figure 1).
- Over the three years of the project, a total of 468 students and recent graduates took part - with 151 in Phase 1, 136 in Phase 2 and 181 in Phase 3 (figure 1).
- On average over the three years, 30% of the student participants were female as shown in figure 2.
On average over the three years, 91% of the student participants were from ethnic minority backgrounds (figure 3).

On average over the three years, 76% of the student participants were either from post-92 universities or met the socioeconomic disadvantage criteria. As the project developed, these students were increasingly targeted and the proportion of students from outside the Russell Group of universities and from socioeconomically disadvantage students increased (figure 4).

Over the three years, the student participants came from a wide range of engineering-related university degree disciplines (or postgraduate disciplines) (figure 5).

Over the three years, the number of students expecting to graduate in a given academic year varied in each phase of the project. Figure 6 gives insight into how the impact of the pilot is likely to grow over time.

Impact on students

The impact was assessed through feedback from individual students and a review of data gathered on overall employment and work placement opportunities secured during the pilot. However, it should be noted that as many of the participants are still to graduate, or apply for opportunities, a full assessment of employment outcomes for students engaged will take time to accrue.

Data gathered on engineering employment-related opportunities secured by students

SEO London kept in contact with as many of the 468 students and recent graduates as possible who took part in phases one, two and three. The organisation asked about success in applications made for placements, internships or graduate employment with engineering employers (whether from the steering group or others) since taking part, and up to the start of 2018 (phase three having only recently attended the EEP). This data collection process was also
“Speaking to employees of the companies involved and getting insight into their job was inspiring and convinced me to apply”
Table 7: Range of opportunities secured by 91 of the 287 students who took part in phases one and two (see appendix 2 for more on the profile of students who took part in the pilot)
Feedback from students

SEO London gathered feedback from students on their perceptions of the programme’s impact throughout all three years of the pilot, using a questionnaire at the end of each engagement event. The majority of students commented that their understanding had improved.

Key impacts reported are highlighted below.

Students highlighted that the programme has increased their employability in engineering in terms of the following, with largest increases in the top three:

a. Accessing employment opportunities with engineering companies taking part in the EEP.

b. Understanding the different career progression paths offered by the participating engineering companies.

c. A better understanding of the range of recruitment selection processes engineering firms adopt.

d. Improved knowledge of the general range of engineering employment opportunities available.

e. Better knowledge of the recruitment timelines for participating firms.

Comments from student participants:

“Rare opportunity to meet and network with the recruitment people at each of the big firms as it can be frustrating to apply and get rejected with no feedback as to why. The workshops were invaluable and far more insightful than any kind of support and advice I receive at my own university!”

“The opportunity to speak to individuals currently employed within the field and explain the opportunities that were made available to them helped considerably.”

Impact on employers

The impact of the EEP on diversity across the participating companies and beyond is increasing, as students are better equipped to secure opportunities with employers not involved in the programme. As illustrated in the previous section, many of the students engaged are yet to complete their degree courses so it is anticipated that the impact on employers will also grow over time. However, early indications are encouraging with employers giving favourable feedback on progress against the six outcomes outlined in section 3.1. Through feedback to the project evaluator, employers reported the following impact:

1. Improved engagement with a diverse cohort of engineering undergraduates/recent graduates – as detailed in the previous section.

2. Agreement that the project is helping to widen the pipeline of potential graduates and making their companies more attractive to participating students.
Comments from employers:

“We usually employ Oxford and Cambridge white males... and here we met a real diversity of universities and social backgrounds, so it’s definitely attracting a range of students - it ticked all the boxes.”

“It enabled us to engage with people that we might not normally get to, and existing prejudices can often mean that people are sifted out without the opportunity to get in front of us…”

“A lot of these candidates wouldn’t even have heard of [company name]. We are reaching out to candidates we wouldn’t have had the opportunity to speak to before.”

“We have found some really good students. We are excited and they have applied here.”

3. Agreement from many employers that the project has increased diversity in employment in their organisations. Steering group organisations and other companies have recruited some students from the programme in graduate roles, placements and internships. However, some employers found it challenging to track which students had applied and give an accurate assessment of impact, while others felt it too early to judge.

Comments from employers:

“The recruitment team says just having their [students] CVs is like gold dust.”

“Just this year we have already had 24 [participating students] in the pipeline for graduate roles, and 61 for placement. Even though they don’t all make it, at least we have attracted them in the first place.”

“We haven’t been able to track in the last couple of years. In the past, we have just attended and not actively engaged and tracked the students at our end.”

“Just this year we have [recruited EEP participants] ... last year we couldn’t even collect this data.”

“Very hard to quantify whether any of our increased diversity is linked to the project. However, it does highlight diversity when we send CVs out [to managers] - especially for placements.”

4. Employers agreed that the project had given the opportunity to share inclusive recruitment practice and learn from others, and that there was more collaboration on D&I in general despite a small turnover in employer representation in the steering group throughout the duration of the pilot.

Comments from employers:

“Being involved in this project has started to make us re-think how we are perceived in the market place and how we operate internally.”

“It has helped our connections with [BAME communities within the company] ... it helps with integration of existing employees, and maybe their retention.”

“The project is another thing to keep diversity on the agenda, and make it wider than just about women.”

“The project is a good forum for sharing inclusive recruitment practice, and these ideas are shared in-house and learned from ...”

“We are sharing the power of the brands and going out together – this is the best part of the project. You are not dealing with this as separate companies, you are dealing with this as an industry.”

5. Employer representatives on average agreed that the project had increased the employability of the participating engineering students.

Comments from employers:

“You see them [students] changing over the course of the two days – they come in nervous and then later you see them quite confidently speak to managers.”

“The students were so pleased to now have confidence to put in an application and put a foot in the door.”
3.4 Conclusions

The main conclusion from the pilot is that its full impact is yet to be realised because:

- it is attempting to address barriers deeply rooted in engineering culture and practice
- many students who have taken part are yet to graduate or seek out employment opportunities
- the lack of diversity monitoring across engineering employer organisations.

Other conclusions from the evaluation are that:

a. Recruiting students from the target groups requires significant, ongoing effort to address both student and employer perceptions, behaviours and recruitment outcomes.

b. Long-term commitments from employers for a programme of intervention should be established, such that they can advise on the targeting of students, contribute to the advice that students receive, and make direct face-to-face contact with future potential employees. Flexibility is needed on all sides to match students' skills and situations with employers' different needs and opportunities.

c. Direct face-to-face contact is a key factor in changing employer perceptions of students from underrepresented groups – and vice versa. Employers tend not to have the same level of access to underrepresented groups, and in some cases, may not be convinced of the need to engage with them. At the same time, students from underrepresented groups have lower overall confidence and/or lack social networks to support successful engagement with the employers to the same extent as white male engineers. Feedback from individual employers supports the view that several students/graduates who, under usual circumstances would not have been considered for roles, were successful as a result of face-to-face meeting.

d. Timescales need to be longer than the three-year pilot commitment and employers engaged in this type of activity need to temper expectations of any rapid impact on employer recruitment.

e. Work in this field requires employers to consider, from the outset, how they will collect evidence of longer-term impact on students or other applicants.

f. Fine-grained diversity information needs to be collected and analysed at each stage of the recruitment process. Tracking systems used by employers need to be able to follow applicants through the stages of application, such that diversity can be analysed throughout.

g. Close attention should be paid to students' issues with regards to geographic location and travel to events (and more generally for employers' interviews and assessment centres) so that they are more likely to take part and any socio-economic barriers addressed.

As a result, it is recommended that the programme is delivered for an extended period of time to allow for a comprehensive assessment of impact.
4.0 Learning for the engineering profession

All intended outcomes for this project have been met to a greater or lesser extent. Based on limited evidence to date, early indications are that the EEP is a useful vehicle for promoting more inclusive engineering graduate recruitment. However, although the Academy intends to follow-up the three-year pilot with an ongoing programme, employers should consider how to take action in their own organisations to achieve maximum impact. Learning from the pilot outlined below provides information that all engineering employers can use to inform action on increasing the diversity of their graduate recruits.

4.1 Lessons learned

Learning one: diverse students need active encouragement and social capital

There is a diverse range of qualified engineering students available to employers, but many students from diverse groups and newer universities need advice and contacts to support their transition into engineering employment.

Action:
Inclusion for all groups is a fundamental part of our ‘Everyone Strategy’. One objective is - “to develop a safe, inclusive and fair culture where people feel respected, engaged and able to speak out”. The methods for achieving this are:

- Interventions (such as this project) offering careers advice, insights into the profession, face-to-face opportunities to meet employers, internships, placements, other employment opportunities as well as explicit encouragement are most likely to succeed in increasing diversity of engineering graduate recruitment.

- Employers should pay close attention to the location of events to ensure participation is maximised and, where possible, students engaged locally to meet need.

Learning two: interventions need to be long term

Recruiting students from the target groups, especially in the non-Russell Group universities, requires significant, ongoing effort. There is no quick-fix, long-term intervention is necessary to address both student and employer perceptions, behaviours and recruitment outcomes. Long-term employer involvement is critical to increasing the diversity of graduate recruits - either by shaping collaborative projects like the EEP, or through individual employer action.

Action:

Employers need to take action to:

- determine the targeting of students in terms of background and university discipline
- contribute to the advice students receive about recruitment practice and potential careers
- make direct face-to-face contact with future potential employees - especially those for underrepresented groups - and actively encourage them to apply for employment opportunities
- set up and maintain contact with other employers to share practice in the field of inclusive recruitment.
“The **advice** given by the employers who attended is **invaluable** and wouldn’t have otherwise been possible to get.”
Learning three: transparency of recruitment practice and networking are effective

Using two-day events to increase student employability by exposing them to the breadth of engineering careers, employer recruitment practices and preparing them to speed network with engineering employers (who in turn encourage them to apply for roles within their organisations) is an effective approach to increasing engagement between engineering employers and diverse engineering graduates. In addition, many employers extended their engagement with students by inviting them to their organisations, and in some cases, recruited students as a direct result.

During the pilot, there were two attempts at following up the two-day events with mentoring and other activities offered by the external provider. The mentoring aimed to pair students with employer mentors. However, employer capacity and pilot resourcing made it difficult to establish an ongoing mentoring strand.

Action:
- Opportunities should be established for direct and focused discussions between employers and groups of students.
- Mentoring is an effective way to engage and support students into engineering. However, such activity requires clear aims, outcomes and timescales so both students and employers are clear about potential benefit, outcomes and commitment. When delivering mentoring between diverse mentors and mentees, it is desirable, where possible, to provide opportunities for both sides to meet face-to-face to build trust, relationships, and confidence in and commitment to the process.

Learning four: Recruitment data needs to inform evaluation

Long-term evaluation of impact is necessary but not straightforward. In some cases, it is difficult to link cause and effect. Firstly, there are many influences on students’ ability to find employment, and employers use many ways to recruit and increase the diversity of their workforce. Secondly, students are difficult to track over time, and in many cases, employers do not have resource in place to collect the data necessary to assess the impact of diversity-related programmes such as the EEP. This applies to being able to easily identify EEP students who applied to their organisations, as well as those successfully recruited.

Action:
- Work in this field requires employers to consider, from the outset, how they will collect evidence of recruitment outcomes for graduates from diverse backgrounds, over and above short-term reactions to participation in networking, mentoring or other interventions to engage them.
- Fine-grained diversity information needs to be collected and analysed at each stage of recruitment processes. Tracking systems used by employers need to follow applicants through the stages of application, such that diversity can be analysed throughout.
Appendix 1: Evaluation methodology

The purpose of the evaluation

The steering group appointed an independent evaluator (David Shakespeare, Square 2 Learning Ltd) to:

- consider and report on the student-related evidence of impact that SEO London collected
- evaluate and report on the evidence of the project's impact on steering group employers
- advise SEO London, the Academy and the steering group on all evaluation activity around the project as it developed.

In terms of evaluation, SEO London were charged with:

- collecting evidence to support the evaluation of programme's impact on the students and recent graduate cohort.

The approach to the evaluation

As a pilot, the programme was set up to be evaluated *formatively* throughout the work, and *summatively* towards the end of each phase of the pilot, with an eye to the next phase of development. Both SEO London and the independent evaluator provided formative elements throughout the programme. It was agreed that all evaluation reports to the Academy (including this one) should be pragmatic and produced with project management in mind – for example, what has worked well, what has worked less well, and any lessons that could improve similar work in future.

In all this, the Kirkpatrick model of evaluation was used as a basis. It focuses on four levels of evaluation evidence, as follows:

- **Level 1 - Reaction** – what participants thought and felt about a programme or event.
- **Level 2 - Learning** – any increase in knowledge, skills or change in attitudes because of participation in a programme or event.
- **Level 3 - Behaviour** – any transfer of knowledge, skills or changed attitudes because of participation in a programme or event.
- **Level 4 - Results** – participants’ final outcomes that occurred because of their participation in a programme or event.
### The evidence base of the evaluation

To gauge progress against the project’s intended outcomes, the evaluation was able to draw on sources of evidence including those outlined below:

<table>
<thead>
<tr>
<th>Intended outcome</th>
<th>Sources of evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attraction of students who match the diversity profile specified by the steering group</td>
<td>data on students/recent graduates targeted and attracted to the engagement programme <em>(collected by SEO London)</em></td>
</tr>
<tr>
<td></td>
<td>feedback from steering group employers about diversity of programme participants <em>(collected by independent evaluator)</em></td>
</tr>
<tr>
<td>A widening of the pipeline and increased attraction towards steering group employers</td>
<td>feedback from programme participants <em>(collected by SEO London)</em></td>
</tr>
<tr>
<td></td>
<td>feedback from steering group employers about attraction of programme participants towards them <em>(collected by independent evaluator)</em></td>
</tr>
<tr>
<td>Increased diversity in engineering employment</td>
<td>data on students/recent graduates progress having applied to and/or recruited to steering group employers <em>(collected by SEO London)</em></td>
</tr>
<tr>
<td>Increased capacity to address future skills needs</td>
<td>feedback from steering group employers <em>(collected by independent evaluator)</em></td>
</tr>
<tr>
<td>Increased sharing of good D&amp;I practice in engaging graduates</td>
<td></td>
</tr>
<tr>
<td>Increased collaboration for the good of the profession rather than competition between individual employers</td>
<td></td>
</tr>
<tr>
<td>Increased employability of black and ethnic minority engineering students</td>
<td>data on students/recent graduates progress having applied to steering group employers <em>(collected by SEO London)</em></td>
</tr>
<tr>
<td></td>
<td>feedback from programme participants <em>(collected by SEO)</em></td>
</tr>
</tbody>
</table>

### Evidence collected by SEO London

1. **EEP student participant data:** this included gender, ethnicity, university, course of study, year of graduation, social mobility indicator (i.e. in receipt of financial aid at secondary school; first generation to attend university etc.)

2. **EEP student participant ‘before and after’ feedback:** students were asked to use an online survey questionnaire both before an EEP event (to set up a baseline measure) and then a similar questionnaire after an EEP event (to compare with the baseline). In conjunction with the independent evaluator, these included questions relating to reaction to the activities, what they have learned, and any changes in attitudes and behaviours. As such, they included questions related to the EEP sessions themselves, the intended outcomes of the project and the student participants’ career intentions.

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**Appendix 1**

Improving employment opportunities for diverse engineering graduates
3. **Monitoring data on actions of students and graduates after EEP events**: application, selection and recruitment data:

- Students or recent graduates who took part in phase one or two were asked to indicate (over the course of the whole project, right through to phase three) their status, and any successful applications for placements, internships or graduate employment with any engineering or other employers.

- Students or recent graduates from any phase who graduated in 2014, 2015, 2016 or 2017 were also asked to provide more detail about their employment position approximately six months after graduation, and any influences on their choices and success in gaining this employment. The intention was to allow for the possibility of comparison with wider national engineering graduate employment data from the Higher Education Statistics Agency’s Destinations of Leavers of Higher Education survey, which Careers Research and Advisory Centre analysed and published in 2016 for the Academy.

**Evidence collected or considered by the independent evaluator**

1. **Steering group documentation** – all steering group terms of reference, agendas, minutes, general correspondence and other documents, plus data on extent of steering group employer involvement throughout (i.e. attendance at meetings, sessions, provision of feedback etc.).

2. **Surveys with representatives from steering group employers** – semi-structured conversations carried out with each employer’s representative after each set of EEP events, with questions based around an agenda of:

   - **EEP sessions** - What worked well? What needs improving? Relevance of and engagement with the cohort of students. Any key differences or improvements since any previous events.

   - **The whole project** - the extent to which each of the project’s intended outcomes were met, plus any other impact or comments. Questions used prompts such as “To what extent do you agree that this project is attracting students that match the diversity profile you expected?” and respondents using a seven-point Likert scale (‘Very strongly disagree’ to ‘Very strongly agree’ (or ‘Don’t know’) before explaining their reasoning. Comments were recorded during the telephone meeting, and reviewed for clarity immediately afterwards. In this way, example comments from the telephone meetings presented in this report are not completely verbatim, but they are closely representative of the original.

3. **Data and other information as collected by SEO London** – as outlined above.

---

Appendix 2

Profile of student participants

<table>
<thead>
<tr>
<th>Profile</th>
<th>Success measure (as defined by steering group)</th>
<th>Group (self-reported by student participants)</th>
<th>Percentage of student participants in phase one 2015–16 (of 151)</th>
<th>Percentage of student participants in phase two 2016–17 (of 136)</th>
<th>Percentage of student participants in phase three 2017–18 (of 181)</th>
<th>Percentage of student participants in phases one, two and three combined (of 468)</th>
</tr>
</thead>
<tbody>
<tr>
<td>By gender</td>
<td>30% female</td>
<td>Female</td>
<td>31</td>
<td>29</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>69</td>
<td>71</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>By ethnicity</td>
<td>60% BAME</td>
<td>White</td>
<td>4</td>
<td>8</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>BAME</td>
<td>96</td>
<td>92</td>
<td>86</td>
<td>91</td>
</tr>
<tr>
<td>By social mobility</td>
<td>80% from either post-92 university or other social mobility criteria</td>
<td>Post-92 or other university</td>
<td>31</td>
<td>41</td>
<td>60</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Russell Group (with social mobility criteria)</td>
<td>41</td>
<td>30</td>
<td>23</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Russell Group (without social mobility criteria)</td>
<td>28</td>
<td>29</td>
<td>17</td>
<td>24</td>
</tr>
<tr>
<td>By university degree discipline</td>
<td></td>
<td>Civil engineering</td>
<td>10</td>
<td>13</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mechanical engineering</td>
<td>27</td>
<td>35</td>
<td>31</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Electrical/electronic engineering</td>
<td>7</td>
<td>9</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Chemical/process engineering</td>
<td>23</td>
<td>7</td>
<td>18</td>
<td>16</td>
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<tr>
<td></td>
<td></td>
<td>Computer science/computer engineering/software engineering</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>6</td>
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<tr>
<td></td>
<td></td>
<td>General or other engineering</td>
<td>15</td>
<td>25</td>
<td>18</td>
<td>19</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mathematics/sciences/other</td>
<td>10</td>
<td>5</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>
Profile of student participants by graduation year

<table>
<thead>
<tr>
<th>Graduation year</th>
<th>Number of student participants in ...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phase one 2015-16</td>
<td>Phase two 2016-17</td>
</tr>
<tr>
<td>2013</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>2014</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
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<td>2016</td>
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</tr>
<tr>
<td>2022</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>151</strong></td>
<td><strong>136</strong></td>
</tr>
</tbody>
</table>
Royal Academy of Engineering

As the UK’s national academy for engineering, we bring together the most successful and talented engineers for a shared purpose: to advance and promote excellence in engineering.

We have four strategic challenges:

Make the UK the leading nation for engineering innovation
Supporting the development of successful engineering innovation and businesses in the UK in order to create wealth, employment and benefit for the nation.

Address the engineering skills crisis
Meeting the UK’s needs by inspiring a generation of young people from all backgrounds and equipping them with the high quality skills they need for a rewarding career in engineering.

Position engineering at the heart of society
Improving public awareness and recognition of the crucial role of engineers everywhere.

Lead the profession
Harnessing the expertise, energy and capacity of the profession to provide strategic direction for engineering and collaborate on solutions to engineering grand challenges.
Royal Academy of Engineering

Diversity and Inclusion Programme Strategy 2016–2020

The Royal Academy of Engineering is leading a programme to increase diversity and inclusion across the engineering profession.

Vision:
An inclusive engineering profession that inspires attracts and retains people from diverse backgrounds and reflects UK society.

Mission:
Leading the engineering profession to challenge the status quo, stimulate cultural change and improve diversity and inclusion.