Understanding the culture of engineering: creating workplaces where all engineers thrive

Survey respondent demographics

In January 2017, the Royal Academy of Engineering (the Academy) conducted a survey to increase understanding of the culture of engineering, the extent to which it is inclusive, and what would make it more so. The Academy would like to thank every individual engineer who responded, and all the organisations that took time to promote and circulate the survey among their employees.

As a result of individual engineer and employer support, the Academy is delighted to report that 6,799 people working in engineering roles and on engineering projects across the UK responded. The survey has generated a huge amount of data that will be analysed to inform a final report, which will include findings, key messages and recommendations. This report will be shared widely during the summer months.

In the meantime, this infographic gives insight into the profile of respondents, including engineering and diversity characteristics, and aspects of work-life balance. Some of the demographics reflect what is already known about the engineering employment landscape, and in other cases, new information is presented.

1 Please note that the numbers have been rounded up so do not always add up to 100%.
Engineering characteristics

1. Engineering disciplines (n=6,799)

- Aerospace and avionics engineering 22%
- Defence engineering 9%
- Civil engineering 8%
- Software engineering 5%
- Petroleum, oil and gas engineering 5%
- Other 51%

49% of respondents work across five engineering disciplines.

2. UK economy sectors (n=6,799)

- Aerospace 35%
- Construction 13%
- Shipbuilding 9%
- Utilities 6%
- Public admin and defence 5%
- Other 32%

68% of respondents work across five sectors of the UK economy.

3. Main job location (n=6,630)

- Office based 83%
- Site based 10%
- Manufacturing 5%
- Other 2%

98% of respondents work across three engineering environments.

4. Job role (n=6,631)

- Apprentice 1%
- Graduate 10%
- Non-management 53%
- Management 26%
- Senior management 8%

More than half of respondents work in non-managerial roles.

5. Professional affiliation, registration and networks

While 66% of engineers are members of professional engineering institutions, only 48.4% are professionally registered.

Member of professional engineering institutions (n=6470) Yes 66%
Professionally registered engineer (n=6152) Yes 48%
Belong to employee network linked to diversity (n=5789) Yes 12%

6. Size of organisation (n=6,638)

- Less than 50 2%
- 51-250 4%
- 250-500 3%
- More than 500 91%

The vast majority of respondents (94%) work in organisations with over 250 people.

Total respondents 6,799

2 Sector of the UK economy http://bit.ly/1LnMgG7
7. Gender (n=6,631)
Male engineers make up a significant proportion of respondents to the survey. However, female engineers are well represented given that they make up between 8–10% of professional engineers in the UK.

8. Nationality (n=6,639)
Non-UK nationals make up 7% of the survey's respondents.

9. Ethnicity (n=6,040)
Black, Asian and minority ethnic (BAME) engineers make up 7% of respondents, reflecting the 6-7% working as professional engineers in the UK.

10. Age (n=6,524)
66% of respondents are over the age of 36.
11. Sexual orientation (n=6,609)
Lesbian, Gay and Bisexual (LGB) engineers make up 4% of respondents, with 5% preferring not to declare their sexual orientation.

- Bisexual 2%
- Gay man 1%
- Gay woman/lesbian 1%
- Heterosexual/straight 91%
- Other 1%
- Prefer not to say 5%

12. Disability (n=6,619)
5% of respondents have a disability.

- Yes 5%
- No 92%
- Prefer not to say 3%

13. Religion (n=6,631)
46% of engineers report having a religion.

- No religion 49%
- Christian 41%
- Buddhist 1%
- Hindu 1%
- Muslim 1%
- Other 2%
- Prefer not to say 4%
14. Flexible working, either formal or informal (n = 6,639)
More than half of the respondents to the survey report working flexibly

- Respondents not working flexibly: 44%
- Respondents working flexibly: 56%
  - Of respondents working flexibly, the most popular form: ad-hoc remote working/working from home: 59%

15. Caring responsibilities (n = 6,626)
Of the 24% of respondents with caring responsibilities, over half are primary carers

- Respondents with no caring responsibilities: 76%
- Respondents with caring responsibilities: 24%
  - Caring for...
    - Children: 76%
    - Adult: 17%
    - Both children and adult: 7%

- Respondents with no caring responsibilities: 76%
- Respondents with caring responsibilities: 24%
  - Primary carer (n = 1,591)
    - Primary carer: 51%
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; address the engineering skills crisis; position engineering at the heart of society; and lead the profession.

Diversity and Inclusion Programme Strategy 2016–2020
The Royal Academy of Engineering is running 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.

The programme has five strategic aims: challenge the status quo; demonstrate leadership; sustain and extend current relationships; communicate and consult; and publicise success measures and benchmarks.

For more information on the Academy’s diversity and inclusion programme, visit
www.raeng.org.uk/engdiversity
or email diversityteam@raeng.org.uk

This document can be downloaded from www.raeng.org.uk/inclusivecultures