

# Brexit doubts persist as average falls

**The Engineer's 2018 survey shows a small decrease in earnings overall, oil and gas once again topping the league and a growing gender disparity**

**T**he past 12 months have been a period of considerable uncertainty in the UK. Despite relief over the Government finally agreeing the terms of a post-Brexit transition period with the EU, concerns over the extent of the UK's future trading relationship with member states after

this period have continued to dominate the headlines.

And while the pound's weakness in the first half of this period helped to make UK exports more attractive to overseas buyers, there remain concerns about the impact Brexit will have on future investment into the UK.

Even the weather has added to the uncertainty, with the so-called Beast from the East cold snap followed by spells of unseasonably warm weather affecting both productivity and consumer spending. But how has all this uncertainty affected the UK's engineering sector? Have salaries and job security been impacted by doubts about the UK's future, and have some sectors of the industry been weathering the storm better than others?

There remain concerns about the impact of Brexit on investment into the UK

Each year, *The Engineer* surveys professionals from across the industry, to find out how much they earn, where in the UK they work and in which sector, and how they feel about their jobs. With 2,864 engineers taking part this year, from 11 different sectors, we have analysed the results to find out which industries and regions have the highest salaries, how large the gender imbalance within the profession is, and how satisfied respondents feel by their chosen career. By comparing this year's results with those of previous surveys, we can also reveal how things have changed for engineers over the last year or so.

The average salary for all engineers in 2018 is £47,896 a slight decrease on last year's average of £48,197. This compares reasonably well with other professions in the UK, sitting below those in strategy and consultancy on £57,554, qualified accountants on £53,887, and those in banking on £52,666, but above those in financial services on £47,250.

Of those surveyed, 61.2 per cent of engineers are concerned about the potential impact of Brexit on the

## £44.5k-£53.9k

### Average salary by sector

Oil & Gas	£53,913.00
Energy/Renewables/Nuclear	£52,653.00
Chemicals & Pharma/Medical	£50,890.00
Automotive	£48,967.00
Food & Drink/Consumer Goods	£48,155.00
Defence & Security/Marine	£47,968.00
Aerospace	£47,752.00
Materials	£47,130.00
Rail/Civil & Structural	£45,871.00
Academia	£44,774.00
None of these	£44,563.00
Telecomms & Utilities/Electronics	£44,504.36

# John Docherty FIRP – client development director, CBSbutler



We are delighted to be once again associated with this important national salary survey for the engineering industry.

It's worth reminding ourselves just how important the UK's engineering sector is to the economy: 19 per cent of the total UK workforce is in the sector, generating 23 per cent, or £1.23 trillion, for UK PLC. In a sector that demands 124,000 new hires a year while managing a skills gap

of 59,000, employers are seeking our experience at CBSbutler to help them meet their growth ambitions and retain their existing workforce. Their employees, on the other hand, are naturally keen to ensure their rare skills are being rewarded and recognised appropriately. This survey should help educate all of these important stakeholders.

With oil and gas yet to recover to historical levels, we are not surprised to see a slight drop in overall average salaries. However, engineering still offers graduate starting salaries 18 per cent higher than elsewhere. As more millennials become an embedded influence in the workplace, it is interesting to see how happiness and diversity have become key factors in the survey – subjects off most people's radar until quite recently.

A contented workforce is a productive workforce, right? With the happiest workers appearing to be in the academic sector, there is a clear indicator for employers to foster even closer relationships with universities and colleges to better understand why these working environments provide for a happy workforce.

Diversity is an increasing area of importance for employers – many of CBSbutler's clients are now aiming for one in four hires in the next five years to be female and from the BAME community. Some 7.2 per cent of our survey respondents were female, which is less than the 12 per cent which make up the female engineering workforce. In our view, a large part

of the skills shortfall can be addressed by attracting more women to engineering. This is in stark contrast to many European and International countries where a far greater proportion of technical staff are not men – we have a long road ahead in the UK to attract women into the profession.

For me, key findings were the high level of concern on Brexit – the UK has long been dependent on highly skilled migrant workers. An already large skills gap could be exacerbated by the ending of a key staffing route. We should be further alarmed by the worrying drop in apprenticeships since the introduction of the Apprenticeship Levy.

At CBSbutler we like to promote and champion opportunities, particularly in the untapped talents pools; women in STEM vocations and young people who still harbour stereotypical impressions of the sector.

With decades of experience in recruiting within engineering across a wide range of sectors, CBSbutler has specialist insight into both the challenges and opportunities afforded to job seekers. Well-qualified, highly trained and experienced engineers really do have a wealth of options at their disposal – both domestically and globally. Those individuals who prefer flexibility in their work will find strong demand, lucrative earnings and continuity of employment.

The Government's Year of the Engineer has been a positive campaign tackling the engineering skills gap and aiming to widen the pool of young people who join the profession. We finally see a national outreach programme that is working with hundreds of business partners who are trying to encourage young people and their parents to take a closer look at engineering. We hope that this will encourage industries to inspire the next generation of engineers. With the introduction of the UK's Big Bang Fair and the Royal Academy of Engineering programme we can finally see some really engaging initiatives that will squash all preconceptions.

Overall, the engineering sector is clearly in rude health and offers interesting and well-rewarded careers. To maintain this buoyancy, however, we cannot afford to take our focus off attracting the best people from all parts of our society.

Lastly, I must say thank you to our respondents, all 2,864 of them! Without their input this report wouldn't hold its value.

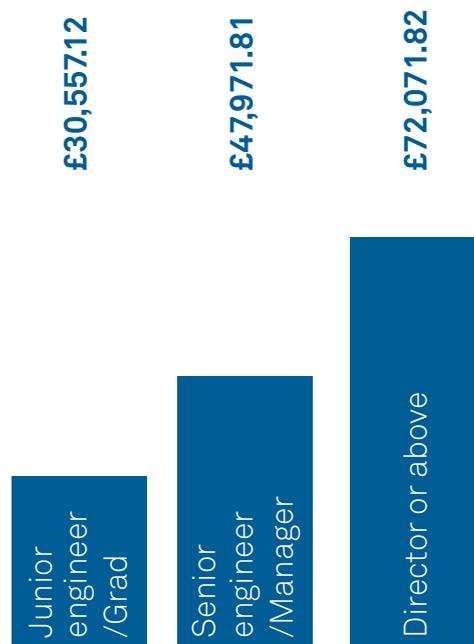
industry, a slight increase on last year. However, like 2017, only 37.1 per cent are worried about the impact of Brexit on their own job security.

Among the different sectors, once again engineers in the oil and gas industry command the highest salaries, with an average of £53,913. This is a slight decrease on last year's average salary in the sector, of £54,461.

Engineers in the energy, renewables and nuclear sector continue to earn the second highest salaries in the profession, with an average of £52,653, up from £51,953 last year.

Just under a quarter of those engineers surveyed are employed directly in the automotive and aerospace industries, a slight drop on last year's figure, while as in previous

## Average salary by seniority



years, three-quarters describe themselves as senior engineers or managers.

The manufacturing heartland of the West Midlands and East Anglia again employs the largest number of engineers, with a quarter of respondents based in the region. This is once again followed by London and the South East, where 21.8 per cent of respondents are based.

As in previous years, over 90 per cent of respondents are male, and just under 90 per cent are white, while over 80 per cent expect to remain in the profession for at least the next five years. Over the following pages we have analysed in greater detail what the findings of this year's survey tell us about the state of engineering in 2018.

# £47.8k

average salary for engineers in all sectors

# £53.9k

average salary in the oil and gas sector – the highest-paid

# average salary by industry

The highest average salaries are found at director level in the Automotive sector

# £121.8K

## Junior Engineer

Chemicals & Pharma/Medical	£36,838.24
Aerospace	£32,920.00
Oil & Gas	£32,845.71
Materials	£32,738.95
Energy/Renewables/Nuclear	£32,580.63
Automotive	£32,162.75
Rail/Civil & Structural	£29,193.55
Defence & Security/Marine	£29,157.89
Academia	£28,817.78
None of these	£28,445.71
Food & Drink/Consumer Goods	£27,802.31
Telecomms & Utilities/Electronics	£25,958.48

## Senior Engineer / Manager

Oil & Gas	£55,433.69
Energy/Renewables/Nuclear	£52,532.40
Aerospace	£50,014.91
Chemicals & Pharma/Medical	£49,350.71
Automotive	£48,908.24
Rail/Civil & Structural	£47,825.74
Defence & Security/Marine	£47,438.75
Food & Drink/Consumer Goods	£47,187.71
Materials	£47,107.78
Telecomms & Utilities/Electronics	£46,356.24
None of these	£43,664.97
Academia	£41,985.00

## Director or above

Automotive	£81,226.67
Academia	£81,185.56
Defence & Security/Marine	£79,857.86
Food & Drink/Consumer Goods	£79,393.33
Chemicals & Pharma/Medical	£77,501.67
Energy/Renewables/Nuclear	£76,226.79
Materials	£68,276.15
Aerospace	£67,511.88
None of these	£66,970.00
Oil & Gas	£66,795.26
Telecomms & Utilities/Electronics	£64,638.08
Rail/Civil & Structural	£62,865.00

## 1. seniority

This year, 85.1 per cent of respondents to our survey describe themselves as senior engineers or above. This is a slight increase on last year, but continues to reflect the seniority levels of the overall audience of *The Engineer*.

Of those surveyed, senior engineers continue to make up the largest group, at 44.7 per cent, which is strikingly similar to the 2017 figure. Managers make up the second largest group, at 30.2 per cent, followed by junior engineers at 12 per cent, directors at 7 per cent, chief executives at 3.2 per cent and graduate trainees and apprentices at 3 per cent.

For the majority of engineers responding to our survey, average salaries have remained fairly static year on year, with relatively minor fluctuations both up and down. Senior engineers and managers saw their pay decrease from £48,102 in 2017 to £47,971 in 2018. Junior engineers and graduate trainees have seen a small increase in average pay, from £29,020 in 2017 to £30,557 in 2018.

However, those describing themselves as a director or above have somewhat surprisingly seen a slight drop in their average salaries over the past twelve months, declining from £75,825 in 2017 to £72,071 in 2018.

This drop is even more striking in the oil and gas industry, which is typically the sector offering the most generous pay packages, where those describing themselves as a director or above have seen their average salary decrease from £81,805 in 2017, to £66,795 this year.

## For the majority, average salaries have remained fairly static this year

By contrast, in academia, which is often at the bottom end of the table for directors' pay levels, average salaries have increased from £58,500 in 2017 to £81,815 in 2018. This puts those in the sector just behind the top paid directors in our survey, those in the automotive industry.

While the unexpected results for directors are possibly skewed by the relatively small size of the sample group, respondents describing themselves as senior engineers and managers account for a far more robust sample group and here the picture is more in line with previous years, with those in the oil and gas industry earning the highest average salaries of £55,433 in 2018. This is over £10,000 more than their equivalent senior engineers and managers in academia, who earned £41,985 on average.

As in 2017, junior engineers in the chemicals, pharmaceuticals and medical industry had the highest average salaries in 2018, at £36,838. This is once again over £10,000 more than the average salary for junior engineers in the telecoms, electronics and utilities industry, who took home £25,958 in 2018.

The average age is 45.8, almost exactly the same as in 2017. Once again almost half are 50 or above. The percentage of female directors, managers and senior engineers is broadly the same as the overall picture for the profession, at around 5 per cent.

## 2. regions

As our survey demonstrates, British engineers can be found working throughout the UK and beyond.

The largest group of engineers can once again be found in the traditional manufacturing heartlands of the Midlands and East Anglia. However, this percentage has seen a gradual decline over the last few years, dropping from 29.8 per cent in 2016, to 27.9 per cent in 2017, and down to 24.8 per cent in 2018.

In contrast, the percentage of engineers working in London and the South East has increased slightly, up from 20.4 per cent in 2017 to 21.8 per cent in 2018. This is closely followed by the North of England, where 17.1 per cent of engineers say they are based, the South West, on 12.7 per cent, outside the UK, on 14 per cent, and Scotland, Wales and Northern Ireland on 9.7 per cent.

Once again, the highest earners are engineers working in London and the South East, with an average salary of £50,880, although this is a slight decrease on their average salary for 2017 of £51,743.

### Where are the UK's engineers?

Midlands or East Anglia	24.8 %
London or South East	21.8%
North	17.1%
Outside UK	14%
South West	12.7
Scotland, Wales or NI	9.7

Of all the engineers working in London and the South East, those in oil and gas earn the highest average salaries, at £66,636. This is followed by engineers in the materials industry, with an average of £59,857. Engineers in the South East's telecoms and utilities industry earn the lowest in the region, on average, at £44,896.

Professionals working overseas earned the second highest regional salaries last year, with an average of £50,505. Perhaps unsurprisingly, those working in the overseas oil and gas industry received the highest average earnings, at £62,002, closely followed by those in the overseas aerospace industry, on £61,461.

At the other end of the spectrum, engineers working in Scotland, Wales and Northern Ireland have dropped below their colleagues in the South West of England to earn the lowest average salaries, at £44,404.

Despite being the highest earners, engineers in London and the South East are amongst the least likely to be happy with their pay, at 29.5 per cent, down from 37.6 per cent in 2017. This may be explained by the slight drop in average earnings of engineers in this region.

Engineers in the Midlands and East Anglia are the most likely to be happy with their pay, at 35.7 per cent. Indeed, engineers in the manufacturing heartland appear most satisfied overall, as they were also the most likely to say they are happy in their job, at 53.7 per cent.

#### Midlands or East Anglia

Energy/Renewables/Nuclear	£52,196.08
Automotive	£51,614.75
Chemicals & Pharma/Medical	£51,586.21
Food & Drink/Consumer Goods	£49,620.00
Academia	£48,000.00
Telecomms & Utilities/Electronics	£47,307.69
Rail/Civil & Structural	£47,222.22
Defence & Security/Marine	£46,941.18
Aerospace	£45,954.55
Materials	£44,846.77
Oil & Gas	£43,615.38
None of these	£41,825.24

#### North (England)

Energy/Renewables/Nuclear	£61,138.89
Oil & Gas	£50,300.00
Defence & Security/Marine	£48,588.24
Chemicals & Pharma/Medical	£47,026.32
Academia	£46,769.23
Aerospace	£46,750.00
Food & Drink/Consumer Goods	£46,717.39
Automotive	£46,528.30
Materials	£44,478.26
Rail/Civil & Structural	£42,766.67
None of these	£39,626.87
Telecomms & Utilities/Electronics	£37,541.67

#### Outside UK

Oil & Gas	£62,008.33
Aerospace	£61,461.43
None of these	£60,212.79
Chemicals & Pharma/Medical	£54,740.37
Materials	£54,430.83
Telecomms & Utilities/Electronics	£49,301.46
Rail/Civil & Structural	£48,227.50
Energy/Renewables/Nuclear	£44,357.56
Food & Drink/Consumer Goods	£44,168.64
Automotive	£40,673.75
Academia	£39,204.00
Defence & Security/Marine	£38,837.14

#### Scotland, Wales or Northern Ireland

Chemicals & Pharma/Medical	£51,944.44
Energy/Renewables/Nuclear	£51,828.57
Oil & Gas	£48,500.00
Food & Drink/Consumer Goods	£48,000.00
Aerospace	£45,285.71
Rail/Civil & Structural	£45,250.00
Defence & Security/Marine	£43,047.62
None of these	£40,552.63
Academia	£39,666.67
Automotive	£39,363.64
Telecomms & Utilities/Electronics	£37,250.00
Materials	£36,250.00

#### South West (England)

Energy/Renewables/Nuclear	£52,000.00
Defence & Security/Marine	£49,740.00
Chemicals & Pharma/Medical	£48,733.33
Aerospace	£48,633.93
Food & Drink/Consumer Goods	£46,350.00
Oil & Gas	£46,307.69
Telecomms & Utilities/Electronics	£44,236.84
Academia	£42,714.29
None of these	£40,753.62
Materials	£40,428.57
Rail/Civil & Structural	£39,833.33
Automotive	£38,933.33

#### London or South East

Oil & Gas	£66,636.36
Materials	£59,857.14
Automotive	£56,954.17
Energy/Renewables/Nuclear	£56,259.26
Food & Drink/Consumer Goods	£52,555.56
Chemicals & Pharma/Medical	£51,453.13
Defence & Security/Marine	£51,229.17
Rail/Civil & Structural	£48,639.02
None of these	£47,790.91
Aerospace	£46,773.58
Academia	£46,500.00
Telecomms & Utilities/Electronics	£44,630.00

## average salary by seniority

Junior Engineer	£32,845.71
Senior engineer/manager	£55,433.69
Director or above	£66,795.26

# £53.9k

Average salary of an engineer working in the oil and gas sector

## average salary by region

Midlands or East Anglia	£43,615.38
West England	£46,307.69
Scotland/Wales or NI	£48,500.00
North of England	£50,300.00
Outside UK	£62,008.33
London or South East England	£66,636.66

## 3. oil and gas

The oil and gas industry has continued its gradual recovery this year, following a turbulent period for the sector.

With a rise in oil prices, and successful efforts to cut production costs, confidence in the industry is on the rise again. BP is planning to begin production at its Clair Ridge field in the North Sea later this year, while Shell has recently announced plans to develop the Penguins field north of Shetland.

Despite this renewed sense of confidence within the sector, average salaries for engineers in the oil and gas industry have dropped slightly this year, from £54,461 in 2017 to £53,913 in 2018.

This could be partly attributed to a drop in the average pay of directors in the sector, who have seen their salaries decrease from £81,805 in 2017, to £66,795 this year, although this may be partly the result of a small sample size.

The sector is still the highest paid overall, however, and boasts the highest-paid senior engineers and managers of any industry.

Engineers working in the oil and gas industry accounted for 6.7 per cent of respondents to our survey, a very slight reduction on last year's figure of 7.3 per cent.

The region with the greatest number of engineers working in oil and gas this year is the North of England (22.2 per cent), followed by London and the South East

### The sector boasts the highest-paid senior engineers and managers

(19.5 per cent), and outside the UK (18.4 per cent). Scotland, often seen as the heart of the UK's oil and gas industry, comes in fourth place, with 17.8 per cent of the sector's engineers based here.

Over half of all engineers in the oil and gas industry have worked in the sector for between 20 and 40 years, and nearly half have a degree.

Just over half of engineers in the sector are concerned about the impact of Brexit, a similar number to last year, while just under a third are worried about its impact on their own job security.

## 4. energy, renewables and nuclear

In April this year, Britain generated electricity without consuming any coal for over three days, the longest such period since the 1880s. Instead, the majority of electricity was generated from wind and gas.

Overall, coal accounted for less than 7 per cent of the power mix last year, which was the greenest on record.

But although the UK's energy mix is changing, salaries in the sector remain relatively stable, at an average of £52,653 in 2018, up slightly from £51,953 in 2017. Just like the previous two surveys, the energy, renewables and nuclear industry remains the second highest-paid sector, behind oil and gas.

### The industry boasts the highest percentage of our graduate engineers

Engineers from the sector make up 8.2 per cent of respondents to our survey, of whom 63.6 per cent work in the energy industry, 21.8 per cent work in nuclear, and 14.7 per cent in renewables.

Once again, the gender balance in the sector is similar to that of the profession as a whole, with women making up 6.2 per cent of our respondents. Meanwhile, 10.7 per cent describe themselves as non-white, compared with 8.1 per cent for the profession as a whole.

Directors in the energy renewables and nuclear sector earn an average of £76,226 in 2018, an increase on the average of £71,389 in 2017. Senior engineers and managers in the sector earn £52,532 on average, while junior engineers and graduates earn £32,580, up from £30,387 in 2017.

The industry boasts the highest percentage of graduate engineers of any of our sectors, with 57.8 per cent having obtained a degree.

Engineers in the sector are also among the most satisfied, with 54.2 per cent saying they are happy with their jobs, compared with 51.5 per cent for the profession as a whole. What's more, 39.6 per cent are satisfied with their salary, the highest percentage of any of the sectors, and a slight increase on last year's figure (38.8 per cent).

## average salary by seniority

Junior Engineer	£32,580.63
Senior engineer/manager	£52,532.40
Director or above	£76,226.79

# £52.6k

Average salary of an engineer working in the energy, renewables and nuclear sector

## average salary by region

Outside UK	£44,357.56
Scotland/Wales or NI	£51,828.57
South West	£52,000.00
Midlands or East Anglia	£52,196.08
London or South East England	£56,259.26
North of England	£61,138.89

## average salary by seniority

Junior Engineer	£36,838.24
Senior engineer/manager	£49,350.71
Director or above	£77,501.67

# £50.8k

Average salary of an engineer working in the chemicals, pharmaceuticals and medical sector

## average salary by region

North of England	£47,026.32
South West England	£48,733.33
London or SE England	£51,453.13
Midlands or East Anglia	£51,586.21
Scotland, Wales or NI	£51,944.44
Outside UK	£54,740.37

## 5. chemicals, pharmaceuticals medical

When it comes to productivity growth, the chemicals, pharmaceuticals and medical industry has experienced very mixed fortunes in recent years.

While growth in the chemicals sector has outperformed that of key international competitors, the pharmaceuticals industry “went sharply into reverse” after the financial crisis of 2008, according to a recent report by the EEF.

Pay growth in the sector has also gone into reverse this year, with chemical, pharmaceutical and medical engineers earning an average of £50,890 in 2018, compared with £51,750 in 2017.

Nevertheless, the sector remains the third highest-paid industry, after oil and gas and energy, renewables and nuclear.

Engineers from the sector make up 7.6 per cent of respondents overall, a slightly higher figure than last year. Of those, 7.3 per cent are female, more than double the percentage in 2017 (3.4 per cent), and slightly higher than the overall average for the profession.

This year, 6.4 per cent of respondents from the sector described themselves as non-white, down slightly from 2017 (7.8 per cent) but still significantly higher than 2016 (2 per cent).

Junior engineers and graduates in chemicals, pharmaceuticals and medical have the highest pay among all the sectors, at £36,838, compared with the

### Engineers of all seniority levels are the most likely to feel valued in their role

average for all sectors of £30,557. Directors and senior engineers and managers in the sector also earn above-average salaries for engineering as a whole.

Engineers of all seniority levels in the sector are the most likely to feel valued in their role, with 44.8 per cent saying they feel appreciated by their employers. They are also the third-happiest with their jobs (54.4 per cent), and fourth-happiest with their pay (35.1 per cent), although this is a reduction on last year’s figure (40.8 per cent).

Concern among chemical, pharmaceutical and medical engineers about the potential impact of Brexit on the industry is marginally higher than among engineers overall, at 65.4 per cent compared with 61.2 per cent. This is slightly higher than last year (62.5 per cent), showing the Government has so far done little to calm fears about the consequences of Brexit for the sector.

## 6. automotive

The UK's car industry, for many years a significant manufacturing success story, has been struggling in recent months.

Concerns about future customs arrangements post-Brexit, and a drop in both overseas and particularly domestic demand for cars have led to fears over future growth in the sector. These fears have been fuelled by announcements of job losses at car makers such as Jaguar Land Rover, and concerns about the Government's lack of support for diesel vehicles.

Despite recent job losses, however, the industry remains a huge employer, and that can be seen in the

## average salary by seniority

Junior Engineer	£32,162.75
Senior engineer/manager	£48,908.24
Director or above	£81,226.67

## Engineers in automotive are broadly content, with over half happy in their jobs

respondents to our survey, of whom engineers in the automotive sector consistently make up the biggest group. In 2018, 12.3 per cent of respondents described themselves as automotive engineers.

The average salary of those responding to our survey from the sector in 2018 is £48,967, up marginally from 2017 (£48,100), and very close to the average for engineering overall.

Both junior engineers and senior engineers and managers working in the automotive sector can also expect to earn salaries close to the overall average for engineers as a whole, at £32,162 and £48,908 respectively.

However, directors in the automotive industry are the highest earners among all our sectors in 2018, having seen their average salary increase from £74,992 in 2017 to £81,226 this year, although this jump may be the result of the sample size.

Automotive engineers working in London and the South East earn the highest wages, on average, at £56,954, up from £50,737 in 2017. By far the largest group of engineers from the sector responding to our survey (44.2 per cent) work in the Midlands and East Anglia, however.

Engineers in the automotive industry are broadly content, with over half happy in their jobs and 35.7 per cent content with their salary, putting them second only to those in the energy sector. They are also the most likely to expect to remain in the industry for the next five years, at 85.6 per cent.

# £48.9k

Average salary of an engineer working in the automotive sector

## average salary by region

South West England	£38,933.33
Scotland/Wales or NI	£39,363.64
Outside UK	£40,673.75
North of England	£46,528.30
Midlands or East Anglia	£51,614.75
London or South East England	£56,954.17

## average salary by seniority

Junior Engineer	<b>£25,958.48</b>
Senior engineer/manager	<b>£46,356.24</b>
Director or above	<b>£64,638.08</b>

# £44.5k

Average salary of an engineer working in the telecoms, utilities and electronics sector

## average salary by region

Scotland/Wales or NI	<b>£37,250.00</b>
North of England	<b>£37,541.67</b>
South West England	<b>£44,236.84</b>
London or SE England	<b>£44,630.00</b>
Midlands or East Anglia	<b>£47,307.69</b>
Outside UK	<b>£49,301.46</b>

## 7. telecoms, utilities and electronics

The UK has the sixth-largest electronics industry in the world, with an annual turnover of £98bn, according to the UK Electronics Skills Foundation.

Over 90 per cent of smartphones contain electronics designed in the UK, while 14 of the world's top 20 semiconductor firms have design and manufacturing sites in the country.

Engineers in the telecoms, utilities and electronics sector make up 9.6 per cent of respondents to our survey, a very similar percentage to 2017, and the joint second-largest group alongside aerospace engineers. Of these, almost 80 per cent work in electronics.

The average salary in the sector is £44,504, down from £46,567 in 2017.

More than a quarter (27.3 per cent) of engineers in the sector are based in London and the South East, closely followed by those in the Midlands and East Anglia (20.8 per cent).

Electronics engineers working overseas command the highest wages, with an average salary of £49,301, followed by those based in the Midlands, on £47,307. Engineers in Scotland are earning the lowest wages, on £37,250.

More than 50 per cent of electronics engineers are happy in their job, while 31.5 per cent are satisfied with their pay, and 40.2 per cent feel valued in their role.

Over half of electronics engineers have a degree, while

### The industry appears to be continuing to do better than other sectors in its diversity

those in the sector are the least likely to have worked their way up through the profession via an apprenticeship, with only 28 per cent having chosen to take this route.

The industry appears to be continuing to do better than other sectors in its diversity, with 10 per cent of respondents describing themselves as non-white, a similar figure to 2017, and compared with 8.1 per cent for engineering as a whole.

The percentage of female engineers is also slightly higher in electronics than elsewhere, at 8.7 per cent of respondents.

## 8. aerospace

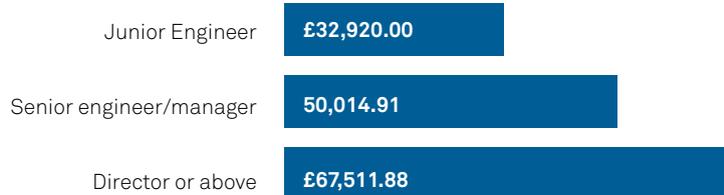
The aerospace industry is worth £35bn to the UK economy, with £30bn coming from exports. The successful UK sector has also achieved 39 per cent growth since 2012, according to industry body ADS.

What's more, the UK space sector is booming, growing 71 per cent since 2012, and now has a turnover of nearly £15bn per year.

Engineers from the aerospace sector make up 9.6 per cent of respondents to our survey, the joint second-largest group behind automotive engineers.

The average salary among aerospace engineers is £47,752, up slightly from £46,362 in 2017. Junior engineers

## average salary by seniority



## Aerospace engineers are relatively evenly spread across the country

in the sector earn an average of £32,920, up from £29,581 in 2017.

Among directors, salaries in the sector have remained relatively static compared to those of last year, with an average of £67,511 in 2018, compared with £67,538 in 2017. Senior engineers and managers, however, have seen their average earnings increase from £48,658 in 2017 to £50,014 in 2018.

Geographically speaking, aerospace engineers are relatively evenly spread across the country, with 26.9 per cent based in the Midlands and East Anglia, followed by 23.5 per cent in both the South West and London and the South East, and 13.6 per cent in the North of England.

Aerospace engineers based outside of the UK earn the highest salaries among the different regions, with an average of £61,461, compared with £45,285 in Scotland.

Almost three-quarters of aerospace engineers would consider moving to a different sector, a slight drop on last year, with the automotive and defence industries being their top destinations.

Around half of aerospace engineers are happy in their job, 32.9 per cent are satisfied with their pay, and 83.5 per cent expect to remain in the industry for the next five years, up from 78.5 per cent in 2017.

However, aerospace engineers are slightly more concerned than those in other sectors about the impact of Brexit on their own job security, with 44.3 per cent describing themselves as quite or very concerned, compared with 37.1 per cent for the profession overall. This may reflect the importance of the export market to the aerospace sector.

# £47.7k

Average salary of an engineer working in the aerospace sector

## average salary by region



## average salary by seniority

Junior Engineer	£27,802.31
Senior engineer/manager	£47,187.71
Director or above	£79,393.33

# £48.1k

Average salary of an engineer working in the food, drink and consumer goods sector

## average salary by region

Outside UK	£44,168.64
South West England	£46,350.00
North of England	£46,717.39
Scotland/Wales or NI	£48,000.00
Midlands or East Anglia	£49,620.00
London or South East England	£52,555.56

## 9. food, drink and consumer goods

The food and drink industry's £97.3bn turnover accounts for around one-fifth of all UK manufacturing.

The industry employs around 400,000 people, according to figures from the Food and Drink Federation. But with almost a third of those EU nationals, the sector is likely to be concerned about the impact of Brexit on its workforce.

Just 2.6 per cent of engineers from the food and drink and consumer goods sector responding to our survey are female, the lowest percentage across the whole of engineering.

Engineers from the sector make up 7.1 per cent of respondents to our survey, of whom 3.8 per cent are in food and drink, and 3.3 per cent in consumer goods.

The average salary for engineers in the sector is £48,155 in 2018, up from £46,460 in 2017.

Average salaries for junior engineers and graduates have also risen from last year, when they were the lowest of all the sectors, increasing from £24,954 in 2017 to £27,802 in 2018.

Directors in the industry have also seen a considerable rise in salary, up from £67,980 in 2017 to £79,393 in 2018, although this may be partly the result of sample size.

However, senior engineers and managers have seen their average salary drop from £48,626 in 2017 to £47,187 this year.

Just over one-quarter (26.4 per cent) of engineers in

### Directors in the industry have seen a considerable rise in salary this year

the sector are based in the Midlands and East Anglia, a similar figure to last year, while 24.4 per cent work in the North of England. Of the remaining half, 15.5 per cent work outside the UK, 15 per cent are based in London and the South East, 11.9 per cent in the South West and 6.7 per cent in Scotland.

Engineers based in London and the South East earn the highest salaries, at an average of £52,555.

Although food and drink and consumer goods engineers are the second-happiest in their jobs of all those industries surveyed (54.7 per cent), they are also the least likely to expect to stay in the industry for the next five years (77 per cent).

## 10. defence, security and marine

The Ministry of Defence is UK industry's biggest single customer.

With an equipment plan that commits it to spending £178bn on new ships, submarines, weapons systems and support technologies by 2027, that is unlikely to change.

The defence sector is also facing major changes, with an increasing emphasis on cybersecurity and cyberwarfare.

Engineers in the defence, security and marine sector make up 7.9 per cent of respondents to our survey.

According to the results of our survey, the defence industry still has a long way to go when it comes to

### The industry has the second-lowest percentage of female engineers

improving diversity. At 3.7 per cent, the industry has the second-lowest percentage of female engineers of those surveyed. It also has the lowest percentage of respondents from black, Asian and minority ethnic backgrounds, at just 3.5 per cent.

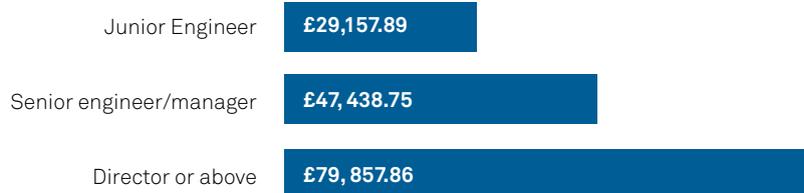
The average salary in the defence industry is £47,968, up from £46,838 in 2017. Much of this difference is down to an increase in the pay of senior engineers and managers, from £46,954 in 2017 to £47,438 in 2018.

Directors in the sector, meanwhile, have seen their average pay drop from £80,853 to £79,857, and junior engineers' pay has dropped from £30,929 to £29,157.

Defence, security and marine engineers working in London and the South East earn the highest salaries, with an average of £51,229, followed by the South West of England, on £49,740. But those working overseas earn over £10,000 less, on £38,837, although this may be the result of a small sample size.

Just 47.1 per cent of engineers in the sector are happy in their jobs, the second lowest figure behind those in the rail, civil and structural engineering industry. Despite this, 83.3 per cent expect to remain in the industry for the next five years, and less than half are considering a change of job.

## average salary by seniority



# £47.9k

Average salary of an engineer working in the defence, security and marine sector

## average salary by region



## average salary by seniority

Junior Engineer	£29,193.55
Senior engineer/manager	£47,825.74
Director or above	£62,865.00

# £45.0k

Average salary of an engineer working in the rail, civil and structural sector

## average salary by region

South West England	£39,833.33
North of England	£42,766.67
Scotland/Wales or NI	£45,250.00
Midlands or East Anglia	£47,222.22
Outside UK	£48,227.50
London or SE England	£48,639.02

## 11. rail, civil and structural

The UK's rail industry is booming, with significant investment going into new trains and infrastructure across the country.

When Spanish firm CAF opens the doors on its new train building factory in Newport, South Wales later this year, for example, it will be the third such facility in the UK, after Bombardier's plant in Derby and Hitachi's £82m site at Newton Aycliffe.

And with work on the Crossrail and High Speed 2 programmes continuing, skilled engineers remain in high demand.

This demand is not reflected in the average salaries of engineers in the sector, however, which like 2017 are relatively low compared with other industries. The average salary for engineers in rail, civil and structural is £45,871, the third-lowest sector after telecoms, electronics and utilities and academia, although a slight increase on last year's average of £44,890.

This may help to explain why engineers in the sector tend to be some of the least satisfied with their lot of all those surveyed. Rail, civil and structural engineers are the least likely to say they are happy in their job (39.2 per cent). Only a quarter of engineers in the sector are satisfied with their pay, by far the lowest level in our survey and showing a year-on-year drop from 29.3 per cent in 2017 and 36.1 per cent in 2016.

What's more, only 30.4 per cent of engineers in the

### Engineers in the sector tend to be some of the least satisfied with their lot

sector feel valued, again the lowest among all our respondents, while they are also the most likely to be considering a change of job.

Engineers in the rail, civil and structural sector make up 6.5 per cent of respondents to our survey, of whom 35.4 per cent work in rail and 64.6 per cent are in civil and structural.

Ethnic diversity is consistently higher in the sector than in other industries, with 13.5 per cent of respondents describing themselves as non-white, compared with 8.1 per cent for the profession as a whole, and up from 11.5 per cent last year.

The percentage of female engineers in the sector has fallen slightly, however, down from 10.3 per cent in 2017 and 2016 to 8.4 per cent this year, although this may be partly the result of the sample size.

## 12. materials

To those outside engineering, the materials sector is less familiar than high-profile industries such as automotive and aerospace.

But developments in materials can be fundamental to achieving technological breakthroughs across industry as a whole, such as finding new battery materials for electric vehicles, for example.

Engineers in the materials sector make up 3.6 per cent of respondents to our survey. The average salary in the sector is £47,130. This is down slightly from £48,318 in 2017, although it is still considerably higher than the average of £39,494 in 2016, suggesting the relatively

## average salary by seniority

Junior Engineer	£32,738.71
Senior engineer/manager	£47,107.78
Director or above	£66,795.26

## By far the highest salaries in materials can be found in London and the South East

small sample size may be a factor in causing the figure to fluctuate somewhat between years.

By far the highest salaries in materials engineering can be found in London and the South East, where the average is a very respectable £59,857. This is followed by those working outside the UK, who can expect to earn around £54,430. It is also a considerable change from 2017, when those working in the South West of England were commanding the highest salaries, followed by engineers in the Midlands and East Anglia. Again, though, this may be the result of the sample size.

But spare a thought for materials engineers working in Scotland, Wales and Northern Ireland, who earn an average of £36,250.

The highest percentage of materials engineers responding to our survey are based in the Midlands and East Anglia (33 per cent), followed by the North of England (23 per cent).

Engineers in the materials sector are reasonably content, overall, with 53.1 per cent happy with their jobs, putting them at the middle of our table. The figure is down slightly on 2017, though, when 58.2 per cent of materials engineers were happy in their jobs.

When it comes to pay, materials engineers are far less happy, with 29.2 per cent of respondents from the sector describing themselves as satisfied with their pay, putting them second from bottom after rail, civil and structural engineers.

# £47.1k

Average salary of an engineer working in the materials sector

## average salary by region

Scotland/Wales or NI	£36,250.00
South West England	£40,428.57
North of England	£44,478.26
Midlands or East Anglia	£44,846.77
Outside UK	£54,430.83
London or South East England	£59,857.14

## average salary by seniority

Junior Engineer	£28,817.78
Senior engineer/manager	£41,985.00
Director or above	£81,185.56

# £44.7k

Average salary of an engineer working in the academia sector

## average salary by region

Outside UK	£39,204.00
Scotland/Wales or NI	£39,666.00
South West England	£42,714.29
London or SE England	£46,500.00
North of England	£46,769.23
Midlands or East Anglia	£48,000.00

## 13. academia

Once again, engineers working in academia make up the smallest standalone sector represented in our survey, meaning sample size may play a more significant role in the results than in our other industries.

In all, engineers from academia make up 3.3 per cent of respondents to the survey, a similar figure to last year.

On average, engineers in the sector are earning £44,774, up from £43,809 in 2017 and taking academia off the bottom slot and above the telecoms, electronics and utilities sector.

Over half of academic engineers have a degree, the third-highest percentage behind the energy, nuclear and renewables and materials sectors. What's more, 36.5 per cent have a Masters degree, a similar figure to last year, and 27.1 per cent have a doctorate, a slight decrease on 2017.

In terms of diversity, the sector does not appear to be making much progress, with 88 per cent of respondents to our survey white and male – a very similar proportion to 2017.

Over a quarter of engineers in academia (26.1 per cent) are based in London and the South East, followed by the Midlands and East Anglia (23.9 per cent), the North of England (15.2 per cent), outside the UK (14.1 per cent), Scotland, Wales and Northern Ireland (13 per cent) and the South West (7.6 per cent).

Academics in the Midlands and East Anglia are

### Academic engineers are the most content in their jobs, with 56.5 per cent happy

earning the highest salaries in 2018, on average, at £48,000, although this is a very slight decrease on 2017.

Over a third (34.1 per cent) of engineers in the sector are happy with their pay. This is up from 31.7 per cent in 2017 and 28 per cent in 2016, and perhaps reflects the fact that for 2018 at least, academics are not the lowest earners.

Academic engineers are also the most content in their jobs, with 56.5 per cent describing themselves as happy in their role.

## 14. age

The age imbalance within the engineering profession shows no signs of narrowing.

The average age of engineers across all of the sectors is 45.8, up a fraction from 45.4 in 2017. Engineers in the chemical and pharmaceuticals industry are the oldest overall, with an average age of 47.6, while those in the automotive industry are the youngest, at 43.7.

Like 2017, there are more engineers in their fifties than any other age bracket, with 31.8 per cent of respondents aged between 50 and 59. This is a very similar percentage to last year's survey.

Once again, there are also more engineers in their

## Engineers in their sixties tend to be the most content in their roles

sixties (13 per cent) than in their twenties (11.5 per cent), meaning that there are a greater number nearing retirement age than entering the profession.

Of those engineers in the middle, 17.1 per cent are in their thirties, and 24.7 per cent are in their forties, both similar figures to 2017.

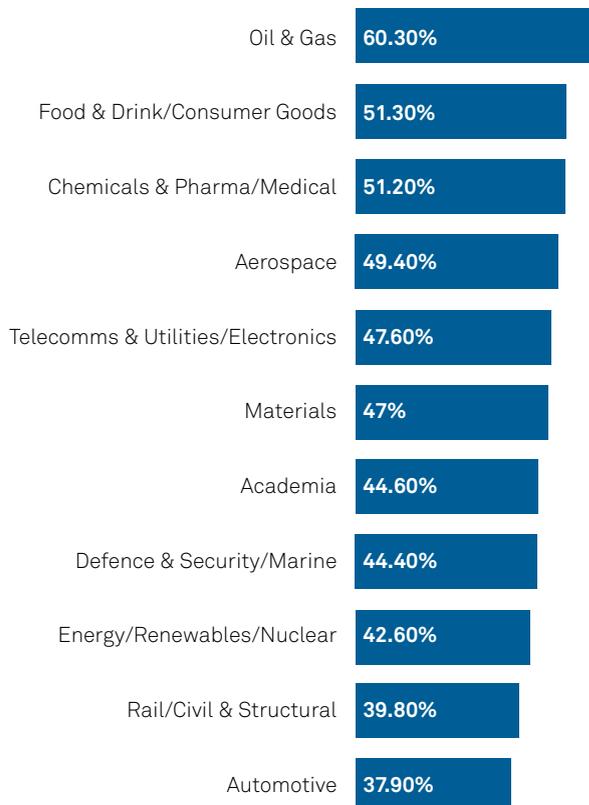
When it comes to the individual sectors, there remains considerable demographic variation between different industries.

The oil and gas industry, for example, has the highest percentage of engineers in their fifties (36.9 per cent), and the lowest percentage of engineers in their twenties (7.5 per cent). This suggests the sector is struggling to attract young engineers, and could face a significant skills gap in a few years, when its older professionals begin reaching retirement age.

The rail, civil and structural engineering industry, meanwhile, appears to be having more success attracting young people, with the highest percentage of engineers in their twenties (15.7 per cent) and the joint lowest percentage in their fifties (27.5 per cent), alongside the automotive sector.

Engineers in their sixties tend to be the most content in their roles, with 61.4 per cent of respondents in this age bracket describing themselves as happy in their jobs, up from 58.7 per cent in 2017. However, they are the least likely to be happy with their pay, with 30 per cent feeling they are appropriately remunerated, compared with 35.9 of engineers in their thirties.

## % of engineers over the age of 50



# 45.8

Average age of engineers across the industry

Sector	Average Salary (£)	Average Age	% content with salary	% happy in current job	% considering change of job	% likely to stay in industry for five years	% that feel valued in current role	% that do not feel valued
Academia	44,774	46.3	34.1	56.5	47.6	81.2	40	23.5
Aerospace	47,752	45.7	32.9	49.8	42.3	83.5	30.9	32.9
Automotive	48,967	43.7	35.7	52.2	49.4	85.6	43.3	30.6
Chem& Pharma / Healthcare	50,890	47.6	35.1	54.4	39.6	82.5	44.8	26.8
Defence & Security / Marine	47,968	45.3	31.6	47.1	46.6	83.3	34.5	33.5
Energy / Renewables / Nuclear	52,653	44.6	39.6	54.2	48.3	81	42	25.9
Food & Drink / Consumer Goods	48,155	46.7	33	54.7	46.6	77	40.8	27.9
Materials	47,130	45.3	29.2	53.1	46.9	78.1	39.6	32.3
Oil & Gas	53,913	45.9	35.3	50.9	47.4	83.9	38.2	24.9
Rail / Civil & Structural	45,871	44.1	25.3	39.2	53.5	77.2	30.4	34.2
Telecomms & Utilities / Electronics	44,504	46.2	31.5	52.6	48.2	82.1	40.2	27.1

## 15. job satisfaction

Engineers working across all sectors of the UK and overseas have seen a very modest year-on-year decrease in their salaries, from £48,197 in 2017 to £47,896 in 2018.

Once again, the highest salaries can be found in sectors producing the nation's energy and fuel, with the oil and gas industry top of the table at £53,913, compared with £54,461 in 2017.

This is followed closely by energy, renewables and nuclear, where engineers earned £52,653 on average in 2018, compared with £51,953 in 2017.

At the bottom end of the pay scale, engineers in the telecoms, utilities and electronics sector took home the lowest average salary, at £44,504,

closely followed by academia which, at 44,774, was up slightly from £43,809 last year. But despite their earnings, just as in the past two annual surveys, academics are the most content in their jobs. Of those surveyed, 56.5 per cent said they were happy in their jobs, compared with 61 per cent in 2017 and 56.1 per cent in 2016.

Engineers in the energy, renewables and nuclear sector, meanwhile, are happiest with their level of remuneration, with 39.6 per cent claiming to be satisfied with their pay, followed by those in the automotive industry (35.7 per cent).

Of those surveyed, engineers in the chemicals, pharmaceuticals and medical industry were the

least likely to be considering a change of job (42.2 per cent), and the most likely to feel valued in their role (44.8 per cent).

Engineers in the automotive sector are the most likely to see themselves staying in the industry for the next five years.

Not everyone can be happy with their chosen lot, however. Engineers in the rail, civil and construction industry, for example, are by far the least happy in their job (39.2 per cent). What's more, they are also the least satisfied with their pay, with only 25.3 per cent claiming to be content with their salary, an even lower figure than last year (29.3 per cent).

Rail and construction engineers are also the least likely to feel valued in their roles (30.4 per cent), and among the least likely to believe they will stay in the industry for the next five years (77.2 per cent). They are also the most likely to be considering a change of job (56.7 per cent).

Engineers in the food and drink and consumer goods sector are also among the least likely to see themselves staying in the industry for the next five years.

In terms of time off, holiday rates are once again highest in academia, where 36.1 per cent of engineers receive between 26-30 days of paid leave, and the same percentage receive 31 or more days.

Outside academia, engineers in the materials industry are most likely to receive over 30 days of paid holiday (13.4 per cent), followed by those in the automotive industry (12 per cent).

Engineers in the food and drink and consumer industry are least likely to receive more than 26 days of paid leave (31.4 per cent), followed by those in the telecoms and utilities sector.

Overall, 47.4 per cent of engineers taking part in our survey said they did receive a bonus, but the sector with the highest percentage of professionals receiving a bonus is the materials industry (at 59.8 per cent). The least likely to receive a bonus, once again, are engineers in academia (9.3 per cent).

## 16. benefits and bonuses

For those engineers looking to earn a bonus on top of their annual salary, the most generous sector this year is the materials industry.

The sector has the highest percentage of engineers receiving a bonus, at 59.8 per cent. This is followed by the aerospace sector, in which 57 per cent of respondents receive a bonus.

Overall, 47.4 per cent of engineers responding to our survey receive a bonus, a slight increase on last year's figure of 46.8 per cent, and 45.3 per cent in 2016.

However, once again academia has

### Overall, 47.4 per cent of engineers in our survey receive a bonus

the lowest percentage of engineers receiving a bonus, with just 9.3 per cent being awarded one this year, down from the already low figure of 11 per cent in 2017.

The percentage of engineers on a contributory pension scheme has dipped very slightly this year, from 73.8 per cent last year to 72.5 per cent in 2018.

Engineers in the aerospace sector are the most likely to receive a contributory pension (78.5 per cent), followed by those in materials (76.3 per cent) and defence, security and marine (75 per cent).

Meanwhile, engineers working in consumer goods and food and drink are the least likely to receive a contributory pension, with 68.1 per cent enrolled in a scheme.

Just over a third (37.8 per cent) of all engineers receive private medical insurance, a very similar figure to last year.

Engineers in the oil and gas industry are the most likely to receive private medical insurance, with 50.6 per cent receiving the benefit, compared with just 11.6 per cent in academia.

In terms of some of the other benefits engineers receive, 34.9 per cent are able to access flexible working arrangements, 25.8 per cent receive life assurance cover, 18.3 per cent receive a car allowance, and 16.6 per cent receive share options.

## 17. change of job/leaving the industry

Engineers are a settled bunch, on the whole.

While there may be individual sectors where pay is a cause for concern, or professionals do not feel sufficiently appreciated, overall 81.2 per cent of engineers questioned said they expected to remain in the industry for at least the next five years, a very similar figure to last year's 81.9 per cent.

Conversely, just 10 per cent consider it unlikely or highly unlikely they will be in the industry for the next five years, although this figure has been steadily rising, from 7.1 per cent in 2016, and 8.9 per cent in 2017.

Among those engineers who are considering leaving the industry, their chief motivations are a search for new challenges (64.8 per cent) and better salaries (54.6 per cent), as well as limited opportunities in their existing role.

In contrast, for engineers looking for a change within the industry, the wish for a better salary is once again the biggest draw (72 per cent).

Of those surveyed, 47.9 per cent would consider taking a position

overseas, up from 45.1 per cent in 2017. The most popular destinations are Europe (79.8 per cent), North America (72.2 per cent), and Asia Pacific (45.4 per cent).

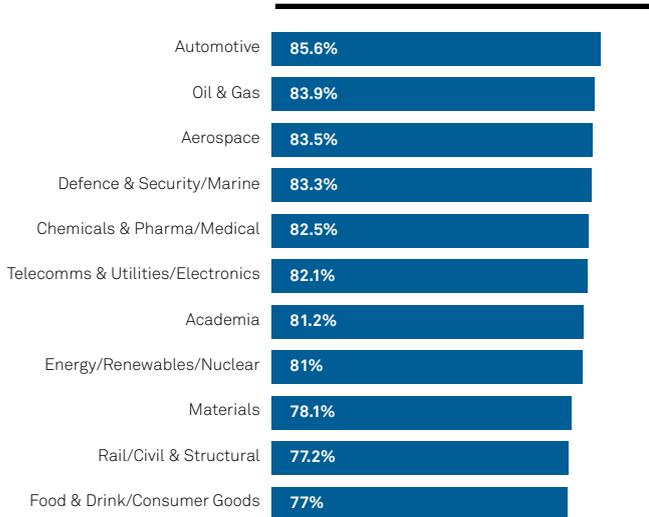
Half of all engineers responding to our survey (49.6 per cent) said they were considering a change of job, while 73.2 per cent would consider changing to a different sector of industry.

Of the various sectors, renewables, aerospace, and automotive are the most popular, with 45.2 per cent, 44.2 per cent and 40 per cent of respondents saying they would consider moving to a job within the sectors.

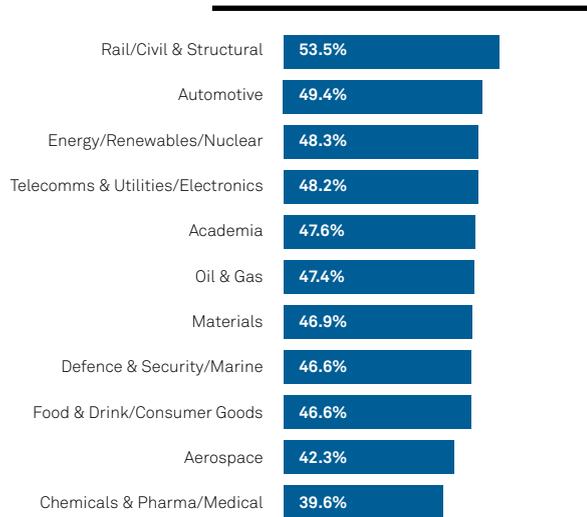
The least popular sector is once again civil and structural, with just 14.4 per cent of respondents considering a move there, a very similar figure to last year.

Engineers in the rail, civil and structural engineering sector are most likely to be considering a change of job (56.7 per cent), while those in the chemicals, pharmaceuticals and medical sector have the lowest percentage of professionals considering a switch (42.2 per cent).

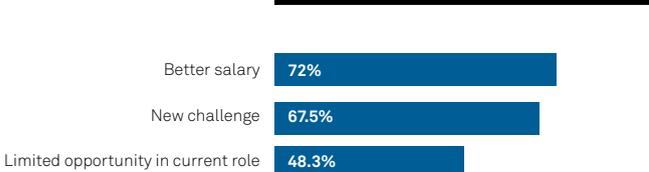
**% likely to remain in the industry (next 5 years) by sector**



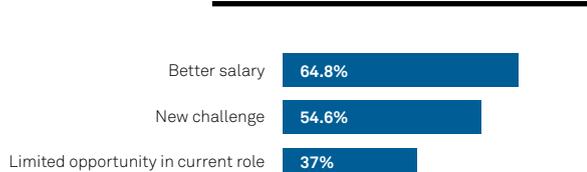
**% considering a change in job by sector**



**Top three motivations for considering a change of job within the industry (%)**



**Top three motivations for considering a change of job outside the industry (%)**



## 18. routes into the industry

When it comes to choosing their route into the profession, engineers are remarkably consistent.

Just as in the previous two years, half of all engineers surveyed have a degree. Meanwhile, 38.9 per cent of engineers entered industry through an apprenticeship scheme, a very similar figure to last year (38.5 per cent).

What's more, like 2017 the percentage of engineers having chosen the apprenticeship route continues to rise with age. Just 26.1 per cent of under-thirties, 21.9 per cent of those in their thirties, and 29.6 per cent of those in their forties have undertaken an apprenticeship, while 50.2 per cent of those in their fifties and 59.1 per cent of those in their sixties have taken this route.

The reverse is true for engineers choosing the university route, with 56.1 per cent of under-thirties, 52.9 per cent of those in their thirties, and 56.9 per cent of those in their forties having been awarded a degree, dipping to 45.6 per cent of those in their fifties

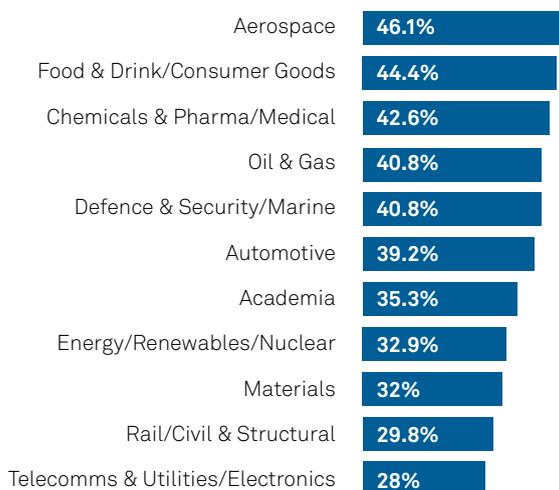
and 40.2 per cent of those in their sixties. There is also a significant gender imbalance, with 40.9 per cent of men having chosen to undertake an apprenticeship scheme, compared with just 10.7 per cent of women. In contrast, 62.1 per cent of women surveyed have a degree, compared with 49.2 per cent of men.

Among the sectors, the aerospace industry has the highest percentage of engineers who have pursued an apprenticeship (46.1 per cent), followed by the consumer goods and food and drink sector (44.4 per cent) and the chemical, pharmaceutical and medical sector (42.6 per cent).

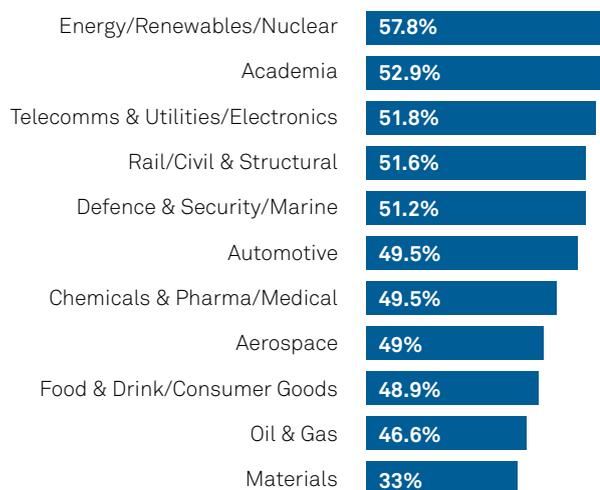
The lowest percentage of engineers with an apprenticeship can be found in the telecoms, electronics and utilities sector (28 per cent).

Like the previous two surveys, the energy, renewables and nuclear industry has the highest percentage of graduates, with 57.8 per cent of engineers in this sector having a degree.

### % qualified by apprenticeships by sector



### % qualified by degrees by sector



## 19. professional registration

Despite the best efforts of the engineering bodies, pursuing professional registration still does not appear to be a priority for the majority of engineers.

Overall, 39.4 per cent of engineers responding to our survey have chosen professional registration, only a slight increase on 2017 (38.5 per cent) and very similar to previous years.

However, once again, the proportion of engineers who are professionally registered rises with seniority. So while 32.2 per cent of junior engineers and graduates are professionally registered, compared with 33.3 per cent in 2017, this rises to 39.3 per cent for senior engineers and managers, compared with 38.6 per cent in 2017. Meanwhile, 50.8 per cent of directors and above have chosen professional registration, an increase from 45.1 per cent in 2017.

Once again, there is also considerable variation among the different sectors in how much professional registration is valued. So, for example, nearly two-thirds (62 per cent) of engineers in the energy, nuclear and renewables sector have chosen professional registration,

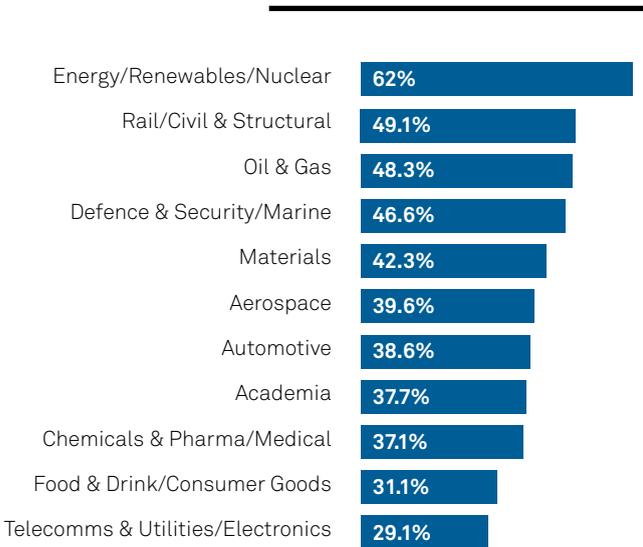
while only just over a quarter (29.1 per cent) of those in the telecoms, electronics and utilities sector, and 31.1 per cent of those in the consumer goods and food and drink industry have done the same.

This is the third year in a row in which the energy, nuclear and renewables industry has had the highest rate of professional registration, suggesting it is highly valued by those in the sector.

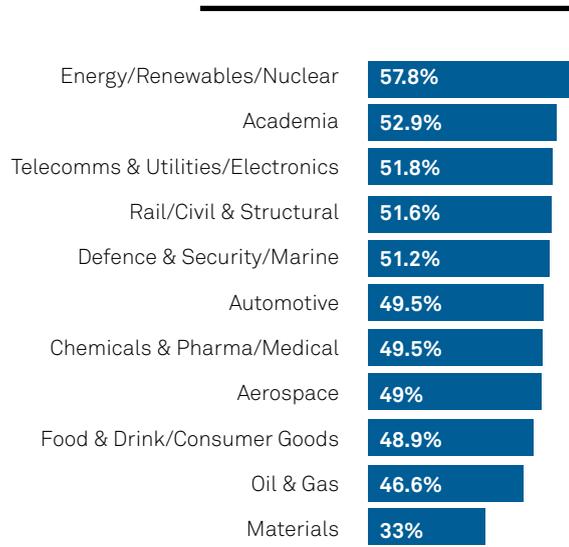
There also remains very little difference between the percentage of male and female engineers having pursued registration, with 40.5 per cent of women and 39.4 per cent of men having chosen to do so, both slight increases on last year.

But the difference in the percentage of white, and black, Asian and minority ethnic engineers choosing professional registration is widening significantly each year. This year, 52.5 per cent of those respondents describing themselves as non-white have chosen registration, compared with 48.8 per cent in 2017 and 39.8 per cent in 2016, while 37.7 per cent of white engineers have chosen to do the same, compared with 37.5 per cent in 2017 and 36.4 per cent in 2016.

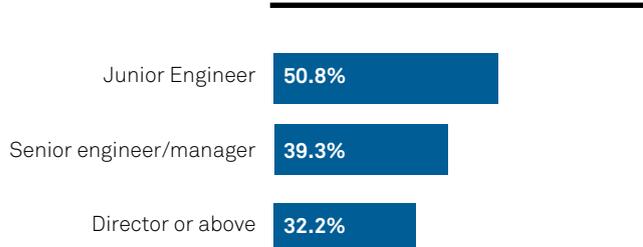
**% professionally registered by sector**



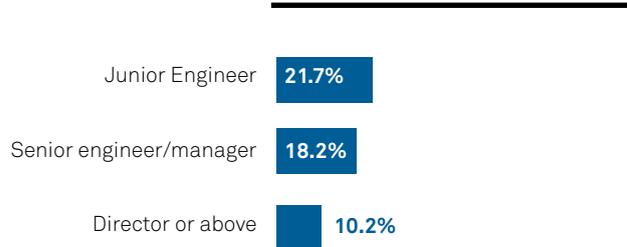
**% qualified by degrees by sector**



**% professionally registered by seniority**

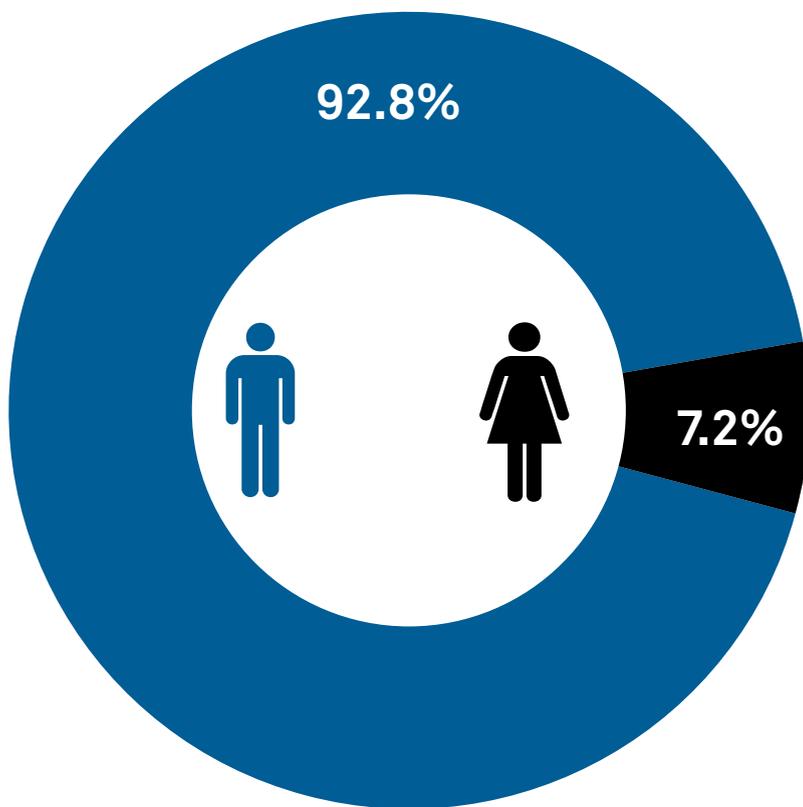


**% agree professional registration leads to higher salary by seniority**



## 20. gender and diversity

### gender split



The gender pay gap has hit the headlines this year, with firms employing more than 250 people forced for the first time to publish the difference between average salaries for male and female staff.

In engineering, our survey suggests that, for female engineers, the pay gap with their male counterparts has widened significantly this year.

The average salary for female engineers responding to our survey is £35,801, down from £38,109 in 2017. This is based on a similar sample size and spread of seniority to our 2017 survey.

In comparison, the average salary for male engineers in 2018 is £48,724, compared with £48,886 last year. This means that the gap between male and female pay in engineering has grown from around £10,000 in 2017 to approximately £13,000 this year, a significant increase.

As previously, this gap can partly be explained by the difference in seniority among male and female respondents. Just 2.4 per cent and 11.3 per cent of male respondents describe themselves as graduates and junior engineers respectively, compared with 10.2 per cent and 20.3 per cent of female respondents.

In contrast, 45.8 per cent of male respondents describe themselves as senior engineers, compared with 30.5 per cent of females, although the proportion of male and female managers is very similar, at 31 per cent and 30.1 per cent respectively.

Even more worryingly though, male engineers at all levels of seniority are paid more than their female counterparts. Female graduates and junior engineers earn an average of £27,552, for example, compared with £31,051 for male engineers, a gap of around £3,500.

The gap jumps to around £10,000 for senior engineers and managers, among whom females earn £38,688 and males £48,466.

But it widens even further at director level and above, where women earn £46,053, and men £73,595, a huge difference of £27,542.

The gender imbalance within the engineering profession is also showing no signs of shrinking.

Despite the best efforts of numerous engineering bodies, the percentage of female engineers responding to our survey is just 7.2 per cent, up from 7 per cent in 2017, 6.5 per cent in 2016, and 5.5 per cent in 2015.

# 45.8

average age of a UK engineer in the survey

# 88.6%

describe themselves as white

# 7.2%

of engineers responding to the survey were women

Among the individual sectors, the industry with the highest percentage of female engineers is once again academia, where 12 per cent of respondents are women, followed by telecoms, electronics and utilities, on 8.7 per cent.

At the other end of the scale, just 2.6 per cent of respondents from the consumer goods and food and drink sector are female, followed by the defence, security and marine industry, on 3.7 per cent.

Around half of female and male engineers are happy in their jobs, although perhaps unsurprisingly a higher percentage of men (33.2 per cent) than women (25 per cent) are satisfied with their pay.

The diversity gap in engineering continues to narrow only fractionally year-on-year, with 88.6 per cent of respondents describing themselves as white in 2018, compared with 89.3 per cent in 2017 and 92.1 per cent in 2016.

## The gender imbalance within the engineering profession is showing no signs of shrinking

This year 8.1 per cent describe themselves as black, Asian or minority ethnic, compared with

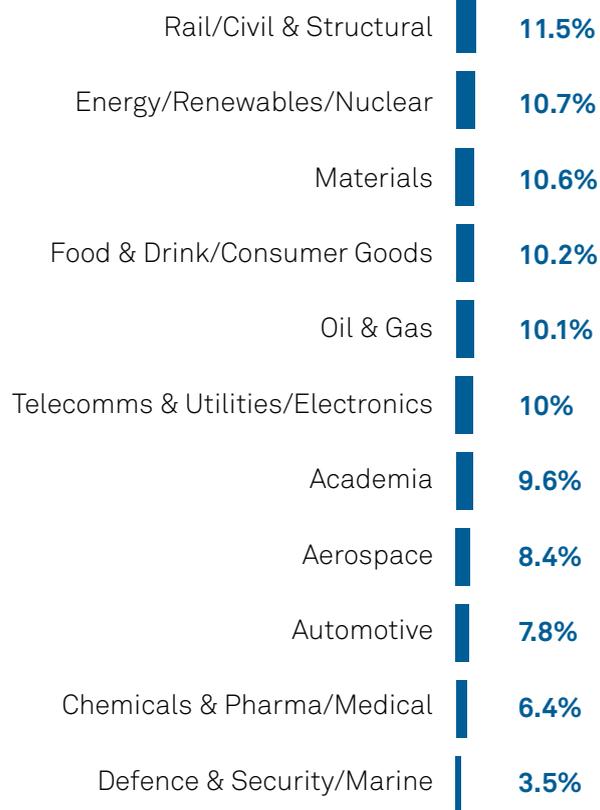
7.3 per cent in 2017 and 6 per cent in 2016.

Once again, the individual sector which attracts the highest percentage of black, Asian and minority ethnic engineers is the rail, civil and structural industry, where 13.5 per cent of respondents describe themselves as non-white, up from 11.5 per cent in 2017.

This compares with the defence, security and marine industry, where just 3.5 per cent describe themselves in this way, up from 2.1 per cent in 2017.

The diversity gap can also be felt in the salaries being earned by engineers of different backgrounds, where once again those respondents describing themselves as non-white earned almost £10,000 less than their white peers. The average salary among non-white respondents is £38,610, compared with £38,080 in 2017, while white engineers are earning £47,896.

## % BAME (black, asian, minority ethnic) by sector



# 25%

of women engineers are happy with their pay



**Average salary by gender by seniority**

	Junior	Senior	Director
Male	£31,051	£48,466	£73,595
Female	£27,551	£38,688	£46,053