

# Balancing the scales between pay and gender

**The Engineer's 2019 survey shows a moderate increase in salary, regional consistency and an urgent need to address gender imbalance across the industry**

**T**his year has seen the date of our planned departure from the European Union come and go, without offering any greater clarity on the future of the UK's trading relationship with Europe and the rest of the world.

Despite a series of meaningful and indicative votes in Parliament, online petitions and demonstrations on the streets, we are still no closer to untangling the mess that Brexit has become.

The past 12 months have also seen a much greater willingness among manufacturers such as Airbus and Ford to place their heads above the parapet and express their considerable concerns about the impact of the UK leaving the EU without a deal.

And the industry has also been hit by the announcement that Honda will close its manufacturing plant in Swindon in 2021, with the loss of 3,500 jobs.

But how has the turmoil and indecision in Westminster affected the UK's engineering industry? How have salaries fared across the engineering sectors as a result?

**This year, 1,568 engineers took part in the survey, from 11 different sectors**

Every year, The Engineer surveys professionals from across the industry, to ask how much they are earning, where in the UK they are based, and in which sector they work, as well as how they feel about their chosen career.

This year, 1,568 engineers took part in the survey, from 11 different sectors. We have analysed the results to find out which sectors award the highest salaries, how large the gender and racial imbalances are within the profession, and how engineers really feel about Brexit.

By comparing our results for this year with those of previous surveys, we can determine how life has changed for engineers over the past year.

The average salary for all engineers in 2019 is £51,253, an increase on last year's average of £47,896, although this may be partly the result of a smaller survey size.

Among those surveyed, the proportion of engineers concerned or very concerned about the potential impact of Brexit on the industry has risen from 61.2 per cent last year to 70.2 per cent in 2019. Concerns about Brexit's impact on job security have also risen slightly, up from

## £43.8k-£58.7k

### Average salary by sector

Energy/renewables/nuclear	£58,695
Oil & gas	£57,167
Chemicals & pharma/medical	£56,206
Food & drink/consumer goods	£52,877
Telecoms & utilities/electronics	£51,825
Aerospace	£50,284
Defence & security/marine	£50,206
Automotive	£49,736
None of these	£48,875
Materials	£48,773
Rail/civil & structural	£46,369
Academia	£43,830

## Rob Harper Director, CBSbutler



CBSbutler is privileged to be associated with *The Engineer* Salary Survey 2019. We have seen an even spread of respondents from different sectors, career levels and UK locations from across the industry. As always, the findings provide for interesting reading, and especially the percentage of BAME coming into the industry and the gender imbalance, which shows small signs of improvement.

Last year was a fairly turbulent year; the uncertainty of Brexit has impacted the UK industries negatively with spending plans being cut, expansion in certain developments halted, mass job losses and several businesses going into administration. The potential warnings over leaving the customs union and European single market have never been so clear.

Although there remains concern about the impact of Brexit on UK investment, employers are still seeking out talent to fill the ever-growing skills gap within the industry. With unemployment at an all-time low, the changing technological needs, AI and automation trends as well as the ever-present skills shortage means that we are still seeing healthy demand for talent within the engineering sector.

Average salaries have seen a healthy increase and it is pleasing to see that this trend is consistent across all of the separate sectors covered in the survey. Clearly, with all the external challenges and the shortages of skills within the sector, it is vital that the workforce is being rewarded. Job satisfaction is not always about pay considerations, but work-life balance, benefits, career progression, learning and development, corporate social responsibility as well as the working day itself. These have all become essential propositions to retain and attract talent.

We have seen an increase in those saying they are happy in their roles with a very healthy proportion indicating they are content to stay in the engineering industry in the next five years. That said, the numbers of

people considering a job change has increased. This emphasises the need for businesses to ensure they have appealing and attractive employee value propositions as well as positioning themselves as true employers of choice. We are also seeing the possible impact of Brexit with mobility options, with a big increase in those now considering relocation overseas.

Other key findings were the significant hardening in attitudes toward Brexit; reports showing the concerns around job security as well as increasing concern about the overall impact of Brexit on the industry.

This is no real surprise given what we have seen across the past year or so in the news as well as the hearsay across networks and communities. This trend is likely to continue as uncertainty grows. CBSbutler will continue to consult and engage with clients to understand their internal challenges and pressures arising from this and, in addition, wherever possible look to offer advice and expertise around the market trends.

With International Women in Engineering Day (23 June 2019) celebrating its 100th year, it reminds us that we still have a lot to do. Once again, diversity plays a very strong part in the survey this year. The number of female survey respondents has increased slightly in 2019. We have seen a marked narrowing of the gender pay gap for women at junior levels, perhaps a sign that action is being taken to reduce discrepancies. It really is an ongoing challenge.

However, we have seen many good examples of attraction and hiring practices, leadership programmes for women and succession plans around inclusion. As an example, one client we partner with offers 'concierge calls' prior to later-stage interviews with an influential female within the organisation. It is also pleasing to see schools offering tasters and learning around engineering. Weekly Stem clubs and lessons are a great way of introducing this area at a grass-roots level.

Thanks once again to all the participants; these surveys are a fantastic pulse check to gauge what is happening in the market we operate within. The UK engineering market is worth trillions to the UK economy and as recruiters, hiring managers, candidates and all interested parties it is crucial we share information and knowledge around what we are all doing to continually support this amazing sector.

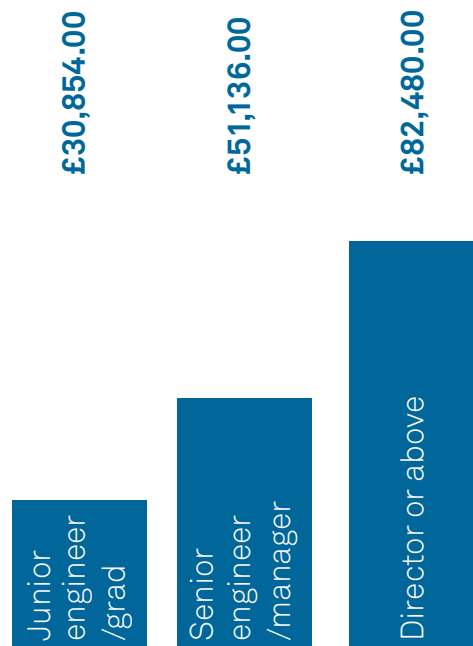
37.1 per cent in 2018 to 44 per cent.

Engineers in the oil and gas and energy, renewables and nuclear sectors continue to command the highest salaries. However, their ranking has flipped, with energy, renewables and nuclear engineers on the highest salaries, with an average of £58,695, up from £52,653 last year.

Meanwhile, engineers in the oil and gas industry earn the second-highest salaries, with an average of £57,167. This is an increase on last year's average salary in the sector of £53,193.

Like last year, just under a quarter of engineers surveyed are employed directly in the automotive and aerospace sectors, and three-quarters describe themselves as senior engineers and managers.

### Average salary by seniority



Once again, the manufacturing heartland of the Midlands and East Anglia employs the greatest proportion of engineers, with a quarter working in the region. This is again followed by London and the South East, where 21.4 per cent of engineers say they are based.

When it comes to the industry's progress on inclusivity, very little seems to have changed, as once again over 90 per cent of respondents are male, and just under 90 per cent are white. Of those surveyed, 81.2 per cent expect to remain in the profession for at least the next five years, a similar percentage to previous years.

Over the following pages, we have analysed in more detail what the results of our survey tell us about the engineering profession in 2019.

# £51,253

average salary for engineers in all sectors

# £58,695

average salary in energy, renewables and nuclear sector – the highest-paid

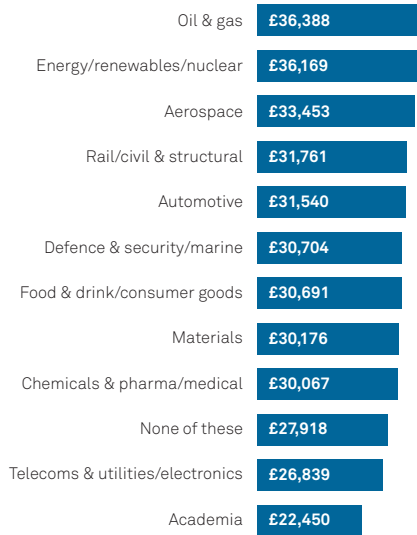
# average salary by industry

The highest average salaries are found at director level in the energy, renewables and nuclear sector

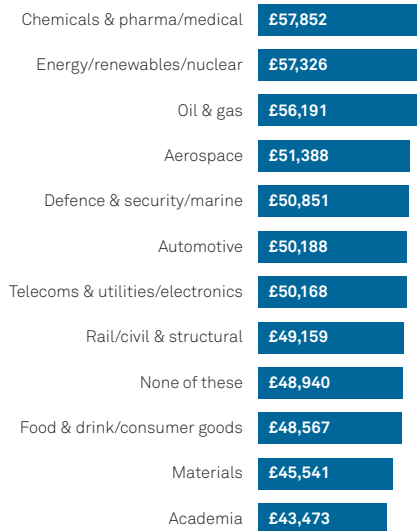
# 47.6

# £

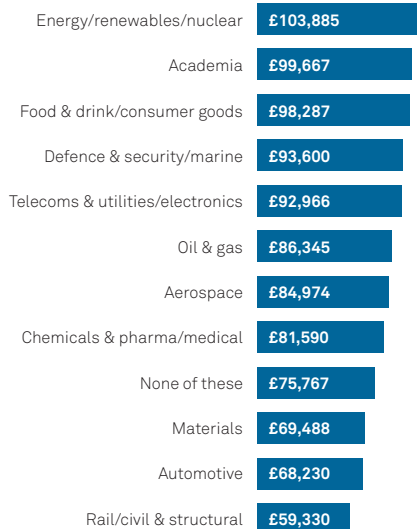
## Junior engineer



## Senior engineer/manager



## Director or above



## 1. seniority

As in previous surveys, the overwhelming majority of respondents – 85.4 per cent – describe themselves as senior engineers or above, reflecting the seniority of *The Engineer* readership.

Senior engineers are once again the largest group of respondents, at 46.6 per cent, a slight rise on last year. Managers are the second-largest group, at 29 per cent, followed by junior engineers at 11.9 per cent, a strikingly similar figure to 2018. Directors make up 6.6 per cent of respondents, with chief executives on 3.3 per cent, and graduate trainees and apprentices on 2.7 per cent.

The majority of engineers have seen a moderate year-on-year increase in 2019. Senior engineers and managers, for example, have seen their average salaries increase from £47,971 in 2018 to £51,136 in 2019.

Those describing themselves as director or above have also seen a significant increase in their pay this year, from an average of £72,071 in 2018 to £82,480 in 2019.

Among junior engineers and graduate trainees, pay has remained fairly static this year, rising only a fraction from £30,557 in 2018 to £30,854 in 2019.

Junior engineers and graduate trainees earn the highest salaries in the oil and gas industry, on £36,388, and the energy, renewables and nuclear sector, on £36,169. This is over £10,000 more than the lowest-earning junior engineers and graduate trainees, in academia, on £22,450. However, these results are possibly affected by the small sample size.

The highest-earning directors are those in the energy, renewables and nuclear industry, with an average salary of £103,885, up from £76,226 last year. This is followed by those in academia, on £99,667, although once again these results may be affected by the very small sample size.

## The average age among engineers is 47.6, two years older than the 2018 average

Average earnings among senior engineers and managers have risen across all sectors, apart from the materials industry. In the materials sector, pay has dropped from £47,107 in 2018 to £45,541 in 2019.

In contrast, senior engineers and managers in the chemical, pharmaceutical and medical sector command the highest wages this year, with an average salary of £57,852. This is closely followed by those in the energy, renewables and nuclear industry, on £57,326, and the oil and gas sector, on £56,191. Once again, this is over £10,000 higher than the lowest-earning senior engineers and managers, in academia, on £43,473.

The average age among engineers responding to our survey is 47.6, two years older than the average in 2018. But like previous surveys, almost half are 50 or above.

The percentage of female directors, managers and senior engineers is slightly higher than in 2018, up from five per cent last year to 6.8 per cent this year. However, this is slightly below the overall picture for the profession this year, in which 7.4 per cent of respondents are female.

## 2. regions

Our survey has consistently shown that engineers can be found working in all four corners of the UK and beyond, and this year is no exception.

The largest group of engineers, around one quarter, are working in the engineering heartland of the Midlands and East Anglia, a strikingly similar percentage to that of last year's survey.

Close behind them, the proportion of engineers working in London and the South East – the second-largest group – has also held steady, at 21.4 per cent, compared with 21.8 per cent last year.

Once again, this is followed by engineers in the North of England, at 17.9 per cent, the South West, on 13.4 per cent, those who are outside the UK, on 12.8 per cent, and Scotland, Wales and Northern Ireland, on 9.6 per cent.

Unlike last year's survey, when the biggest earners were those working in London and the South East, this year, engineers based abroad have the highest average salary, at £57,691.

Among the high-earning overseas engineers, those with the biggest salaries on average can be found in the defence, security and marine industry, at £76,632, although it must be stressed that this is a very small sample size.

The second-highest earnings overseas can be found among aerospace engineers, on £69,414.

In London and the South East, engineers working in the energy, renewables and nuclear industry have the highest salaries, on £68,222. This is followed by those in the automotive industry, on £63,714.

In contrast, the lowest earners among our respondents, for the second year running, are those working in Scotland, Wales and Northern Ireland, with an average salary of £46,141. This, however, is a slight increase on their average salary from 2018, which was £44,404.

Their low earnings may well explain why engineers in Scotland, Wales and Northern Ireland are the least likely professionals in all of the regions to be happy with their pay, at 38 per cent.

At the other end of the scale, engineers working in the Midlands and East Anglia are the most likely to be happy with their pay, with 46.8 per cent describing themselves as satisfied with their earnings.

Engineers in London and the South East are the most likely of those surveyed to be happy with their job overall, at 62.5 per cent. This is closely followed by engineers in the South West, of whom 62.38 per cent are happy with their job.

Engineers in the South West are also the most likely to expect to stay in working in the industry for at least the next five years, with some 84.7 per cent of those surveyed declaring they are likely or very likely to remain in the industry. This is followed by those in the North of England, on 82.7 per cent.

Meanwhile, those unhappy engineers in Scotland, Wales and Northern Ireland are the least likely to say they will remain in the industry for the next five years, on 78 per cent.

### Midlands or East Anglia

Materials	£59,952
Telecoms & utilities/electronics	£59,346
Oil & gas	£58,214
Energy/renewables/nuclear	£57,600
Food & drink/consumer goods	£54,769
Academia	£53,867
Automotive	£49,642
None of these	£49,317
Aerospace	£49,255
Chemicals & pharma/medical	£47,700
Defence & security/marine	£39,421
Rail/civil & structural	£39,292

### North (England)

Energy/renewables/nuclear	£58,654
Chemicals & pharma/medical	£56,739
Oil & gas	£52,966
Defence & security/marine	£52,929
Automotive	£45,538
None of these	£44,511
Rail/civil & structural	£43,842
Aerospace	£41,733
Food & drink/consumer goods	£40,722
Materials	£40,273
Academia	£38,750
Telecoms & utilities/electronics	£34,556

### Outside UK

Defence & security/marine	£76,632
Aerospace	£69,414
Chemicals & pharma/medical	£69,204
Energy/renewables/nuclear	£64,240
Telecoms & utilities/electronics	£63,837
Oil & gas	£60,893
Food & drink/consumer goods	£59,419
None of these	£58,601
Automotive	£45,891
Rail/civil & structural	£35,354
Materials	£34,767
Academia	£31,044

### Scotland, Wales or Northern Ireland

Oil & gas	£65,571
Materials	£61,500
Defence & security/marine	£53,750
Food & drink/consumer goods	£49,833
Academia	£46,400
Chemicals & pharma/medical	£46,333
Automotive	£45,500
Energy/renewables/nuclear	£44,941
Aerospace	£43,667
Rail/civil & structural	£40,333
None of these	£37,658
Telecoms & utilities/electronics	£36,267

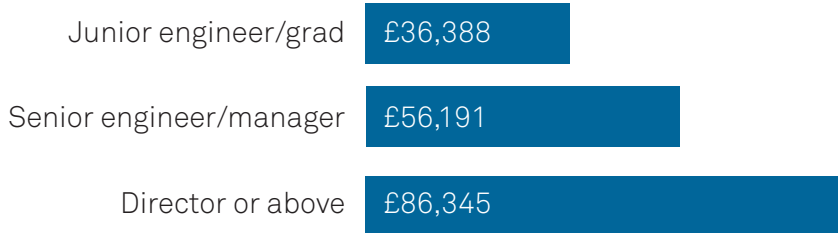
### South West (England)

Chemicals & pharma/medical	£63,500
Rail/civil & structural	£56,833
Energy/renewables/nuclear	£55,133
Oil & gas	£53,889
Telecoms & utilities/electronics	£52,500
Defence & security/marine	£51,769
Materials	£50,000
Food & drink/consumer goods	£49,214
Aerospace	£48,083
None of these	£44,400
Automotive	£41,200
Academia	£38,600

### London or South East

Energy/renewables/nuclear	£68,222
Automotive	£63,714
Food & drink/consumer goods	£62,889
None of these	£55,254
Chemicals & pharma/medical	£54,429
Oil & gas	£54,053
Rail/civil & structural	£52,889
Telecoms & utilities/electronics	£52,833
Aerospace	£51,516
Materials	£50,818
Academia	£47,797
Defence & security/marine	£47,775

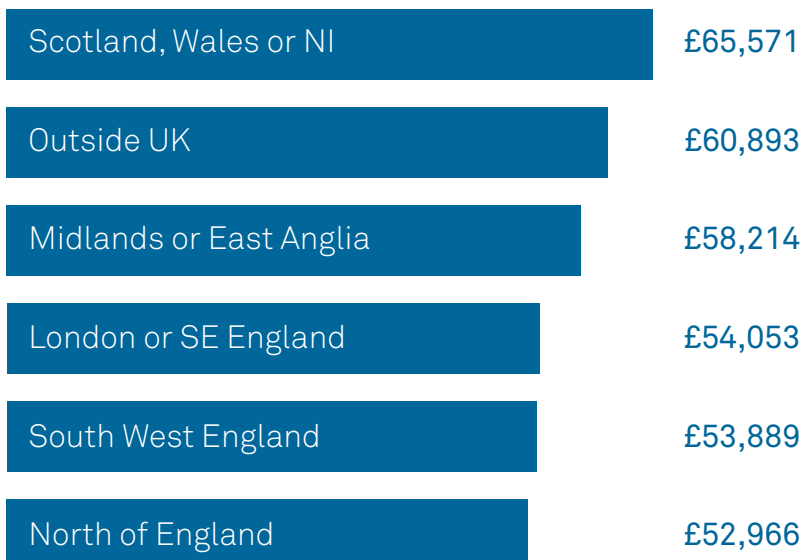
## average salary by seniority



# £57.2k

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

## average salary by region



## 3. oil and gas

While uncertainties remain in the global oil and gas market, UK production has increased by 20 per cent in the past five years, following 14 years of decline, according to a report by industry body Oil & Gas UK (OGUK).

This progress looks set to continue, with up to 15 new exploration wells expected in 2019. Indeed, more new projects were approved in 2018 than the previous three years combined, with a similar number expected this year, the OGUK Business Outlook 2019 states.

Salaries in the oil and gas industry have also risen this year, with engineers in the sector earning an average of £57,167 in 2019, compared with £53,913 in 2018. Of those oil and gas engineers surveyed, 67.9 per cent have received a pay increase in the past 12 months.

However, unlike previous surveys, the industry was not the highest paid overall this year, a title which fell to the energy, renewables and nuclear sector.

But while the sector does not boast the highest-paid senior engineers and managers or directors, it still offers the best pay levels for those starting out in the industry, with junior engineers and graduates in the sector earning £36,388 on average.

Engineers working in the oil and gas industry accounted for 6.8 per cent of respondents to our survey, a very similar percentage to last year.

The largest proportion of oil and gas engineers are based in the North of England. Over a quarter of respondents from the sector are based in the region, 27.4 per cent, up from 22.2 per cent in 2018. This is followed by those working outside of the UK (19.8 per cent) and in London and the South East (17.9 per cent).

### Nearly two-thirds are concerned about the impact of Brexit on the sector

Once again Scotland, regarded as the hub of the UK's oil and gas industry, comes in fourth place, with 13.2 per cent of the sector's engineers based here, compared with 17.8 per cent in 2018.

Almost half of engineers working in the sector have done so for between 20-40 years, while 57.1 per cent have a degree.

Nearly two-thirds of engineers in the oil and gas sector are concerned about the impact of Brexit on industry (63.2 per cent), up from just over half in the previous two surveys. Around a third (32.4 per cent) are worried about its impact on their own job security, a similar percentage to last year's survey.

## 4. energy, renewables and nuclear

Low-carbon energy from renewable and nuclear generators provided a record 52.8 per cent of the UK's electricity last year.

Renewable sources generated a record 33.3 per cent of the UK's electricity, with 17.1 per cent provided by onshore and offshore wind turbines, according to figures from the Department for Business, Energy and Industrial Strategy.

And with the government aiming for one-third of the UK's electricity to come from offshore wind alone by 2030, and plans for industry to invest £250 million to develop the supply chain, it is perhaps no surprise that engineers in the sector received the highest salaries of all the sectors surveyed, at an average of £58,695, up from £52,653 last year.

Engineers from the energy, renewables and nuclear industry make up 8.5 per cent of respondents to our survey, a similar figure to last year and making it the fourth largest sector.

The gender balance in the sector has improved slightly this year, with 8.3 per cent of respondents describing themselves as female, up from 6.2 per cent last year, and a little higher than the figure for industry as a whole (7.4 per cent).

### Job satisfaction in the sector has dipped, with 53.4 per cent happy in their role

Meanwhile, the percentage of respondents describing themselves as non-white has also grown a fraction this year, up from 10.7 per cent in 2018 to 11.3 per cent this year, and compared with 9.5 per cent for industry as a whole.

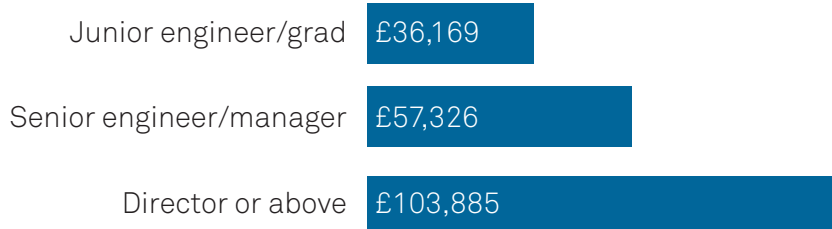
The increase in average salaries for engineers in energy, renewables and nuclear is most striking among directors, where the average pay packet is £103,885, the highest of all the sectors and up considerably from £76,226 in 2018, although the smaller survey size this year must be taken into account.

Senior engineers and managers in the sector earn £57,326 on average, compared with £52,532 in 2018, while junior engineers and graduates earn £36,169, up from £32,580 last year.

More than half of engineers in the sector (54.9 per cent) have obtained a degree, compared with 57.8 per cent in 2018.

However, despite the high wages, job satisfaction in the sector appears to have dipped, with 53.4 per cent of respondents saying they are happy in their role, the third lowest figure across all of the industries surveyed, and compared with 59.4 per cent for the profession as a whole.

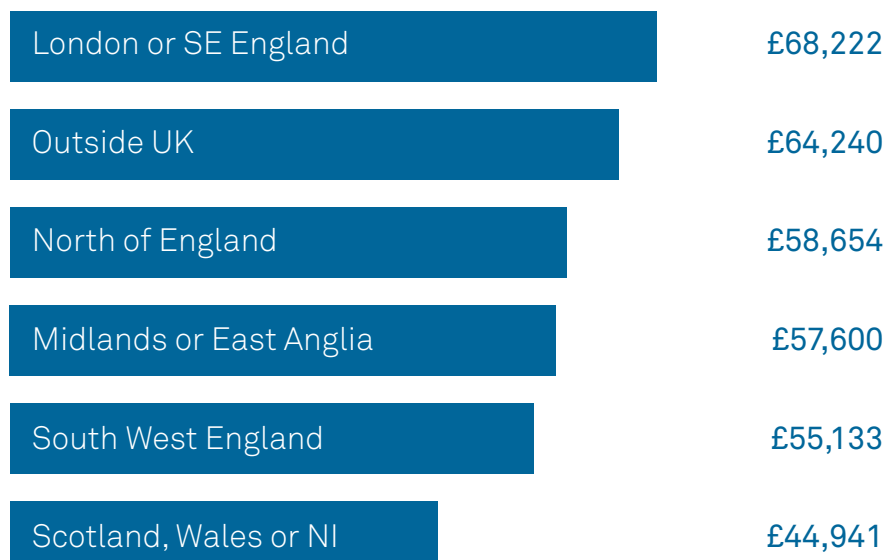
## average salary by seniority



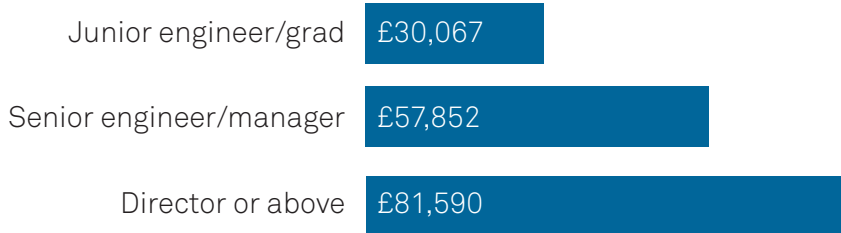
# £58.7k

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

## average salary by region



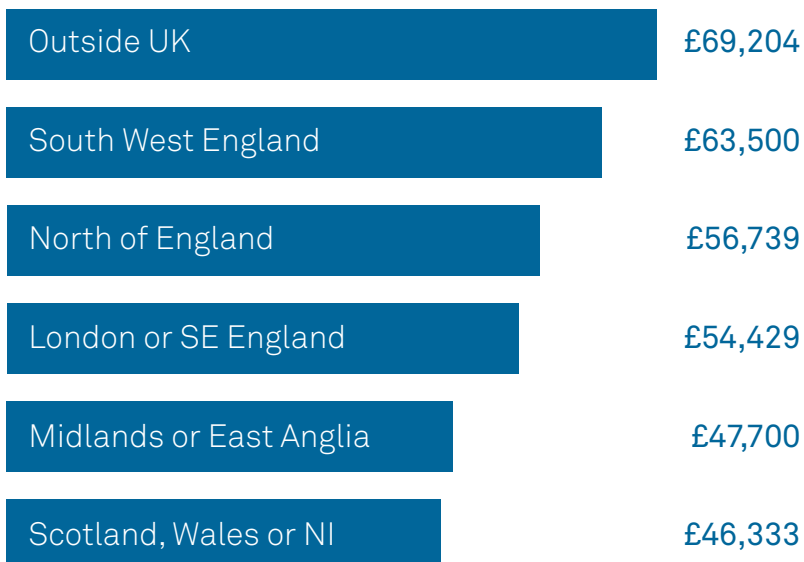
## average salary by seniority



# £56.2k

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

## average salary by region



## 5. chemicals, pharmaceuticals and medical

Concerns over Brexit are looming large over the chemicals, pharmaceuticals and medical industry.

In the pharmaceuticals industry, which employs 73,000 people in the UK, uncertainty over Brexit is leading to major investments being delayed until next year, according to process sector specialists Protel.

The chemicals industry, meanwhile, is widely expected to be among the most vulnerable to the impact of Brexit, due in part to the complexity of its supply chain, which often involves multiple border crossings. Despite this, major manufacturers such as Ineos have continued to invest in the UK, Protel says.

And these concerns over Brexit are also reflected in our survey, where three-quarters (75.9 per cent) of respondents from the sector said they were worried about its potential impact on industry, up from 65.4 per cent last year and compared with 70.2 per cent for the survey as a whole.

However, despite the uncertainty, pay has increased in the sector, rising from £50,890 in 2018 to £56,206 in 2019. As a result, the sector is once again the third highest-paid industry, behind energy, renewables and nuclear and oil and gas.

Engineers from the sector make up seven per cent of respondents overall, a similar figure to last year's survey. Of those, 8.3 per cent are female, compared with 7.3 per cent in 2018, and just 3.4 per cent in 2017.

Meanwhile, 7.3 per cent of respondents describe themselves as non-white, up slightly from 6.4 per cent last year.

### Directors, junior engineers and graduates' salaries are below industry average

Senior engineers and managers in the chemicals, pharmaceuticals and medical industry have the highest pay among all of the sectors at £57,852, up from £49,350 in 2018. This compares with £51,136 for senior engineers and managers across the industry as a whole.

However, both directors and junior engineers and graduates are this year earning salaries below the average for industry as a whole.

Engineers in the sector are among the most likely to feel valued in their roles (55.1 per cent), just behind those in energy, renewables and nuclear (55.6 per cent). They are also the third-happiest with their pay, at 45 per cent, up from 35.1 per cent in 2018.

## 6. automotive

It has been a tough year for the UK's car industry.

Honda announced plans to close its plant in Swindon, with the loss of up to 3,500 jobs.

Meanwhile, the latest figures from the SMMT show car production in the UK fell for the 10th consecutive month in March, caused by weak demand for exports in Asia and Europe, coupled with fewer domestic sales.

Fears over a possible no-deal Brexit have also continued to hang over the industry, with a recent report by the SMMT predicting it could lead to a 30 per cent drop in output by 2021.

But despite its current difficulties, the industry continues to employ huge numbers of people in the UK, while engineers from the automotive sector consistently make up the largest group of respondents to our salary survey. This year, some 12.2 per cent of respondents work in the sector, a very similar figure to last year (12.3 per cent).

The difficulties the industry is facing may be reflected in the modest pay increases engineers in the sector have experienced in recent years.

The average salary among automotive engineers responding to the survey in 2019 is £49,736, up slightly from the figure of £48,967 in 2018, which itself was a marginal increase from £48,100 in 2017.

### The industry's difficulties may be reflected in modest pay rises in the sector

Directors in the automotive sector are among the lowest paid across industry as a whole, taking home an average of £68,230. This is well below the average for all directors of £82,480, and a significant drop on the figure for 2018 of £81,226, although this may be a result of the sample size.

Senior engineers and managers in the sector earn just below the industry average, on £50,188, while junior engineers and graduates earn above the industry average, on £31,540.

Once again, automotive engineers working in London and the South East earn the highest wages on average, at £63,714, up from £56,954 in 2018.

But the largest group of automotive engineers in our survey is consistently those based in the Midlands and East Anglia (42.2 per cent).

Engineers in the sector remain broadly content, with over half (57.8 per cent) happy in their jobs, and 42.7 per cent satisfied with their salary, compared with 52.2 per cent and 35.7 per cent respectively in 2018.

They also continue to be the most likely to expect to remain in the industry for the next five years, at 86.4 per cent.

## average salary by seniority

Junior engineer/grad	£31,540
Senior engineer/manager	£50,188
Director or above	£68,230

# £49.7k

Average salary of an engineer working in the automotive sector

## average salary by region

London or South East England	£63,714
Midlands or East Anglia	£49,642
Outside UK	£45,891
North of England	£45,538
Scotland, Wales or NI	£45,500
South West England	£41,200



## average salary by seniority

Junior engineer/grad	£26,839
Senior engineer/manager	£50,168
Director or above	£92,966

# £51.8k

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

## average salary by region

Outside UK	£63,837
Midlands or East Anglia	£59,346
London or SE England	£52,833
South West England	£52,500
Scotland, Wales or NI	£36,267
North of England	£34,556

## 7. telecoms, utilities and electronics

The UK's telecommunications and electronics sector is at the forefront of many of the technological developments society is facing over the next few years, as we move towards the Internet of Things and the use of autonomous vehicles.

Both of these developments will lead to ever more devices being wirelessly connected to the internet.

Engineers spearheading these developments in the telecoms, utilities and electronics industry are the fifth largest group in our survey this year, with 8.1 per cent of respondents working in the sector.

The average salary for engineers in the sector is £51,825. This is slightly above the £51,253 average for industry as a whole, and an increase on last year's average for the sector, of £44,504.

Electronics and telecoms engineers working overseas once again command the highest wages, with an average salary of £63,837, a significant increase on last year's figure of £49,301. This is followed again by those in the Midlands and East Anglia, on £59,346. Engineers in the North of England are earning the lowest wages this year, on £34,556.

Once again, more than half of electronics engineers are happy in their job (57.5 per cent), while 35.4 per cent are satisfied with their pay, a slight increase on last year (31.5 per cent). More than half (54.3 per cent) also feel valued in their role, a rise of more than 10 per cent on last year (40.2 per cent).

### A third of engineers worked their way up the profession via an apprenticeship

Approximately half of engineers in the sector have a degree, a very similar figure to last year, while one-third worked their way up through the profession via an apprenticeship, compared with 28 per cent in 2018.

As in previous years, the proportion of respondents who are female (8.7 per cent), or describe themselves as non-white (11.8 per cent), is slightly above the figures for industry as a whole.

## 8. aerospace

The UK aerospace sector is now the second-largest aerospace industry in the world, according to a recent report by the Institution of Mechanical Engineers.

Major UK companies such as Rolls-Royce and BAE Systems regularly feature in the top 10 largest aerospace firms in the world, while big multinationals such as Airbus and Boeing have also made significant investments in the industry.

The UK aerospace industry has been at the forefront of aircraft design and development since the first airships were constructed in the mid-1800s.

Engineers from the aerospace industry are once again the second-largest group in our survey, with 10.8 per cent of respondents working in the sector, up from 9.6 per cent in 2018.

The average salary among aerospace engineers is £50,284, which is slightly below average for industry as a whole, but a moderate increase on last year's figure of £47,752. Junior engineers in the sector earn an average of £33,453, up slightly from £32,920 last year. This makes them the third-highest paid junior engineers, behind those in the oil and gas and energy, renewables and nuclear sectors.

### Just under three-quarters of aerospace engineers would consider moving sectors

Senior engineers and managers in the sector, meanwhile, earn just above the industry average, on £51,388, up from £50,014 in 2018.

The region with the largest proportion of aerospace engineers is the Midlands and East Anglia (32.5 per cent), followed by the South West (21.3 per cent), London and the South East (18.3 per cent) and overseas (10.1 per cent).

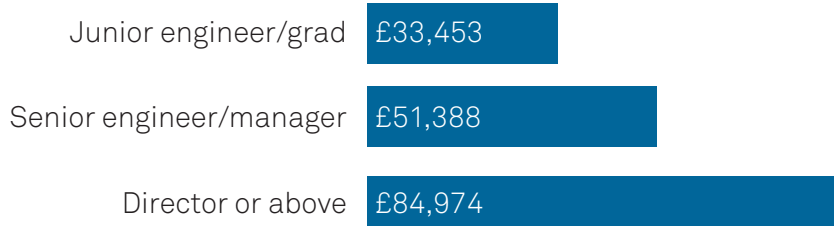
Once again, aerospace engineers based outside the UK earn the highest salaries among the different regions, with an average of £69,414, up from £61,461 in 2018. This compares with the North of England, where the average salary for the sector is £41,733.

Just under three-quarters of aerospace engineers (73.8 per cent) would consider moving to a different sector, a very similar figure to last year, with the automotive and defence industries proving the most popular, as in 2018.

Happiness levels in the sector appear to have improved this year, with 59.8 per cent happy in their current job, compared with 49.8 per cent in 2018. Meanwhile, 43.8 per cent are satisfied with their pay, compared with 32.9 per cent last year, and 84 per cent expect to remain in the industry for at least the next five years.

Just under half (46.1 per cent) of aerospace engineers are quite or very concerned about the impact of Brexit on their job security, up slightly from 44.3 per cent last year.

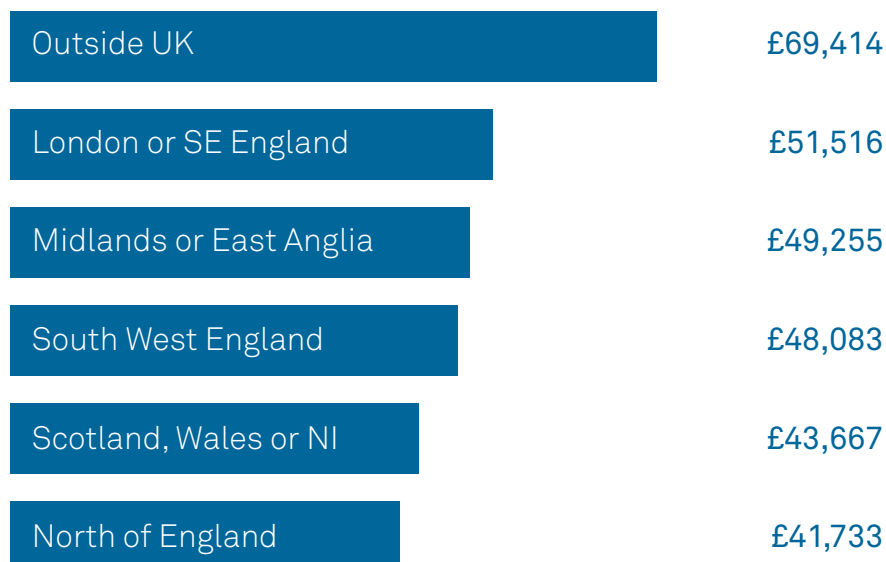
## average salary by seniority



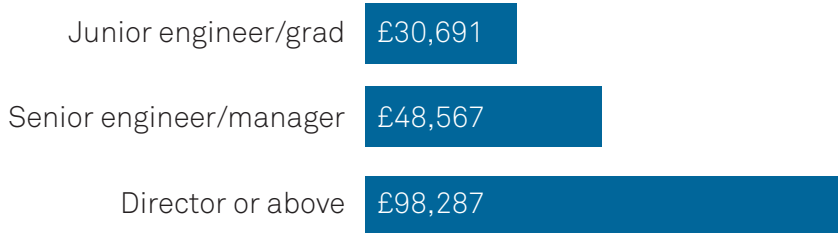
# £50.3k

Average salary of an engineer working in the aerospace sector

## average salary by region



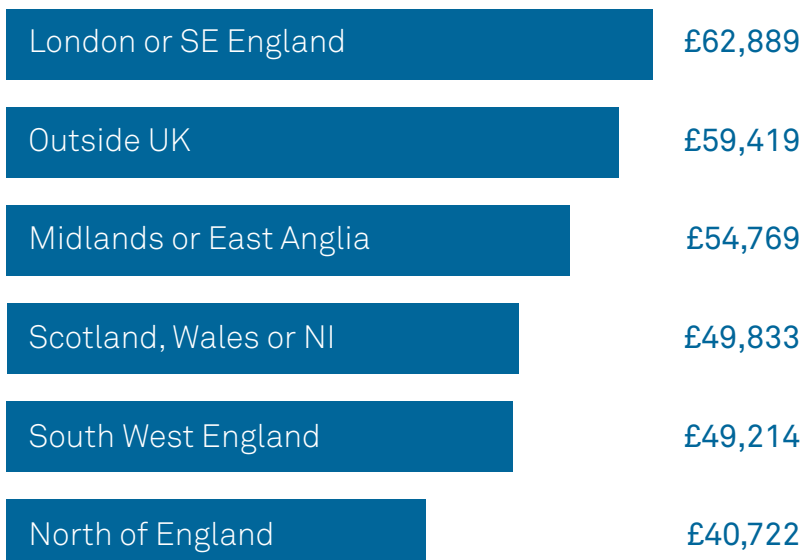
## average salary by seniority



# £52.9k

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

## average salary by region



## 9. food, drink and consumer goods

The food and drink industry is the UK's biggest manufacturing sector by far, larger than automotive and aerospace combined.

In 2018, the country's food and drink exports were worth more than £23 billion, according to the Food and Drink Federation.

Despite the enormous size of the industry, engineers from the sector make up just 5.8 per cent of respondents to our survey, above only those in materials and academia.

Of the food and drink and consumer goods engineers responding to our survey, just 1.1 per cent are female, which is once again the lowest percentage across the whole of engineering, and significantly below the industry average of 7.4 per cent. This is a reduction on even last year's low figure of 2.6 per cent, although this may be a result of the small sample size this year.

The average salary for engineers in the sector is £52,877, up from £48,155 in 2018, and above the average for industry as a whole.

Food and drink and consumer engineers across all seniority levels have seen their salaries rise this year, with the average salary for junior engineers and graduates increasing from £27,802 in 2018 to £30,691 in 2019.

Average salaries for senior engineers and managers have risen slightly – up from £47,187 in 2018 to £48,567 in 2019.

But it is directors in the sector that have seen the highest pay rises, with the average salary rising to £98,287, from £79,393 in 2018.

Engineers working in the food and drink and consumer goods industry are quite well spread out geographically.

Average salaries for directors in the sector rose to £98,287, up from £79,393 in 2018

Exactly one-quarter of engineers in the sector are based in the Midlands and East Anglia, a similar proportion to last year, while 21.7 per cent work in London and the South East, and 20 per cent work in the North of England.

Of the remaining third, 16.7 per cent work outside the UK, while 8.3 per cent work in Scotland, Wales or Northern Ireland, and 8.3 per cent work in the South West.

Engineers working in London and the South East once again earn the highest salaries in the sector, at an average of £62,889, up from £52,555 in 2018.

## 10. defence, security and marine

The UK is the second-largest defence exporter in the world, with average exports worth £7.3 billion.

The security sector, meanwhile, which deals with the increasing threat from terrorism and cybercrime, has grown by 57 per cent since 2012, and now has a turnover of £11.9 billion.

Engineers in the defence, security and marine industry make up 8.7 per cent of respondents to our survey, up from 7.9 per cent in 2018 and making them the third-largest group behind those in the automotive and aerospace sectors.

### Engineers in defence, security and marine are among the least content

Once again, our survey suggests that the industry has a long way to go to increase diversity among its engineers. Just 2.9 per cent of respondents from the defence, security and marine industry are female, compared with 3.7 per cent in 2018, giving it the second-lowest percentage of female engineers for the second year in a row. It also has the lowest percentage of respondents describing themselves as non-white for the second year running, at 5.1 per cent, up from 3.5 per cent in 2018.

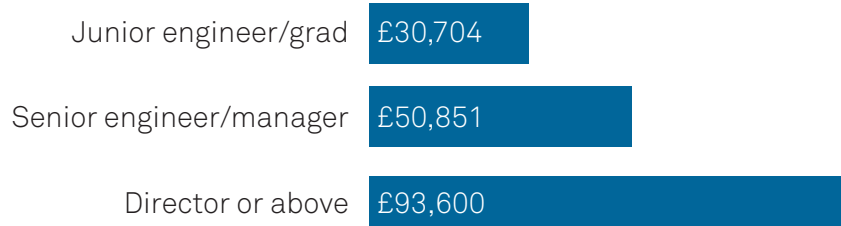
The average salary in the defence industry is £50,206, up from £47,968 in 2018. In particular, senior engineers and managers in the sector have seen their pay increase from £47,438 in 2018 to £50,851 this year, while junior engineers' average pay has risen from £29,157 in 2018 to £30,704 in 2019.

The average salary of directors in the sector has also risen in the past year, from £79,857 to £93,600, but it must be noted that this is a very small sample size.

Defence, security and marine engineers working outside the UK earn the highest wages in the sector, at £76,632, although once again, the small sample size may have had an impact on this figure. This is followed by those working in Scotland, Wales and Northern Ireland, on £53,750, and in the North of England, on £52,929.

Engineers in defence, security and marine are among the least content in our sample group. Just 52.6 per cent of engineers from the sector are happy in their current job, the lowest across the whole of industry. Similarly, only 37.2 per cent feel valued in their current role.

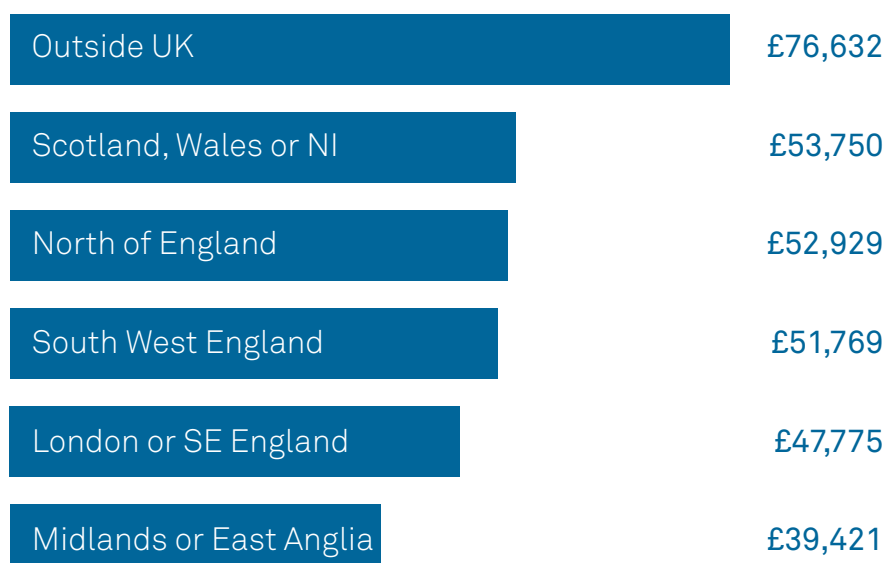
## average salary by seniority



# £50.2k

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

## average salary by region



## average salary by seniority

Junior engineer/grad	£31,761
Senior engineer/manager	£49,159
Director or above	£86,345

# £46.4k

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

## average salary by region

South West England	£56,833
London or SE England	£52,889
North of England	£43,842
Scotland, Wales or NI	£40,333
Midlands or East Anglia	£39,292
Outside UK	£35,354

## 11. rail, civil and structural

The UK's rail industry has come under a considerable amount of pressure this year, with damaging headlines about delays to the opening of Crossrail and concerns over the spiralling costs of High Speed 2.

But with work on Crossrail continuing, and the first phase of HS2 between London and Birmingham due to open in 2026, demand for skilled engineers in the sector remains high.

Despite this, the average salary for engineers in the rail, civil and structural sector is £46,369, the second lowest after academia, although a slight increase on last year's figure of £45,871.

As in previous years, the lower salaries achieved by engineers in the industry may help to explain why they are a dissatisfied bunch, on the whole. Just 52.8 per cent of engineers in the sector are happy in their current job, the second-lowest figure for the whole of industry, behind those in defence, security and marine. This is a slight improvement on the picture in 2018 though, when engineers in the sector were the least likely to say they were happy in their jobs, at 39.2 per cent.

Only 42.3 per cent of engineers in the sector say they feel valued in their current role, once again making them the second-lowest group behind defence, security and marine engineers. This again marks an improvement on last year, when just 30.4 per cent felt valued, putting them at the bottom of the table.

Engineers in the rail, civil and structural sector make up 6.9 per cent of our respondents, a similar figure to last year's survey.

### Ethnic diversity in the sector is above the average across the industry as a whole

Ethnic diversity in the sector is consistently above the average across the industry as a whole, with 11.1 per cent of respondents describing themselves as non-white this year, down slightly on last year's figure of 13.5 per cent.

Gender diversity has improved slightly in the sector this year, with the percentage of female respondents rising from 8.4 per cent in 2018 to 11.1 per cent in 2019.

## 12. materials

The materials industry is the unsung hero of UK manufacturing, with developments in the sector underpinning breakthroughs in many other areas of technology.

Graphene is revolutionising many areas of electronics and energy storage, for example, while the development of carbon fibre composites has led to lighter, more fuel-efficient cars and aircraft.

Engineers in materials make up 4.5 per cent of respondents to our survey. The average salary for engineers in the sector is £48,773, a marginal increase on last year's figure of £47,130.

### The highest salaries can be found in Scotland, Wales and Northern Ireland

The highest salaries in materials can this year be found in Scotland, Wales, and Northern Ireland, at £61,500, although this may be a result of the very small sample size. This is followed by the Midlands and East Anglia (£59,952), and London and the South East (£50,818). The lowest earning engineers in the sector are those working outside the UK, on £34,767, although again this may be influenced by the small sample size for this group.

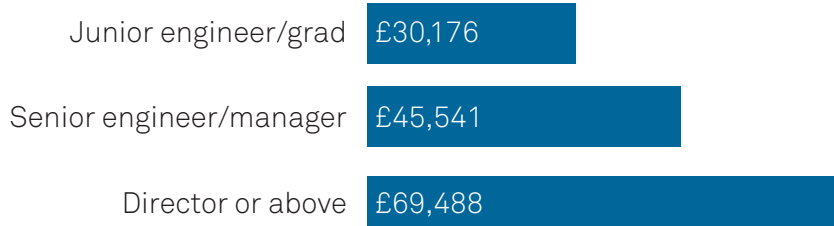
The largest proportion of materials engineers in this year's survey are based in the North of England (31 per cent), followed closely by those in the Midlands and East Anglia (29.6 per cent).

As in 2018, engineers working in the materials sector are a reasonably content bunch, overall, with 50.7 per cent of respondents claiming to be happy with their salary, the highest figure for industry as a whole. This is an improvement on last year's survey, when just 29.2 per cent were satisfied with their pay.

The same percentage (50.7 per cent), feel valued in their current role, compared with 39.6 per cent last year.

In terms of diversity, just 5.6 per cent of respondents from the materials sector are female, although 12.7 per cent describe themselves as non-white, the second highest figure across industry.

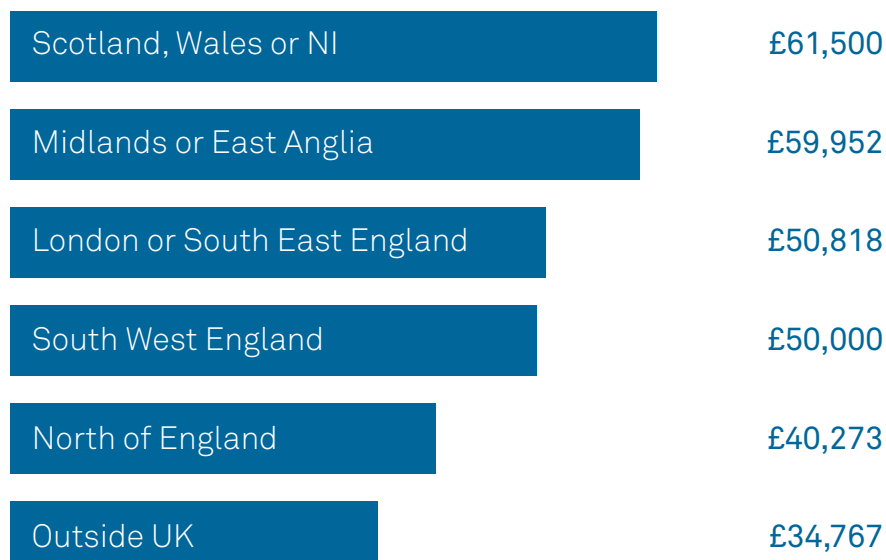
## average salary by seniority



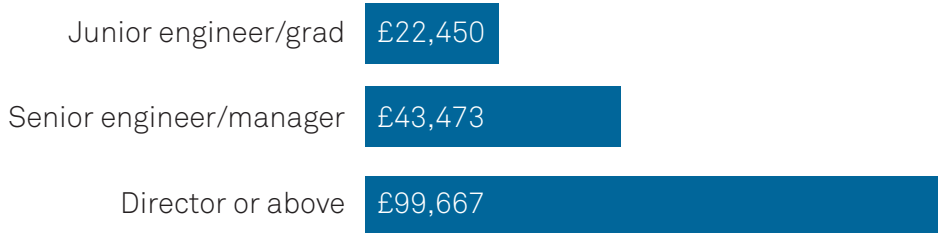
# £48.8k

Average salary of an engineer working in the materials sector

## average salary by region



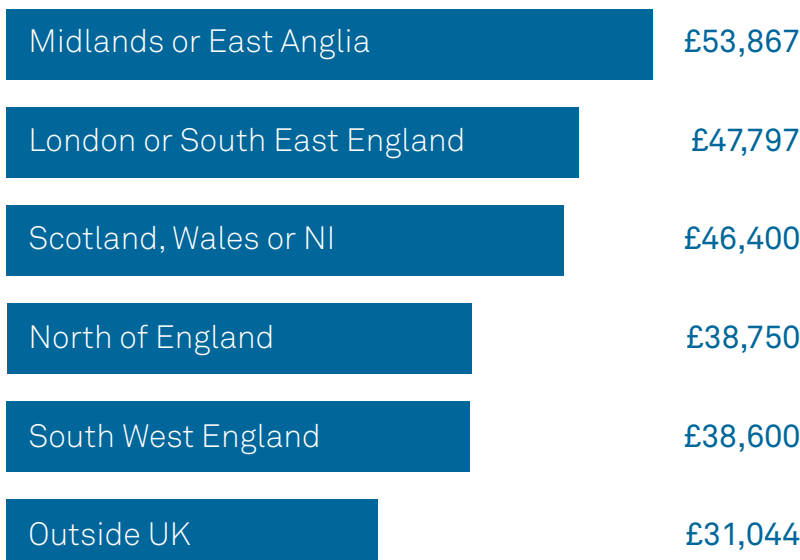
## average salary by seniority



# £43.9k

Average salary of an engineer working in the academia sector

## average salary by region



## 13. academia

Just as in previous surveys, engineers working in academia account for the smallest group of respondents, meaning sample size may have a more significant impact on the results than in other sectors.

Indeed, engineers working in academia make up just 3.8 per cent of respondents to this year's survey, a similar figure to 2018.

Engineers in the sector are earning an average salary of £43,870 in 2019, down slightly from £44,774 last year. This is the lowest average salary of any of the standalone sectors in our survey.

This year, just less than half of engineers in the sector responding to the survey have a bachelor's degree (48.3 per cent), a slight drop on last year. Surprisingly, this is the second lowest proportion of graduates across all of the sectors, behind the food and drink industry.

Meanwhile, 45 per cent of engineers in academia have a Master's degree, an increase on last year (36.5 per cent), and 31.7 per cent have a doctorate, compared with 27.1 per cent in 2018.

In terms of diversity, 83 per cent of respondents from academia describe themselves as white and male, a slight improvement on last year's figure of 88 per cent.

Exactly one-quarter of engineers working in academia are based in the Midlands and East Anglia, followed by London and the South East (21.7 per cent), the North of England (20 per cent), outside the UK (16.7 per cent), Scotland, Wales and Northern Ireland (8.3 per cent) and the South West (8.3 per cent).

Academics in the Midlands and East Anglia are once again earning the highest salaries on average in 2019, at £53,867. This is an increase on the average salary for the region in 2018 of £48,000, although the small sample size may have had an impact on this figure.

## Engineers in the academia sector remain the most content in their jobs

A quarter of engineers in academia are happy with their pay, down from a third in 2018, perhaps reflecting the slight decrease in overall earnings for the sector, and the fact that it is the lowest-earning industry across the survey.

However, despite this salary dissatisfaction, engineers in the sector remain the most content in their jobs, with two-thirds describing themselves as happy in their role.

## 14. age

Concerns about the aging nature of the engineering profession will not be lessened by the results of this year's salary survey.

The average age of engineers across all sectors in 2019 is 47.6, up from 45.8 in 2018 and 45.4 in 2017. Engineers in academia are the oldest of all the sectors, with an average age of 51.9, followed by the oil and gas industry, at 50. This is a shift from 2018, when engineers in the chemical, pharmaceuticals and medical sector were the oldest, with an average age of 47.6.

The youngest engineers across the entire industry are those in the rail, civil and structural sector, with an average age of 43.

Worryingly, just as in the previous two surveys, there are more engineers in their fifties than any other age bracket, with 32.6 per cent of respondents aged between 50 and 59. This is a slight increase on last year's survey.

And once again, there are also more engineers in their sixties (15.2 per cent) than in their twenties (12.3 per cent), meaning more engineers are nearing retirement age than just entering the profession.

Of the remaining engineers, 16.8 per cent are in their thirties, and 21.2 per cent are in their forties.

This year, the aerospace industry has the highest percentage of engineers in their fifties (37.3 per cent). Academia, meanwhile, has the lowest percentage of engineers in their fifties (23.3 per cent), but also the lowest percentage of engineers in their twenties (3.3 per cent).

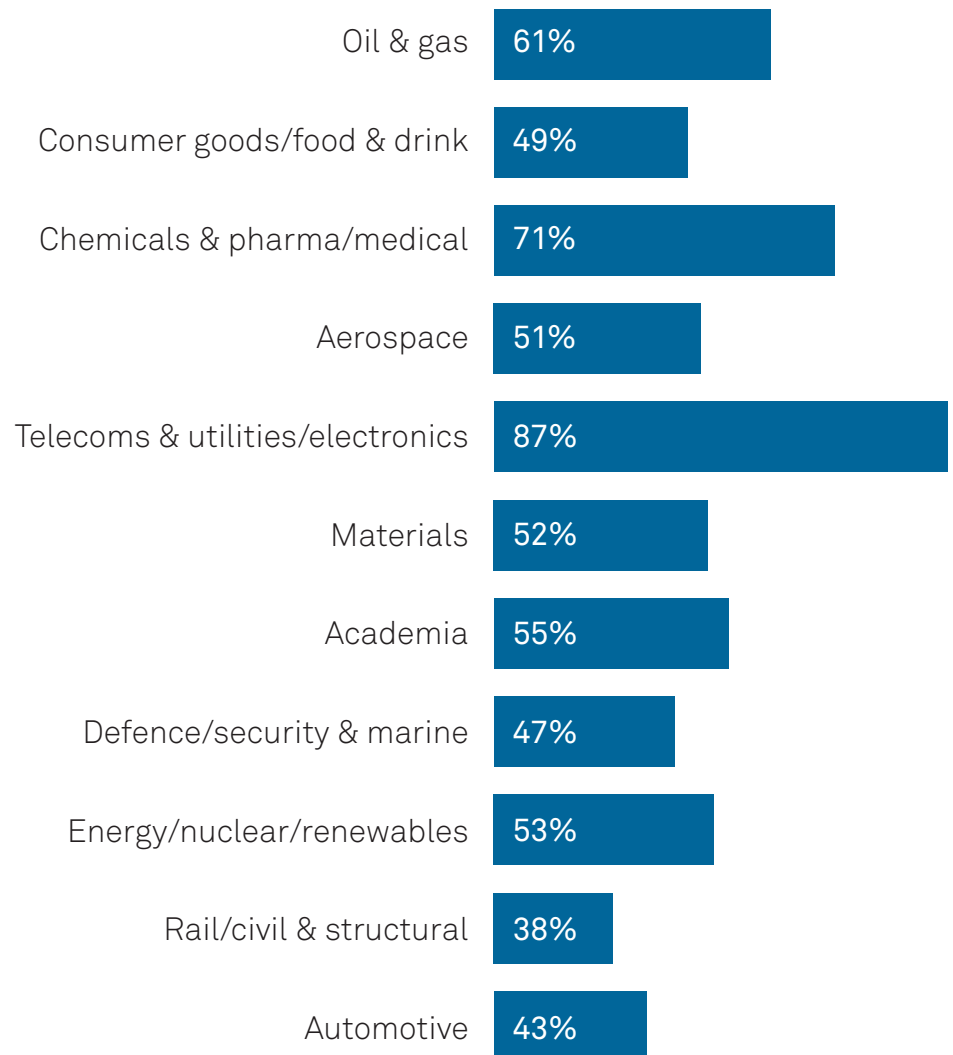
## Engineers in their thirties are the most likely to be happy with their pay

The youthful rail, civil and structural sector once again has the highest percentage of engineers in their twenties (21.3 per cent), and the second lowest percentage of engineers in their fifties (25 per cent).

Engineers in their sixties are once again the most content in their roles, with 64.6 per cent of those in this age bracket describing themselves as happy in their jobs, up from 61.4 per cent in 2018, and 58.7 per cent in 2017.

Those in their thirties are most likely to be happy with their pay (43.4 per cent). Engineers in their forties are least likely to be satisfied with their salary (40.8 per cent), while those in their fifties are least likely to be happy in their job (56.4 per cent).

# percentage of engineers over 50 by sector





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	43,830	51.8	25	66.67	30	83	45	21.67
Aerospace	50,284	47.2	43.8	59.8	39.7	84	49.11	22.49
Automotive	49,736	46.2	42.7	57.8	39.1	86.4	45.8	25
Chemicals & pharma/healthcare	56,206	47.3	45	56.8	44.04	84.8	55.1	24.8
Defence & security/marine	50,206	47.1	36.5	52.5	46.7	80.1	37.2	24.1
Energy/renewables/nuclear	58,695	47.8	49.6	53.4	45.1	72.2	55.6	18.8
Food & drink/consumer goods	52,877	47.7	41.7	62.6	42.8	74.7	20.8	45
Materials	48,773	49.06	50.7	56.34	46.5	80.9	50.7	19.7
Oil & gas	57,167	45.9	42.45	57.55	46.2	78.2	44.3	23.5
Rail/civil & structural	46,369	43.3	38.89	52.7	46.3	79.6	42.5	15.7
Telecoms & utilities/electronics	51,825	47	35.4	57.5	46.8	82.5	54.3	18.9

## 15. job satisfaction

Engineers working in all sectors of industry have seen an increase in their average salary this year, from £47,896 in 2018 to £51,253 in 2019, according to our survey.

As in previous years, the highest salaries can be found in those sectors producing the country's energy and fuel. However, this year engineers in the energy, renewables and nuclear sector have overtaken their counterparts in oil and gas, with an average salary of £58,695. This compares to an average of £52,653 in 2018.

In the oil and gas industry, the second-highest earning sector in our survey, engineers earned an average of £57,167 in 2019, compared with £53,913 in 2018.

At the other end of the pay scale, engineers in academia received the smallest pay packets on average, earning £43,830. This is a reduction on their 2018 salary of £44,774, making them the only sector not to see an overall pay rise this year.

Engineers in the rail, civil and structural engineering sector were the second-lowest earners this year, with an average salary of £46,369.

But proving once again that money does not buy happiness, engineers in academia are the most

content in their jobs. For the third year in a row, engineers in the sector have topped the poll of those describing themselves as happy in their job, at 66.7 per cent, an increase on 56.5 per cent in 2018, and 61 per cent in 2017.

Meanwhile, engineers in the materials industry are happiest with their salary, with 50.7 per cent describing themselves as content with their level of remuneration, compared with just 29.2 per cent in 2018. Engineers in the sector have seen their average pay rise from £47,130 in 2018 to £50,818, which may explain this rise in contentment levels.

The high earners in the energy, renewables and nuclear industry are the second-happiest with their salary, with 49.6 per cent describing themselves as satisfied with their pay. Engineers in the energy, renewables and nuclear industry were also the most likely to feel valued in their role, on 55.6 per cent, followed closely by those in the chemicals and pharmaceuticals and medical sector, on 55.1 per cent.

Once again, engineers in the automotive sector were the most likely to see themselves staying in the industry for the next five years, with 86.4 per cent expecting to remain in the sector for at least that period. Engineering professionals in academia,

meanwhile, are the least likely to be considering a change of job (35 per cent).

Sadly, not everyone is as content with their lot. Engineers in the defence and security and marine industry are the least likely to say they are happy in their job (52.6 per cent). This is followed closely by last year's least happy engineers in the rail, civil and construction industry (52.8 per cent).

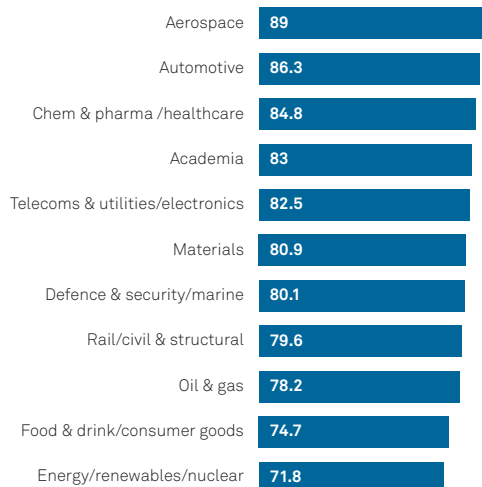
Perhaps unsurprisingly, engineers in academia, consistently among the lowest-paying industries for all but directors and above, are the least satisfied with their salary. Indeed, just a quarter of engineers in academia say they are happy with their pay this year, down from 34.1 per cent in 2018.

A quarter of engineers in the chemicals and pharmaceuticals and medical industry (24.8 per cent) do not feel valued in their current role, followed by those in the defence and security and marine sector (24.1 per cent).

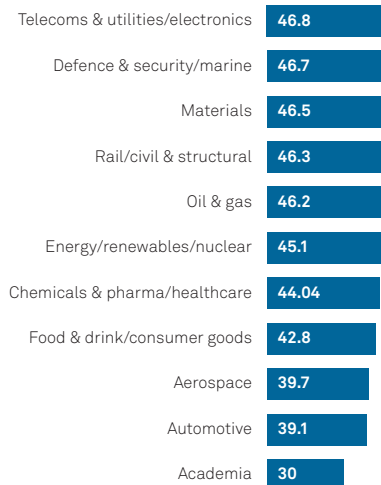
Despite being the highest-paid industry this year, engineers in the energy, renewables and nuclear sector are the least likely to see themselves staying in the industry for the next five years (72.2 per cent), and among the most likely to be considering a change of job (45.1 per cent).

## 16. change of job/leaving industry

% likely to remain in industry (next five years)



% considering a change of job



Despite dissatisfaction over pay or a lack of appreciation in some industries, the vast majority of engineers expect to remain in their chosen career for the foreseeable future.

Overall, 81.2 per cent of engineers questioned said they expect to remain in the industry for at least the next five years, precisely the same number as last year, and very similar to 2017 (81.9 per cent).

What's more, just 10.6 per cent consider it unlikely or highly unlikely they will be in the industry for the next five years, compared with 10 per cent in 2018.

Of those engineers who are considering leaving the industry, their main reasons are a search for a new challenge (65 per cent), and better salaries (40.7 per cent), as well as limited opportunities in their existing role (32.1 per cent).

For those engineers looking for a change within the industry, meanwhile, improving their salary is once again the chief motivation (65 per cent), compared with 72 per cent in 2018.

Among the engineers surveyed, 49.8 per cent would consider taking a position overseas, up

slightly from 47.9 per cent in 2018. The most popular destinations are Europe (77.6 per cent), North America (68.8 per cent), and Asia Pacific (45.2 per cent).

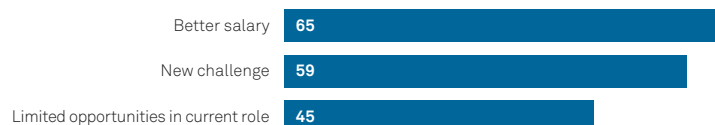
Just below half (44.3 per cent) of engineers said they were considering a change of job, while three-quarters would consider changing to a different industrial sector, both similar percentages to the results of the 2018 survey.

Once again, renewables is the most popular destination for those considering a change of sector (42.8 per cent), followed by aerospace (42.2 per cent). However, this year, energy (40.8 per cent) has overtaken the automotive sector (36.1 per cent), to take the third-place slot.

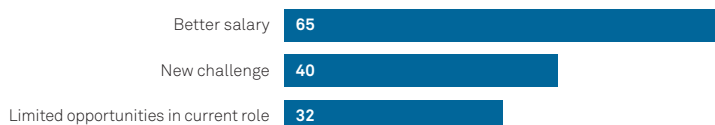
This year's least popular sector is the chemicals and pharmaceuticals industry, with just 13.4 per cent of engineers entertaining the idea of a move there.

Engineers in the energy, renewables and nuclear industry are the most likely to be considering a change of job (51.1 per cent), while those in academia have the lowest percentage of professionals considering a switch (35 per cent).

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



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



## 17. benefits and bonuses

Among those industries offering engineers a bonus on top of their annual salary, the most generous sector this year is aerospace.

Of those engineers working in the sector who responded to our survey, 64.6 per cent receive a bonus, followed by 61.8 per cent in the chemicals, pharmaceuticals and medical industry.

Overall, 53.5 per cent of engineers across all sectors receive a bonus, an increase on last year's figure of 47.4 per cent, and 46.8 per cent in 2017.

As in previous years, though, academia has the lowest percentage of engineers receiving a bonus, with 7.6 per cent being awarded one this year, down

from 9.3 per cent in 2018, and 11 per cent in 2017. After a slight dip last year, the percentage of engineers on a contributory pension scheme has increased this year, rising from 72.5 per cent in 2018 to 78.1 per cent in 2019.

And once again, it is engineers in the aerospace sector who are the most likely to be part of a contributory pension scheme (84.8 per cent), followed by those in oil and gas (81.2 per cent), and food and drink and consumer goods (80 per cent).

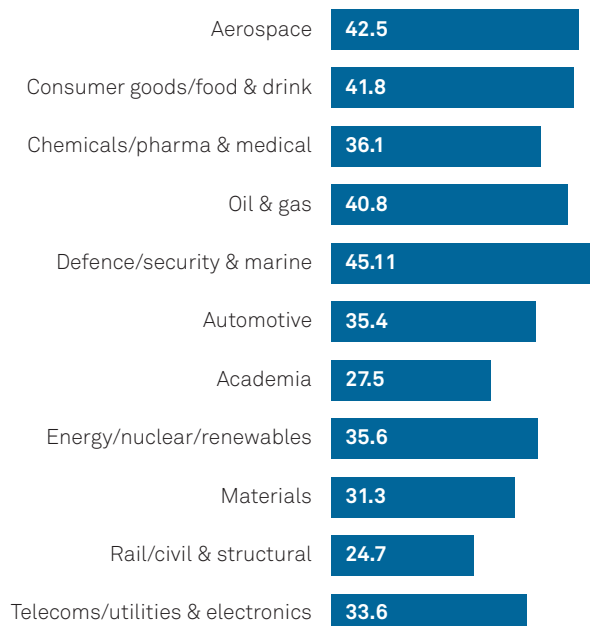
Meanwhile, engineers working in the chemicals, pharmaceuticals and medical sector are least likely to receive a contributory pension (71.6 per cent).

Just over a third (38.5 per cent) of engineers across all sectors receive private medical insurance, a marginal increase on the figure for 2018 (37.8 per cent).

Engineers in the materials industry are the most likely to receive private medical insurance, with 53.5 per cent of those surveyed being awarded the benefit, compared with just 7.6 per cent in academia.

When it comes to the other benefits engineers are offered, 40.6 per cent can access flexible working arrangements, 33.6 per cent receive life insurance cover, 19.6 per cent have a car allowance, and 20.1 per cent are offered share options.

## % qualified by apprenticeships



## 18. routes into the industry

Despite efforts to encourage more young people into apprenticeships, the routes engineers choose to pursue in entering the profession have remained remarkably consistent since *The Engineer* began its annual salary survey.

Once again, half of all engineers surveyed (52 per cent) have a degree, while 36.9 per cent entered the profession through an apprenticeship, a very slight drop compared with 2018 (38.9 per cent).

Indeed, according to the results of our survey, it appears that fewer young people are entering the industry through apprenticeships, with just 19.7 per cent of under-thirties choosing this route, compared with 26.1 per cent in 2018.

The percentage of engineers having chosen an apprenticeship continues to rise with age, as in previous surveys, with 20.3 per cent of those in their thirties, 31.8 per cent of those in their forties, 45.4 per cent of those in their fifties and 55.5 per cent of those in their sixties having taken this route.

## Fewer young people are entering the industry through apprenticeships

And just as in 2018, the reverse is broadly true for engineers having chosen to undertake a degree, with 56 per cent of under-thirties, 58.1 per cent of those in their thirties, 55.9 per cent of those in their forties, 51.9 per cent of those in their fifties and 38.4 per cent of those in their sixties having taken the university route.

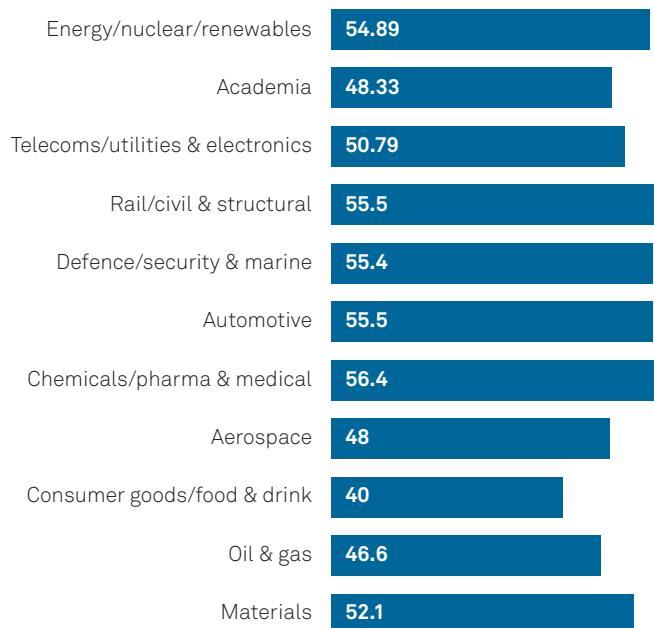
There also remains a considerable gender imbalance, with 38.5 per cent of male engineers having entered the industry through an apprenticeship, compared with 14.3 per cent of women. However, this latter figure is a slight improvement on 2018, when just 10.7 per cent of female engineers had chosen an apprenticeship.

Among the individual sectors, the defence, security and marine industry has the highest percentage of engineers who have pursued an apprenticeship (45.1 per cent), followed by aerospace (42.5 per cent), and food and drink and consumer goods (41.9 per cent).

The lowest percentage of engineers with an apprenticeship can this year be found in the rail, civil and structural sector (24.7 per cent).

This year, the oil and gas industry has the highest percentage of graduates, with 57.1 per cent having undertaken a degree, followed by the chemicals, pharmaceuticals and medical sector (56.5 per cent).

## % qualified by degrees



## 19. professional registration

Once again, more than half of all engineers responding to our survey have not chosen to pursue professional registration.

However, there are some positive signs for the engineering bodies, with the percentage of those who have chosen professional registration increasing this year, from 39.4 per cent in 2018 to 45.1 per cent in 2019.

As in previous years, the proportion of engineers who are professionally registered rises with seniority. So 34.6 per cent of junior engineers and graduates are professionally registered, compared with 32.2 per cent in 2018, while among senior engineers and managers, the figure rises to 46.2 per cent this year, compared with 39.3 per cent last year. Meanwhile, 52 per cent of directors and above have chosen professional registration, compared with 50.8 per cent in 2018.

There also remains significant variation among the individual sectors in the percentage of engineers to have chosen professional registration. So, for the fourth year running, engineers in the energy, renewables and nuclear sector have the highest rate of professional registration (56.9 per cent), suggesting it is highly prized by those in the industry.

At the other end of the scale, meanwhile, just 33 per cent of engineers in the food and drink and consumer goods industry have pursued professional registration, followed by 39.1 per cent of those in the materials sector.

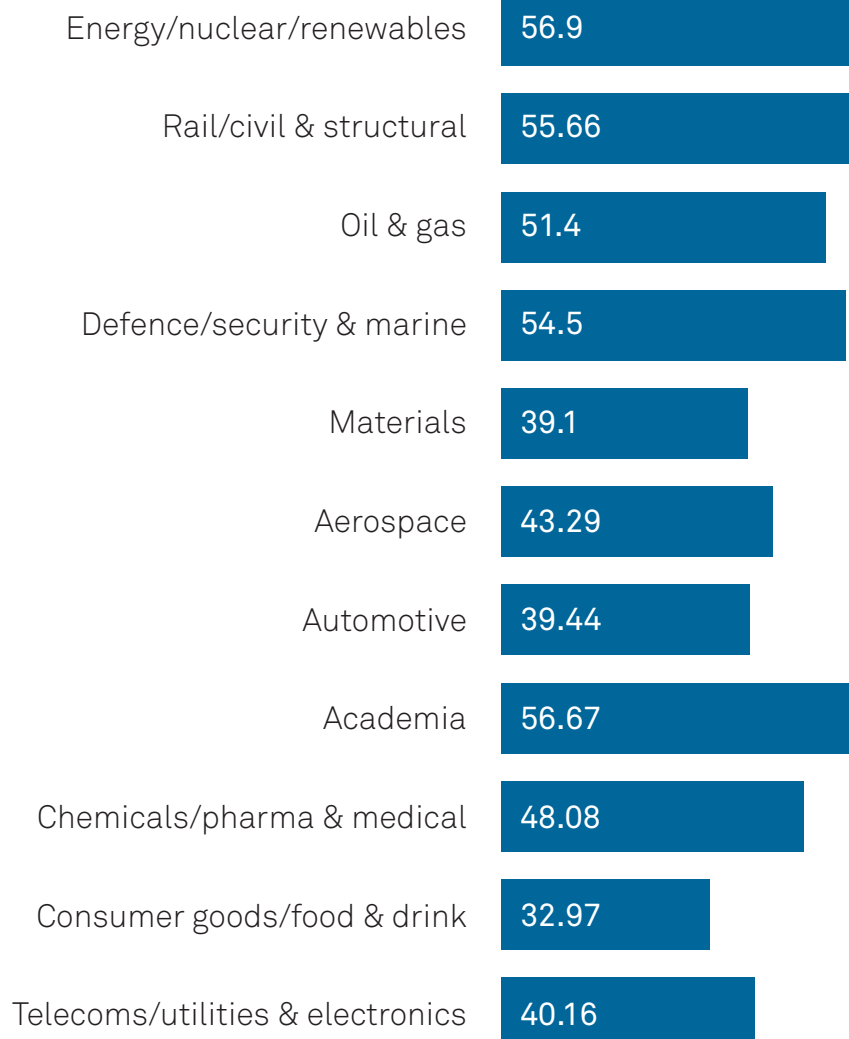
Pursuing professional registration is also consistently one area where there is only a slight difference between male and female engineers, with 49.5 per cent of women and 44.7 per cent of men having chosen to do so. The percentage of both male and female engineers pursuing professional registration has increased from 40.5 per cent and 39.4 per cent respectively in 2018.

### Some 60.6 per cent of non-white respondents chose professional registration

However, once again, the difference in the value placed on professional registration between white and black, Asian and minority ethnic engineers is stark. This year, 60.6 per cent of non-white respondents have chosen professional registration, up from 52.5 per cent in 2018. This compares with 43.3 per cent of white engineers, itself an increase from 37.7 per cent in 2018.

As was the case in 2018, the gap between the two groups has widened this year, suggesting non-white engineers prioritise professional registration more than their white counterparts.

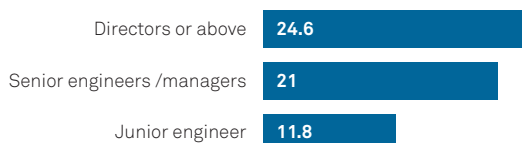
## % professionally registered



### % professionally registered – by seniority

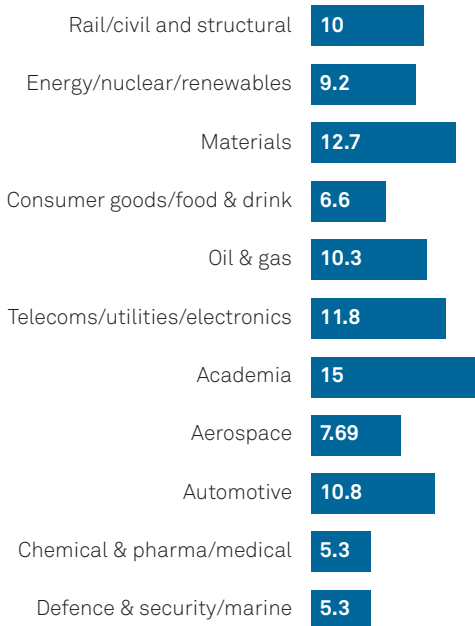


### % agree professional registration leads to higher salary – by seniority



## 20. gender and diversity

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



The gap between male and female pay throughout the UK workforce has continued to make headlines this year.

However, in engineering at least, our survey suggests the pay gap is finally shrinking slightly.

The average salary for female engineers responding to our survey in 2019 is £42,913, up from £35,801 in 2018. This is based on a similar spread of seniority to our 2018 survey, although the smaller sample size this year may have had an impact on the results.

In contrast, the average salary among male engineers in 2019 is £51,848, compared with £48,724 in 2018. While this demonstrates that there is still a pay gap between male and female engineers, this has shrunk from approximately £13,000 in 2018, to just under £9,000 in 2019.

As in previous years, this gap can be partly explained by the difference in seniority among male and female engineers responding to the survey. Just 2.3 per cent and 11.3 per cent of male respondents describe themselves as graduates and junior engineers respectively – very similar percentages to our previous survey – compared with 7.8 per cent and 19 per cent of females.

Similarly, 47.2 per cent of male engineers describe themselves as senior engineers, compared with 38.8 per cent of females, although this gap has narrowed slightly from 2018, when the figures were 45.8 per cent and 30.5 per cent respectively.

Once again, the proportion of male and female managers is very similar, at 29 per cent and 30.2 per cent respectively. These figures are very similar to 2018, although significantly, female engineers have overtaken their male counterparts this year.

The pay gap within the different levels of seniority also appears to be narrowing. This is particularly the case among graduates and junior engineers, of whom females are earning an average of £30,700, compared with £30,878 for males.

The gap increases to around £6,000 among senior engineers and managers, of whom women earn £45,458 and men £51,548. However, it narrows again to just over £4,000 at director level and above, where women earn £77,900 and men £82,145. This compares to a huge pay gap of £27,542 among male and female directors in 2018, although once again, the smaller sample size this year may have had an impact on this difference.

Despite some good news on pay differences, though, the overall gender imbalance in engineering continues to be a cause for concern. The percentage of female engineers responding to our survey in 2019 is just 7.4 per cent. This has barely increased in the past two years, rising only slightly from seven per cent in 2017 and 7.2 per cent in 2018.

The individual sector with the highest percentage of female engineers is yet again academia, where 16.7 per cent of respondents are women. This is followed by the rail, civil and structural industry, on 11.1 per cent.

But worryingly, this year just 1.1 per cent of engineers responding to our survey from the food and drink and consumer goods sector were women, compared with an already very low 2.6 per cent in 2018. This is the second year running the sector has had the worst gender imbalance throughout engineering, suggesting more needs to be done to attract women to the industry.

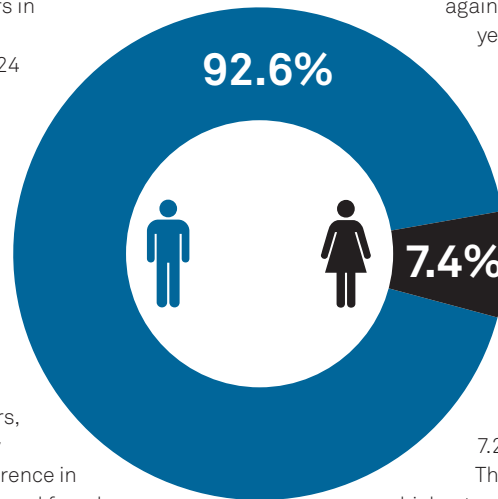
The diversity gap in engineering, meanwhile, is continuing to narrow only marginally each year, with 87.9 per cent of respondents describing themselves as white in 2019, compared with 88.6 per cent in 2018, 89.3 per cent in 2017 and 92.1 per cent in 2016.

In 2019, 9.5 per cent describe themselves as black, Asian or minority ethnic, compared with 8.1 per cent in 2018.

This year, the sector with the highest percentage of non-white engineers is academia, with 15 per cent, followed by materials, with 12.7 per cent.

In contrast, just 5.1 per cent of respondents from the defence, security and marine sector describe themselves as non-white.

Engineers describing themselves as non-white are earning an average of £42,580 in 2019, compared with an average of £51,963 among white engineers.



### Average salary by gender by seniority

	Junior	Senior	Director
Male	£30,878	£51,548	£82,145
Female	£30,700	£45,458	£77,900