

The Automotive Industry

# CAREER GUIDE



**SMMT**  
DRIVING THE  
MOTOR INDUSTRY



Published by SMMT  
Charitable Trust Fund



The Worshipful Company  
of Coachmakers

# THE SOCIETY OF MOTOR MANUFACTURERS AND TRADERS

## CHARITABLE TRUST FUND

The Trustees of the SMMT Charitable Trust Fund are delighted to publish this valuable careers guide.

The transition towards electric, connected and automated vehicles is a seismic change for the automotive sector, and it brings exciting opportunities for students looking at a career in the industry.

Some of the most highly regarded automotive companies and race teams are based in the UK, making cutting-edge products that are in demand around the world.

Jobs with these companies are sought after because they are highly skilled and better paid than average with a range of different opportunities available, from product development and design to vehicle engineering, and software creation to sales, marketing, corporate and communication through new channels.

UK Automotive is undergoing an immense transformation, and key to our success will be our people. A rich diversity of skills, perspectives and experience can give us a competitive advantage, and that has to mean enhancing our diversity, never resting until everyone feels included and valued.

SMMT Group's five-year strategy is our roadmap, and the destination is clear. Above all, it is testament to our ambition and our commitment to create a culture where all can thrive and drive success together.



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# INTRODUCING THE AUTOMOTIVE INDUSTRY

Exciting times lie ahead. This is why you need to be a part of them

**C**onsidering a career in the UK automotive industry? You're on the right road to making a good choice - it's a great place to be. Interesting, exhilarating and constantly evolving, this is an exciting and busy segment to enter.

This sector is the UK's single most valuable goods trade exporter. In 2020 vehicles represented £30bn of exports, as part of a total trade revenue of £74bn. More than 80% of British-built cars and

60% of LCVs were made for export.

Be it petrol, diesel, hybrid, hydrogen or full electric powered, the UK automotive industry needs new people to come and work in each of these different and varied sectors. Cars, vans, trucks and motorcycles are not going away. They are here to stay, and opportunities are presenting themselves for young people to be a part of the developments in all of these areas.

For most adults, a car is the second most expensive piece of property

they will ever purchase (or lease) after their home. Most people want a car or other vehicle at some stage during their life. Many people will drive a car or van for business, even if the vehicle is not their own, and still others will need a vehicle to help them carry out their own work or business.

Want, drive, need: no wonder, then, that the automotive industry is such a busy, thriving and stimulating area of production - not only in the UK, but also around the world.



Today, the global automotive industry plays a huge part of millions of people's careers, with its products touching almost everyone's lives at some point. It also creates wonderful opportunities for young people leaving education and looking for a great job.

Although the end product in the automotive sector is a machine - a car, bus, van, truck or motorcycle - it's the people who are at the heart of the industry. How did that new car sit temptingly in the dealership showroom get there? How was it conceived, and how many stages of work and layers of technology, experience and know-how finally brought the finished product to the road?

The UK's auto industry employs 793,000 people across Britain, according to the Society of Motor Manufacturers and Traders (SMMT), the industry body. While 156,400 of those work directly in manufacturing, careers throughout the sector are wide ranging and continually evolving with the development of new technologies.

Every year, 10s of thousands of young people begin engineering and manufacturing apprenticeships in the automotive sector. Thousands more find their way into interesting and exciting careers within motorsport - the majority in engineering roles.

In the coming years, as many as 40,000 new jobs will be created in the auto sector to fill the gaps likely to be found as the car

and van industries move towards an even more technological future.

'The transition towards increasingly electric, connected and autonomous vehicles is a seismic change for the automotive sector, and it brings exciting opportunities for students looking at a career in the industry,' says Mike Hawes, SMMT Chief Executive.

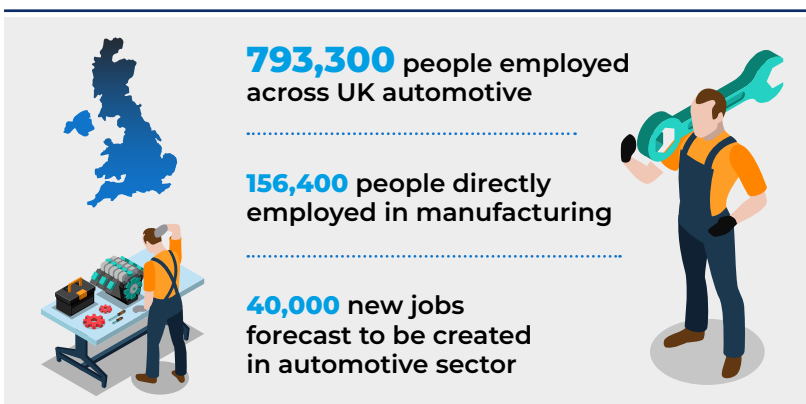
'Some of the most highly regarded automotive companies as well as many race teams are based in the UK, making cutting-edge products that are in demand around the world. Jobs with these companies are sought after as they are highly skilled and better paid than average, with a range of different opportunities available from product development and design to vehicle engineering and software creation, as well as sales, marketing, corporate and communication through new channels.'

Examples of careers in the automotive industry:

- **Design**
- **Research and development**
- **Engineering**
- **Manufacturing**
- **Sales**
- **After-sales**
- **Parts supply**
- **Technician**
- **Marketing and PR**
- **Human resources**

## Apprenticeships

Thankfully for graduates and career-seekers, the UK automotive industry is positive and proactive when it comes to apprenticeships. In manufacturing especially, the industry considers it highly important to continue to nurture and develop fresh talent for the future - not only to ensure a steady flow of new employees for future years, but also to encourage fresh skills, enthusiasm and productive workforces.



The UK's industry has a good track record when it comes to training and nurturing apprentices across the broad spectrum of disciplines within the sector. Members of the SMMT, for example, take on hundreds of new apprentices each year while retaining hundreds more taken from previous years.

### **Automotive industry: How did it all start?**

Towards the end of the 1800s designer Gottlieb Daimler, who had patented a new petrol engine, joined up with his British engineer friend Frederick Simms who formed the Daimler Motor Syndicate Limited. Even though cars were outlawed on British roads at that time, the company continued to develop their ideas until restrictions, under the Locomotive Act, were lifted in 1896.

It wasn't just the UK that had started on this particular car journey - petrol-engined vehicles were being developed and launched across the world in a frenzy of engineering activity. From small beginnings came the giant names we now know, such as Henry Ford, Walter Chrysler and the Dodge brothers in the USA, Torao Yamaha and Komanosuke Uchiyama in Japan, and Karl Benz in Germany.

The whole movement was fast developing, and the 20th century saw the launch of awe-inspiring and hugely successful cars that changed the world forever: the Ford Model T, Mini, Austin 7, Fiat 500, Volkswagen Beetle, Willys Jeep, Chrysler Voyager, Jaguar E-Type, Lotus Elan and more. Beautiful, stylish and all with different and unique features in their own right, all offering one common goal; personal transportation for their owners. The opportunity to go where you wanted, when you wanted, in varying levels of comfort according to your wealth, was there and available.

The first all-British car was revealed by Herbert Austin in 1900, and the following year he launched the brand Wolseley in Birmingham. An already-



successful Henry Ford opened a car factory in Manchester in 1913, while other players including Rover and Humber came along. By the early 1920s more than 180 motor companies were operating in the UK.

The mid-1900s were the heyday for the UK's motor industry, and 10 years after World War Two Britain was the second largest car producer in the world. It's nothing like that now; while there are still factories in the UK, automotive assembly has diminished over the past 50 years. But that doesn't mean there aren't opportunities for graduates and apprentices entering the industry. On the contrary, there are many to be had.

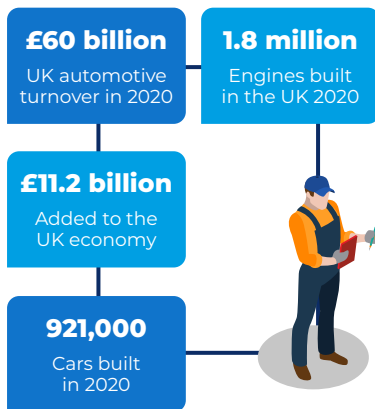
### **What is happening today?**

While the international automotive industry is huge - around 70 million cars alone are sold each year - the UK is a major player in its own right, and a vital

part of the British economy. Worth around £60bn in turnover and adding more than £11.9bn into this country's coffers, it also accounts for 11% of total UK export of goods, worth £42.4bn.

All this activity is supported by the automotive supply chain. Everything from Tier 1, 2 and 3 companies supplying the OEMs with vital components and technology, to companies delivering accounting, marketing, PR and recruitment services among many others. In 2020, 920,000 cars, 66,000 commercial vehicles and 1.8 million engines were built in the UK.

With 30 different manufacturers of more than 70 types of vehicles running in the UK, 2,500 component providers and a raft of research, development and engineering companies, there is a huge number of opportunities available to young people coming through from secondary education and looking for a career in the automotive sector.



More than £3bn is being invested each year in UK research and development for the future. And what a future that's likely to be, especially for school, college and university leavers about to embark on a career in the automotive sector. We are entering one of the most exciting periods of the industry's history since the combustion engine first spluttered into life more than a century ago.

## The future of the automotive industry

There is so much to look forward to within the automotive sector that it's difficult to know where to start.

What we do know is that within the next decade more cars will become electrified and emissions free, they'll be more autonomous, even safer, more connected with other cars, city infrastructures, the Internet and people not inside the vehicle, and easier to update and improve 'on the move'.



But the next generation of safety will see big leaps forward in the development of lane assistance, crash-warning devices, self-driving cars, automatic parking and autonomous braking.

### Electrified



Hundreds of cars are already available in the UK that are either battery powered, self-charging hybrids or plug-in hybrids. The days of only petrol or diesel engine vehicles are numbered, and the UK has already brought forward, from 2040 to 2030, the target to end the sale of new pure petrol and diesel cars and vans.

### Emissions free

Electrification means zero CO<sub>2</sub> emissions, cleaner air and less engine noise. All around Europe the vehicle producers are working on ways to improve this already well established technology, but more work is needed.

### Safer

Modern cars today feature airbags, crumple zones and pre-tensioning seatbelts pretty much as standard. And anti-lock brakes, once a 'luxury' that only expensive cars had, are now the norm.

### Connected

Cars and commercial vehicles will have the ability to 'talk' to city technology such as traffic lights and lane warnings. They will be even better and faster at corresponding with the Internet over destinations, traffic hold-ups, and work and leisure pursuits. Keeping in touch with friends, family and colleagues outside the car will be second nature.

### Update

Rather than have a life cycle of five to eight years as modern vehicles do today, upgrades and improvements will be able to be made, installed or downloaded on a regular basis - such as during the car's annual service - so that it doesn't go 'out of date' or get superseded so quickly.

All these remarkable technologies open up fantastic opportunities for graduates, apprentices and school leavers - not just at the technological level, but right through to sales, marketing, servicing and repair.

It's an exciting time if you are looking for a career in the automotive industry. With so much already underway, and lots to come just over the horizon, now is the time to get on board and prepare for the ride. ■



# THE THEORY OF DECADES

Your working years – a guide

**S**ome people are very lucky. They know exactly what they want to be and do, from an early age, and they remain on track and focused throughout. These people are also very rare.

For the rest of us normal folk, finding our path takes longer. It is often beset with stumbles and occasional disappointment, and requires robust mental resources simply to keep going.

The Theory of Decades outlines just how it is for people who do not know from the age of 10 that they will be,

say, cardiac surgeons, or RAF pilots, or marine biologists.

Consider this; our first decades are spent learning about the physical world, first in our immediate environment as we learn the smells of our families, and that electric sockets can sting a bit. Gradually, assuming we are still alive by the time we reach 11, we look further afield, listen a bit more, observe, and learn that the world is exciting, interesting and filled with other humans, some of whom are very tricky indeed. This is a positioning decade during which we learn whether we have the grit and determination to study the

hard subjects that bring the better rewards later on, or prefer to take the easy path and end up as journalists or worse. Joking..

Between 20 and 30 is when we establish our direction, although we retain the right to change as we wish. It is the decade in which we know instinctively that by its end we should be established and know what our short-, medium- and long-term goals are.

And, by the way, the long-term goal is to ensure that you have an emergency stash of cash in case of, obviously, emergencies, and a plan to have a safe and regular income for when you retire.



The rule of 'one half and two quarters' is a tried-and-tested method. From your net income use one half to live on (housing, food, clothing and transport) one quarter as your emergency fund and one quarter as your pension fund.

Back to the decades. Between 30 and 40 is when you can make your leap for the levers of power, and is also the decade when you decide whether you want fun, money or responsibility - or a combination of all three. Choose carefully, though, and focus on the one that is most important to you. Not to others; to you.

The person who is seduced by shiny toys in showrooms, or finds going to work hungover a great way to play the game, isn't going to do as well as the ambitious business person who is determined to progress.

That's not a value judgment, by the way. It's your call, and everything you learned in your first 20 or so years will give you the information you need to choose your own path. Usually, there is still some time, because nothing is over or too late until it is.

Crucially, you need to know the answer to this question: 'What is your *métier*?' It doesn't mean what's your job or profession; it means what is your calling; at what are you really, really good and what inspires your passion?

The Impressionist artist Paul Gauguin was a successful stockbroker before he packed it in to become a painter who sold no pictures in his lifetime yet whose works sell today for many millions. His *métier* was paint, not profit.

From 40 to 50 is a period of consolidation. This is the decade when not only do you cement your place in the structure of your work life and your domestic life, it is the decade when you make absolutely certain that if you are made redundant tomorrow, you can live as well as possible, rather than merely survive, until your pension kicks in. In other words, enjoy the fruits of your previous labours and be constantly aware that nothing lasts for ever. It's



scary only if you're not prepared.

From 50 to 60 is when you build the cottage by the sea - a euphemism for 'whatever happens I'll be fine'. It is also the time when you should be giving something back. The pressure on young people in 2021 is an order of magnitude greater than it was in 2001. Imagine what it will be like in 15 or 20 years' time? Charitable time is always valuable; charitable time spent helping young people helps everyone - you included.

After you hit 60, you will have on average about 10 years' work left. This is the time to write that best-selling book (Mary Wesley was 70 when she wrote her first novel), or launch the small business of which you have dreamed ever since you started work but were afraid to try. And so on.

The point is this: from your 10th birthday onwards, learn every day, and work at whatever you want, as long as you keep moving, and keep your financial security in mind at all times. ■

A close-up photograph of a hand with a blue fingerprint scanner. The hand is pressing a large, circular, blue button with a white border. The button has the text 'NEW CAREER' in white, bold, sans-serif font, with a horizontal line below it, and the word 'START' in white, bold, sans-serif font below the line. The background is dark and textured.

NEW  
CAREER  
START

# LATE ENTRIES

Changing career is always an option

**'...ist' is rarely a good ending to a word.**

Or is it? Specialist, for example, or physicist. But we all know other words ending in ...ist which are hateful and unworthy of any human - and while we know these from the daily news, one ...ist that is often forgotten is ageist.

The emphasis on young people in the worlds of HR and career plans is wholly understandable. But young people, enthusiastic and energetic, lack the one thing that an older person offers; experience.

Ever seen this anecdote?

Jack, who was an engineer, retired, and a few weeks later the factory's brand-new Big And Important Machine

broke down. It was essential to the company's revenue. The managing director couldn't get the machine to work, and so called Jack to come in as an independent consultant.

Jack walked into the factory, looked at the Big And Important Machine for an hour, took a small hammer from his pocket and tapped it once - at which point it started. Jack sent the MD an invoice for £5,000. The MD said this was outrageous, and demanded the invoice be itemised.

The new, itemised invoice read:

*Small Hammer: £5*

*Knowing where to hit the machine with Small Hammer: £4995*

It is not even slightly unusual to start to think about career changes in one's 30s, 40s and 50s. Many entrepreneurs devised and launched their most successful businesses in their 60s; for example, Colonel Sanders was 62 when he franchised Kentucky Fried Chicken. Late changes and accelerations make sense, if you think about it.

Older people know where the swamps, snakes and sand traps are to be found - and how to avoid them.

The trick is to convince business managers that you are worth employing, even though your bones might be a tad creaky compared with the lively young person who goes running at lunchtime.



The automotive sector needs as much experience as it does enthusiasm; as much energy as it does knowledge. It is a foolish decision to avoid the risk of rejection by not making the effort to put oneself into the game.

LinkedIn with a Premium subscription is an excellent place to launch one's ambition to change career track in mid-race. Not only does it put you front and centre, but used properly it is an excellent and practical networking tool. And, yes, you do need an expert guide in the early stages. A big myth about social media - LinkedIn in particular - and most software, is that 'civilians' can use these tools easily.

Another anecdote: Wife says to her programmer husband: 'Go to the store and buy a loaf of bread. If they have eggs, buy a dozen.' Husband returns with 12 loaves of bread.


If you think like the programmer, you don't need a guide. If you're mainstream, you do.



It's not easy finding a fabulous new job, whether you are 20 or 60. It's how you set about the search that counts, and ultimately, while your CV might get you through the door, at the end of the day all that anyone wants to know is will you

turn up on time, sober, do what you've been hired to do and not be difficult. Also, do they like you?

And that final point is as much of a gamble as finding a life partner. It has nothing to do with your age. ■



Curriculum vitae

# GETTING TO INTERVIEW

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It's a sequence you must pursue with precision: find the job, then get the job. Not as simple as it sounds, but demonstrably doable. These are the tools you need...



## G

aining qualifications, at whatever level, is just the first step. How do you parlay those qualifications into a job? It's a process.

Wanting a career in the automotive industry is a laudable aim, but it's just that - an aim. As with wanting to cure cancer, it's just an aspiration until you can answer the question: 'Yes, but how?'

Firstly, of course, you have to find out what jobs are out there. Not only what area of the industry you would want to focus on, but also what particular jobs are available at particular companies or organisations. So how do you successfully search?

### **Job search**

There are literally dozens of ways to discover what jobs are on offer now or in the near future. It would be a sound idea to follow more than one avenue since not everything gets plastered across all the channels. Here is just a short list for you to consider:

### **Social media**

Start following the right people or organisations

### **LinkedIn**

The one social media site where you can be sure you won't be shown amusing videos of cats, LinkedIn is for work, pure and simple. It's a great place to find out who's who in the automotive industry. There are job boards, discussions, networks and more, and really you should consider joining it. At least at first just join up for free to gain access to many resources; you may want to upgrade later.

### **Newspapers, both print and electronic**

Local news sites are much diminished, but still useful for local jobs. Nationals such as *The Guardian* (Guardian Jobs) are still a major publisher for employers by sector.

### **Professional or trade journals**

Get on their subscription lists. This will also keep you up to date with relevant industry material.

### **Industry networking events**

It would be worth getting some business cards made - a cheap and easy investment - because you want people to remember who you are. Dress smartly, appear eager

and focused, be clear as to what you want and what you can offer them.

Also focus on your own networking capability. Do you know anyone who works in the industry, or do they know someone? You'd be surprised how often you'll find a connection if you ask around.

### Job fairs

Your newly printed business cards should be to the fore here, too.

### Direct approach

If there is a particular company or organisation you want to work for - a manufacturer or importer, for example - then don't be afraid to go direct. As with a covering letter (see later), your letter or email should be addressed to a particular individual. How do you find that out? Call the switchboard; they will tell you. Write (print or electronically), don't try to call the relevant person in the first instance; you'll almost certainly catch them at a bad time, and it will count against you.

### Company websites

Some companies are very forward looking and actively encourage applications, so spend some time looking at the relevant company websites. Some, such as Jaguar Land Rover, invest a great deal of effort into their careers offerings, so do invest some time exploring.

### Curriculum vitae

You won't get anywhere without a CV. Seasoned practitioners sometimes have several variations, depending on whom they're talking to, but at the start of your career you need one very solid CV to clearly display who you are, what you have to offer and what you have done. You should be as honest as possible, partly for the simple reason that we should all be honest in our dealings with others, but also because in a world of social media it is all too



easy for a potential employer to check. If you bang on about the joys of electric or hydrogen cars, but social media shows you hooning around in a hot rod, it's unlikely to go well from there.

### Focus

You can spend hours... days... working on your CV. But how long do you think it gets looked at before it goes on the 'possibly yes' or the 'no' pile. According to LinkedIn research, that time period is six seconds. It's about as long as you take to pick up your mug of coffee, have a sip and put it down.

It follows that your CV has to be focused, the layout clear, the facts obvious. Keep it to two sides of A4, using one font that works both in print and online. Don't over-design it - white out of black looks impressive on the screen, awful when printed out, for example. Keep your sentences short.

### CV content

#### What are the basics you should include?

- Personal and contact details (no need to mention gender, race etc).
- A short personal statement of relevant skills, qualifications and experience.
- A concise employment history.
- Qualifications.
- Basic details of your education.
- Personal interests and achievements.
- Contact details for references.



If you're fresh out of university or new to employment then you will obviously be light on experience, but mention any holiday work or relevant background you have. The employer will probably be more interested in your academic qualifications, so make sure these are clearly and legibly laid out.

The company will be looking for a well-rounded individual, which means if you have something interesting to say you should say it. If you've worked with an orphanage in Zimbabwe or white-water rafted down the Ganges then say so, modestly and briefly. If any of your time has been spent volunteering or suchlike then say so, ideally linking this to a positive benefit to the company. For example, saying you worked with a team replanting a forest gives you good eco-credentials, but you can also highlight how you can work within a team for a common goal.



## The covering letter

You need to send a covering letter with your CV, and this is arguably as important as the CV itself. Firstly, ensure it looks similar to your CV; same colours - if used - font, layout etc. This is good practice, but it also helps to remember that your CV and covering letter may well get separated on a busy desk, and you want them to be easily recognisable.

### Content do's and don'ts

Bear in mind that this letter forms part of your offering along with your CV. So ensure your letter doesn't simply repeat material that can be found in the CV. The person reading doesn't have the time to read things twice. Try to put yourself in their shoes.

This means keeping things short and sweet, and definitely not more than around four paragraphs on one side of paper. Make it clear exactly which position you are applying for, as a busy company may have several openings.

Then bring out or elaborate on skills and experiences you have already mentioned in your CV. This is to highlight your best or most relevant attributes, whether that was a summer job or your project work at degree level.

You will be more positively seen if you can show you know and understand both the industry and the company you are applying to join. Then show how you would fit into this. Anyone reading your letter wants to feel that you can solve their problem better than anyone else. That's what you represent - a solution to a problem. Be that fix.

That's pretty much it. Sign off, make it clear how you hope things will proceed - whether you're expecting a call or whether you need to follow up - and thank them for their time. Never forget their time is precious. Whoever is reading this has another job, their actual job, to do, so this is just an extra burden they want to sort out as quickly as possible. Make every word count.



## The interview

Your CV and covering letter worked. You've been called to interview. So now all you have to do is turn up, turn on the charm and the brilliance, and sign the contract. Wouldn't it be nice if it was like that...?

### Preparation prevents perspiration

As with all these things, preparation is key. Preparation prevents perspiration. And sitting there sweating at questions you can't answer is a tough way to learn the

truth of those words. You wouldn't walk onto a stage having only casually read your lines once. You'd rehearse, prepare, anticipate. And that's what you should be doing for the interview because, at one level, it is a performance.

What do you need to rehearse? The obvious questions, for starters. Read up on the industry and the company, and what your role would be within the company. Be prepared for some technical questions about the specific role, but also be prepared for the apparently innocuous general questions such as 'Tell me about yourself' or 'What do you think about the automotive industry?'





Interestingly, in this time we live in, you may also get some seriously weird questions. Not because there are right or wrong answers, but just to see how you respond in a stressful situation. 'How big is the Atlantic Ocean?' or 'Why is a tree better than a fish?' It's a reminder to stay flexible, stay listening and watching, and stay in the moment.

Answer questions with a steady, confident tone, but don't make your answers too long. Rambling is never a good look, and they'll be worrying you're going on too much so other interviewees

will be kept waiting. Remember you're there to fix a problem for your potential employers, so try to put yourself in their shoes and be their solution.

### On the day

Within a day of the interview, check out the company website and social media channels to see if there's anything newsworthy you should know about. Such as it's just burned down...

Know exactly where you are going - spend time with online maps if necessary

so you know which door you're supposed to be going through. Sometimes big buildings have numerous doorways, and arriving at the wrong one on time will mean you're late by the time you get to the right one. You'll be tense enough without adding lateness to your load.

Make sure you are comfortably and professionally dressed. Sitting down on a chair in front of several people is not a good time to remember your mismatching socks or the hole in the toe of your shoe. Sit comfortably but don't sprawl, and try to keep any nervous tics to a minimum. Movement is distracting for those trying to find out about you.

Remember this should be a dialogue not a monologue, so do have at least a couple of questions up your sleeve for when they inevitably ask you - usually near the end of the interview - if there's anything you want to ask.

A certain amount of tension on your part will be expected, so don't worry too much. Try to breathe deeply and calmly, both before going in and during the interview. Don't sit forward; it compresses your lungs and you want to breathe fully, as it has a beneficial effect on nerves.

Good luck! ■



## THE USEFUL BOX

Checking out manufacturers' careers opportunities is worthwhile. See the Jaguar Land Rover site for a great example:

[jaguarlandrovercareers.com](https://www.jaguarlandrovercareers.com)

There are many sites online that can help you polish your CV and covering letter. One prime example is the Business Writing Academy:

[businesswritingacademy.com](https://www.businesswritingacademy.com)



# SCHOLARSHIPS AND BURSARIES

Help and financial support are available – you just need to look for them

**A**s you head out into the world of work, it's only natural that you want to make your mark. Forge your own destiny. Carve your own path. It's sometimes the very first occasion where you stand entirely on your own two feet, without the support of others. That is liberating - and challenging.

But what if you could have the best of both worlds? To strike out on your own, yet have the financial support that you qualify for or have worked for? That is the benefit of gaining a scholarship or bursary; it's a helping hand right at the start, possibly when you most need it.

So firstly, what are they? A scholarship is usually financial support that you gain

through academic success and quite possibly a competitive qualification. A bursary is for those who qualify usually through financial need or because of some other quality based on things such as gender or ethnicity.

At a time when university fees are leading to extensive debts that can last for years, anything that helps you move

forward without incurring more debt is obviously to be welcomed. Yet here is where it gets very strange indeed.

Normally, we are used to constant complaints that whatever funds are available are insufficient - whether that is councils, governments, charities, whatever. And it is true that scholarships and bursaries are not designed to allow the recipient to live a life of luxury. However, the truth is that there is a lot more funding available than is ever claimed.

Often schools and universities, even their careers advisors, won't always know what is available. After all, this is an evolving sector, reflecting society's changing shape and make-up. So it is up to the individual to turn super-sleuth and go on the hunt for funding.

For example, many of the City of London's livery companies will provide not only active help but also financial support. With 110 such livery companies, they would be a happy hunting ground - and, of course, the Coachmakers, which you can read about on Page 18, is a sensible place to start.

There are other scholarships and bursaries available throughout the automotive industry, from universities to manufacturers, but they all need hunting down. And this is where the internet can take a break from showing you amusing cat videos, and really deliver results. You can start by checking out our links in The Useful Box on the right.

For an example of what can happen, when Covid-19 hit, the SMMT Charitable Trust Fund stepped in to save automotive apprenticeships with a salary-support scheme for SMEs to help them retain and support their young apprentices.

Naturally, such schemes do gain some exposure within the industry, yet you are not going to read about them in the mainstream press. Due diligence is needed, but your hard work will definitely be rewarded.

People often don't think they would qualify, or they simply don't know it's there or don't understand how to apply for it. Evidence shows this particularly applies to those from ethnic minority backgrounds or those from financially deprived



## SMMT APPRENTICE SUPPORT PROGRAMME

SMMT invests  
**£100k**  
to protect current  
apprentices  
across automotive  
supply chain



- ✓ Apprentice salaries covered for a year
- ✓ Retaining young talent crucial to future recovery and growth



households - the very people the schemes are aimed at. Put in the work, and you will discover funds that often never get found.

Stellantis is an immense international vehicle-manufacturing giant, and Ralph Gilles is its chief design officer. He said: 'A lot of minority scholarships don't even get claimed. We have millions of dollars sitting there unclaimed.'

Go find some of it, and make your journey into the exciting world of the automotive industry just that bit easier. ■



## THE USEFUL BOX

### Contacts:

**City of London  
Livery Companies**  
[www.liverycompanies.info/  
a-z-list-of-companies/livery-  
companies-database.html](http://www.liverycompanies.info/a-z-list-of-companies/livery-companies-database.html)

**Postgraduate Research**  
[www.scholarship-search.org.uk](http://www.scholarship-search.org.uk)

**The SMMT**  
[www.smmt.co.uk](http://www.smmt.co.uk)

**UCAS**  
[www.ucas.com/ucas/  
undergraduate/finance-and-  
support/additional-funding](http://www.ucas.com/ucas/undergraduate/finance-and-support/additional-funding)



# CITY LIVERY COMPANIES

The Coachmakers can really help you get started on your automotive career path

**F**rom the outside, the City of London's livery companies are mysterious, peculiar and mostly peopled by pale, male and stale boomers.

They're not, though - and, for young people looking for a leg up, they can provide a very practical and helpful hand when needed. There are 110 livery companies for you to choose from, too.

The Coachmakers - The Worshipful Company of Coachmakers and Coach Harness Makers of London, to give it its full and formal name - is specifically relevant to the modern automotive sector, and so is the company on which we shall focus right here.

Do you, as a keen young person, ever say to people that you want to work with cars? Good for you! It's a fabulous industry sector, and the car is up there with flush

lavatories, electricity and mobile phones when it comes to major societal change.

Cars made people mobile. Before the motor car, going for a trip beyond your town or village was something of an adventure. Today, less so. Today we think nothing of getting into a car and driving from London to Oxford, or from Coventry to Lowestoft, and so on. Sure, there are traffic jams and roadworks, but is there a better or easier way to go?



The car is a constantly changing and evolving machine, as are vans, trucks, buses, motorcycles and other road-going vehicles. Our economy is based on road transport, and without it online giants such as Amazon wouldn't be able to deliver.

So yes, to wish to work in the automotive sector is a fine ambition, and it is a sector that has within it many strands and disciplines. Do you want to help host a press and influencer party to celebrate the launch of the latest Jaguar? Or would you rather test sound systems in an anechoic chamber? Perhaps you would like to work in an online dealership, using your coding and IT skills to guide people to the best car for them?

Within the ranks of the Coachmakers you will find individuals who span all these, and who are filled with the knowledge to answer your questions when you want to learn more. In the Coachmakers there is a charity committee on which sit several people who are more than willing to engage with individuals who are keen to do just that. They will either answer your questions themselves, or put you in touch with people who can answer them.



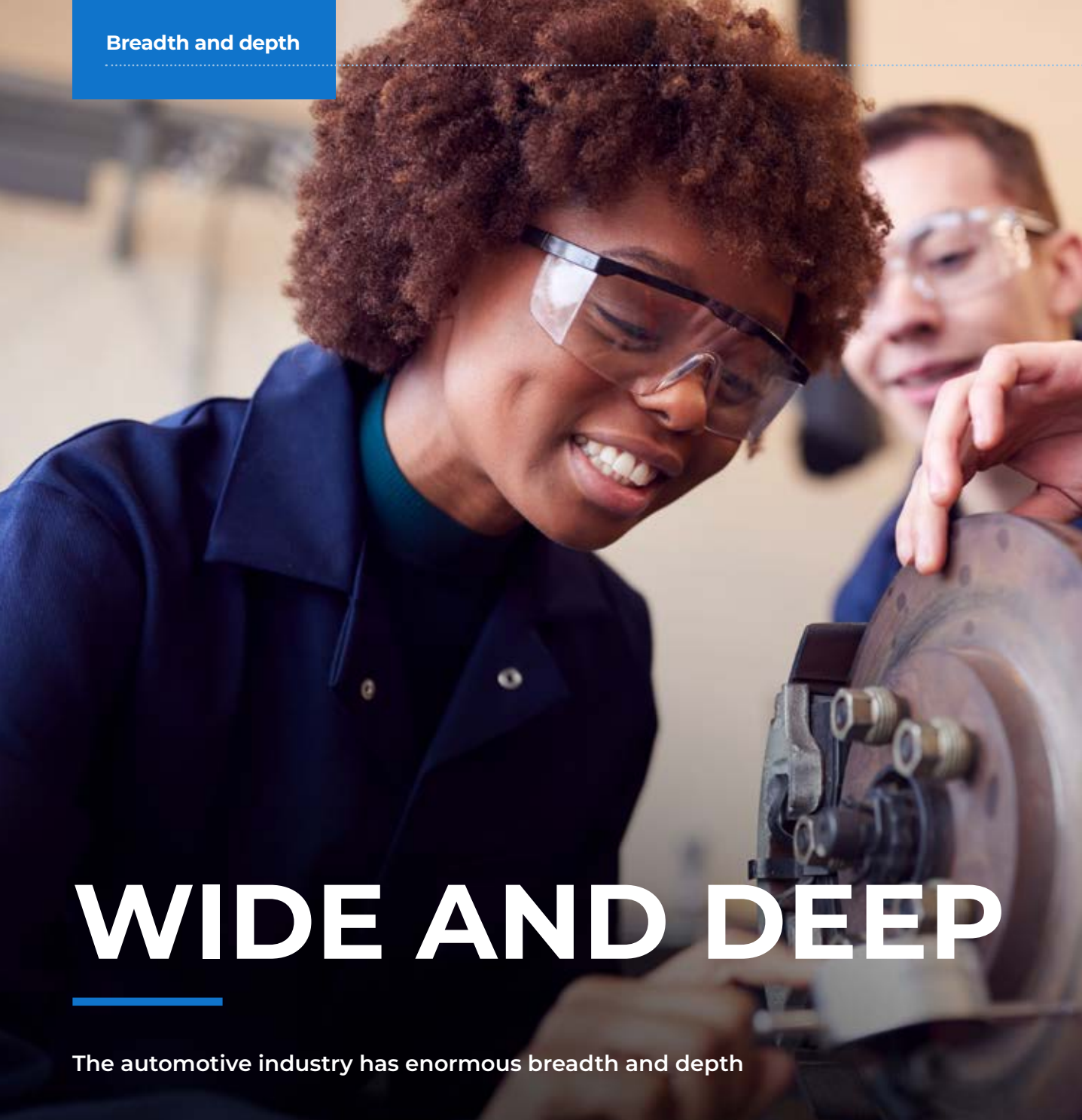
The great gift that is the city livery movement is that if a Coachmaker cannot answer your questions or guide you in the right direction, they will be able to pass you on to another livery company, for example the Engineers, or the Scientific Instrument Makers, perhaps.

Don't let the quaint names confuse you. Behind each curious label lies a vibrant, dynamic body which, for the most part, exists to help young people thrive in a modern world. ■

## THE USEFUL BOX

**Learn more about the livery companies here:**  
[www.cityoflondon.gov.uk/about-us/law-historic-governance/livery-companies](http://www.cityoflondon.gov.uk/about-us/law-historic-governance/livery-companies)

**Learn more about the Coachmakers here:**  
[www.coachmakers.co.uk](http://www.coachmakers.co.uk)



# WIDE AND DEEP

The automotive industry has enormous breadth and depth

**W**hen they hear the words 'automotive industry', most people will instantly conjure up a vision of a car in their mind's eye. But cars are just one element - albeit a large one - of the UK's automotive set-up.

It's a thriving industry - big yet flexible; comprehensive yet agile; giving yet competitive - and it's one that is built

on a rich heritage of invention, innovation and design. Employing world-class efficiency, with state-of-the-art technology and the highest-quality manufacturing methods, the UK automotive industry has one eye on its illustrious past with the other firmly on the future.

And what a future that is shaping up to be. It's interesting and exciting, and, with a focus on fuel and the environment, it's a future that is going to need people. New

people too, hungry to get on board and join an amazing journey of innovation and invention, into the next decade, and on towards the next 50 years and beyond.

For students, college leavers and university graduates, the opportunities are enormous. There is so much to choose from. The automotive industry does not only mean designing and building cars. Vehicle manufacturing is just a small part of the process. And there are trucks, vans



The latest Society of Motor Manufacturers and Traders figures show that the UK currently has:

- **Four commercial vehicle builders**
- **Five design centres**
- **Six mainstream car makers**
- **Seven premium/sports car makers**
- **Eight bus and coach makers**
- **11 engine constructors**
- **60-plus specialist car makers**
- **2000-plus supply-chain firms**



and trucks, while another 864,000 work across the wider automotive set-up - sales, parts, service and finance. The industry is hugely successful; on the UK's behalf, in terms of international commerce, it accounted for 13% of total UK export of goods in 2019, worth £42bn, while £2.9bn is currently invested each year in research and development.

An integral part of this huge market is formed by the supplier chain. One example would be Nifco UK, which makes components in a variety of materials from plastics to metals for the interior, exterior and engine of manufacturers' vehicles.

and motorcycles, too; each sector of the industry requiring its own expertise and skill sets. And each one of them has their own vision of the future.

Today the UK automotive industry is a massive, vital part of the UK economy, worth around £60bn in turnover. According to the Society of Motor Manufacturers and Traders (SMMT), the industry body, the sector adds more than £11.2bn of value into this country's coffers.

The UK's car industry is one of the leading players on the global stage, and is responsible for some of the world's most famous and desirable brands: Rolls-Royce, Bentley, Aston Martin, Lotus, Jaguar, MINI and Morgan among others. And it's not just British marques that are built here: Toyota, Nissan and Vauxhall all have production facilities in this country.

Around 156,400 people are employed directly in the manufacturing of cars, vans

Just a quick glance at the sheer activity of the UK automotive industry shows you how important the sector is - and how vital it is to keep on finding new talent.

Activity in a typical day:

- **1,000** - the number of cars delivered to UK dealership showrooms
- **1,100** - the number of EU trucks delivering £42m worth of components to UK plants and factories
- **4,100** - cars sent for export
- **5,000** - cars built in the UK
- **9,700** - how many engines are constructed

*\*2019 data*

Shipping so many vehicles, engines and components to more than 150 countries worldwide takes manpower, with the industry supporting thousands of highly skilled, high-value jobs across all regions.

As Mike Hawes, the SMMT's chief executive, explains: "There is a career choice for everyone and, as the UK looks to become a world leader in producing the next generation of vehicles and mobility solutions, there has seldom been a better time to work in the automotive industry."

So what opportunities are available?

### Cars

Putting pure manufacture of cars and light commercial vehicles (LCVs) to one side, there are hundreds of other career paths to follow and thousands of separate jobs to consider. Every day thousands of men and women are working in the design, testing and engineering of cars even before the manufacturing stage is reached.

Outside design consultancies and engineering firms are employed to work with the in-house teams, while transport and logistics businesses plan and organise the vehicle imports and exports.



Many of the new employees in these areas have made their first steps via college and university courses and training, in roles such as:

- **Exterior designer:** the people who dream and draw the exterior look of a new car
- **Interior designer:** taking the outside influences and moving them inside while retaining the manufacturer's unique design cues
- **Quality manager:** ensuring the highest quality is achieved throughout development and production
- **Safety-development engineers:** setting safety targets and testing them before production starts
- **Interior project leader:** ensuring production levels are the same as they were in the design process
- **Product-planning manager:** planning model life cycles using engineering know-how with marketing and sales experience
- **Systems engineer:** developing engines for performance, economy and emissions
- **Software engineer:** developing engine-management systems
- **Validation and simulation engineer:** running virtual crash tests to help ensure vehicles reach safety standards
- **Chassis project leader:** getting the best performance from a car's engine, suspension and tyres
- **Manufacturing engineer:** overseeing the correct assembly of a new vehicle
- **Transmission design engineer:** getting the best economy and performance from a transmission

Outside of manufacturing, there are still more roles to consider, in marketing, sales, service, finance, logistics, component production and engineering.



## Commercial vehicles

Commercial vehicles, both light and heavy goods, are just as important as cars to the UK's economy. They play a huge role in keeping businesses moving in the UK, either as part of a large fleet or as transport for small businesses and even sole traders. The SMMT says that 10% of workers in Britain use a van, with more than 78,000 commercial vehicles built in 2019 alone.

In recent years, the LCV sector has been the fastest-growing vehicle category in the UK, with up to 365,000 vans registered each year. Growing and varied model ranges and types of van body have answered the increasing demand for work vehicles and even lifestyle vehicles, such as pick-ups, that have developed with the UK's changing leisure activities.

With two van-manufacturing sites in the UK, and a huge network of van-conversion companies, motorhome constructors and a large aftermarket sector, the UK's van industry look set to strengthen further. The annual new light commercials market is estimated to be worth nearly £10bn, while almost 900,000 used vans change hands every single year.

And as the UK, Europe and the rest of the world look for more ways to improve air quality and exhaust emissions, van manufacturers, as with car makers, are investing heavily to create and bring new ranges of ultra-low and zero-emission vehicles to market. Much work will still be needed to address customers' worries about vehicle range, payload and charging-point access, and for that a new intake of specialist staff will be required.



There are more than 190,000 transport and logistics businesses in the UK employing 2.6m people, according to latest figures from the industry's trade body Logistics UK. Those companies need vehicles - and lots of them.

More than 37,000 heavy goods vehicles (HGVs) were registered in 2021 (the latest available figures), with investment intentions showing that number will rise. Over 400,000 large trucks are currently in use in the UK. Keeping the freshest, most reliable and most economical vehicles coming to market takes design, manufacturing and marketing expertise, opening up even more opportunities for graduates.

## Motorcycles

The motorcycle industry in the UK is thriving, particularly on the sales and service side because the biggest

manufactures of bikes are from outside of the UK - namely Japan and the USA.

The recent Covid-19 pandemic has seen more people choosing to take to two wheels to get about their towns and cities, rather than share a car or go by train or bus. And delivery services that require the use of a scooter or small motorbike have also increased in number thanks to the virus issue. More than 1.25m motorcycles were registered in the UK alone in 2020.

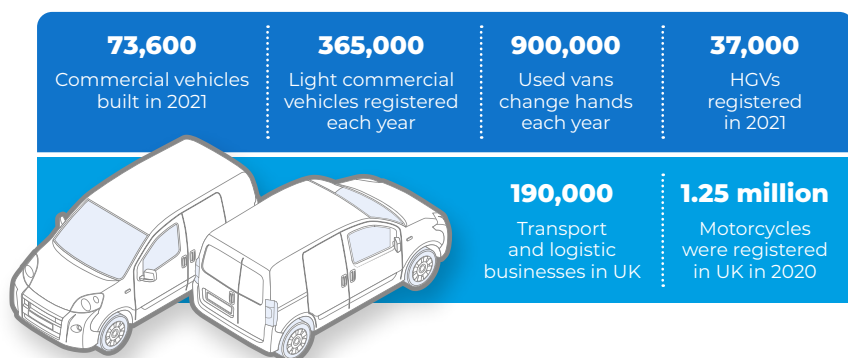
Careers in the motorcycle industry are as wide ranging as those in the car industry, and include manufacturing, engineering, technical, finance, marketing, aftersales and dealer management.

## Something for everyone

From design and research, through manufacturing, parts supply, logistics, sales, marketing and even motorsport, across the wide breadth of automotive sector disciplines, there is something for anyone wanting to pursue a career in this industry.

The UK's automotive industry is in a good position and ready to move forward into the next exciting chapter in its history. It needs young people who are willing to get on board and move with it, because there are many opportunities for those wishing to go that route.

The only problem will be deciding which route you take. ■





# AUTOMOTIVE INDUSTRY BODIES

These organisations within the motoring industry are there to help you

**T**hroughout this guide you will find The Useful Boxes that give you further links to organisations and bodies in the automotive industry related to the particular topic. Here we have put together a more comprehensive list, giving you links and, we hope, ideas for whom to approach for advice and guidance on anything from a bursary to a job.



**British Vehicle Rental and Leasing Association**  
[www.bvrla.co.uk](http://www.bvrla.co.uk)



**Chartered Institute of Marketing**  
[www.cim.co.uk](http://www.cim.co.uk)



**Chartered Institute of Personnel and Development**  
[www.cipd.co.uk](http://www.cipd.co.uk)



**Chartered Institute of Public Relations**  
[www.cipr.co.uk](http://www.cipr.co.uk)



**The Coachmakers**  
[www.coachmakers.co.uk](http://www.coachmakers.co.uk)



**Disabled Motoring UK**  
[www.disabledmotoring.org](http://www.disabledmotoring.org)



**The Independent Garage Association**  
[www.independentgarageassociation.co.uk](http://www.independentgarageassociation.co.uk)



**The Independent Motor Dealers Association**  
[www.theimda.co.uk](http://www.theimda.co.uk)



**Institute of the Motor Industry**  
[www.theimi.org.uk](http://www.theimi.org.uk)



**Livery companies**  
[www.cityoflondon.gov.uk/about-us/law-historic-governance/livery-companies](http://www.cityoflondon.gov.uk/about-us/law-historic-governance/livery-companies)



**Motorcycle Industry Association**  
[www.mcia.co.uk](http://www.mcia.co.uk)



**The Motor Industry Communicators Association**  
[www.mica.org.uk](http://www.mica.org.uk)



**National Franchised Dealers Association**  
[www.nfda-uk.co.uk](http://www.nfda-uk.co.uk)



**Public Relations and Communications Association**  
[www.prca.org.uk](http://www.prca.org.uk)



**The Retail Motor Industry Federation**  
[www.rmif.co.uk](http://www.rmif.co.uk)



**Scottish Motor Trade Association**  
[www.smta.co.uk](http://www.smta.co.uk)



**The Society of Motor Manufacturers and Traders**  
[www.smmt.co.uk](http://www.smmt.co.uk)



# DRIVE FOR SUCCESS

Choosing the right automotive engineering course can open up many opportunities



**Dr Payam  
Khazaeinejad**

**A**s cars, trucks, buses, light goods vehicles and motorcycles all adapt to meet new demands, automotive engineers are at the forefront of developing solutions to address these needs. There also remains a core requirement for engineers in the auto industry to develop the base vehicles, working on all the areas that any wheeled vehicle must have to provide safe, comfortable, reliable transport.

A result of this is that anyone going into an automotive engineering degree can expect a higher-than-average chance of going straight into employment on completing their course. With this degree as part of your CV, you also have many options when it comes to deciding on a career path. Aside from the obvious routes of developing new mechanical, structural, electric and software systems for vehicles, there are also roles in management, production and motorsport.

### **What to expect**

Students beginning an automotive engineering course at one of the many universities offering this learning in the UK will already be well grounded in

maths and physics as most will require these subjects. However, there is a new learning curve to begin ascending.

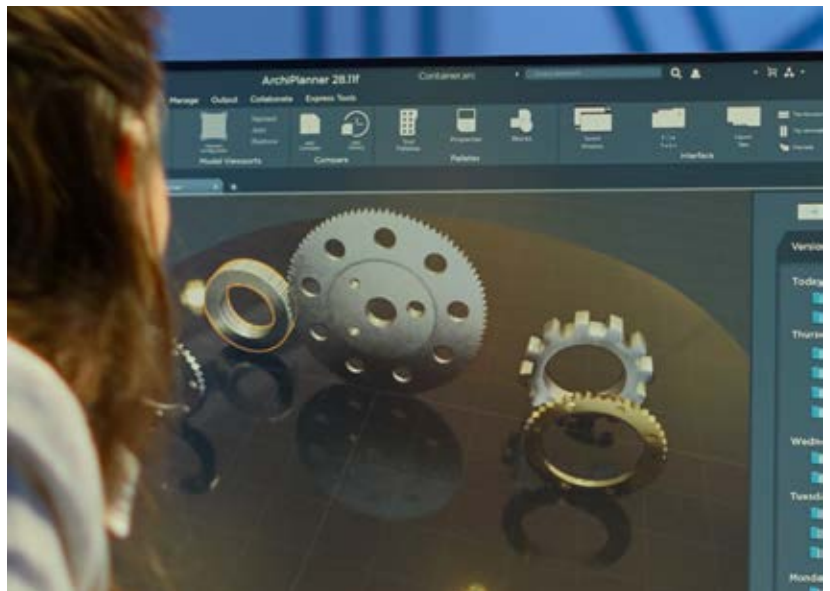
Dr Payam Khazaeinejad, senior lecturer in solid mechanics at Kingston University London, explains: 'The course is designed to equip students with the ability to apply the knowledge and skills that they have learnt to the real-world contexts in which they may work in the future. Students are actively encouraged to take part in several hands-on activities such as Formula Student, TT bike racing and the IMechE Design Challenge among others, as well as participating in various competitions.

'As part of their learning, our students obtain a very strong theoretical background and excellent hands-on skills, while using state-of-the-art equipment such as the Roehrig shock dyno and a hydraulic dynamometer. They also have the opportunity to design and analyse parts using industry-standard CAD/CAE software, manufacture them using the latest CNC machining and additive manufacturing methods (3D printing) in combination with industry-standard CAM software, and measure their strength using contemporary tensile and fatigue-testing machines.'



***“As part of their learning, our students obtain a very strong theoretical background and excellent hands-on skills”***

First-hand experience of these systems and techniques makes automotive engineering graduates very desirable to employers, because it means you are already prepared to contribute rather than be taught. Dr Khazaiejad goes on to say that to make an automotive engineering course as close to the working environment as possible: During their time at the university, students are tasked with designing and manufacturing aerodynamic surfaces such as spoilers and scaled vehicle models, which they can then put in a wind tunnel for further testing. The students will have the opportunity to create engine maps for efficiency and high-performance applications using our 1200HP (limit) hydraulic dynamometers, and also to measure the engine torque and power



of various vehicles such as our Formula Student Car and Caterham. The first of these encourages student participation at all levels in the IMechE Formula Student competition.

Students taking part in the annual competition build a racing car from the ground up in our workshop, before competing against teams from around

the world in a series of events and races at the home of British motorsport, Silverstone. This year, our team of student engineers secured Kingston University's best-ever Formula Student finish, coming seventh overall after a fantastic performance in the endurance event, where they finished in third place. So, you can see, there's plenty of fun to be had alongside the academic work.

## Qualifications required

Automotive engineering is an exciting route for anyone with an inquisitive mind and aptitude for applying their learning to further develop a project. You don't necessarily need an interest in cars or vehicles or engines, but most students entering this type of course will naturally have a curiosity about how vehicles work and how to improve them.

When applying for automotive engineering courses, most universities will ask applicants to have A-Levels or equivalent Level 3 qualifications in mathematics and a science subject (physics or chemistry) for a BEng course, and two science subjects (physics, chemistry, biology or further mathematics) for an MEng course. Universities also consider a range of alternative Level 3 qualifications, such as an access course in a relevant engineering subject or BTEC extended diploma in engineering or related subject such as aerospace, aeronautical, electrical, electronic, manufacturing or mechanical engineering. Applications from those who have undertaken an engineering foundation year will also be considered.

Furthermore, candidates are normally required to also hold five GCSE subjects grades A\* to C including mathematics and English language, or comparable numeric scores under the newly reformed GCSE grading system.

## What is covered?

It might seem obvious what an automotive engineering course will cover, yet the diversity of the auto industry means these offerings have to provide students with a wide knowledge base. Some courses might focus more on the mechanical or electrical side, while others are designed to help students into the motorsport sector. There are also other courses aimed at vehicle design, which have a clear crossover with engineering. It certainly helps those on the engineering side to understand the competing demands



of a clean-sheet design with the reality of turning that into a production vehicle.

Kingston University London's Dr Khazaeinejad explains: 'Both BEng and MEng courses focus on the design, testing and development of vehicles and components, from concept to production. They also involve improving vehicles in response to customer feedback.'

'The design of typical commercial vehicles and race cars, the optimised design of automotive systems and

motorsport components, the design and structural analysis of chassis, the current trends in vehicle manufacturing, as well as in emerging electric, hybrid and alternative-fuels vehicle technology are amongst the topics covered throughout these courses. Similar systems found in high-performance cars are also examined. In our MEng course, the use of industry-standard software tools helps with the analysis of whole vehicle dynamic behaviour and aerodynamics, and we discuss these with students.'

This is typical for most automotive engineering courses in the UK as many work closely with car makers based here, such as BMW, Ford, Jaguar Land Rover, Lotus, Nissan and Toyota. There are also other companies linked to these courses from the commercial and plant-vehicle sectors, because an automotive engineering course gives students a broad array of work options post-university.

### Shaping your future

After leaving university with an automotive engineering degree, which will have included a year working in industry for many graduates, most will have a far greater awareness of what awaits them in the working world. Dr Khazaeinejad explains: 'In addition to building expertise in automotive engineering, these courses help students develop key transferable skills they will need for professional life or further study once they graduate.'

'In the first year of study, the focus is on writing individual practical reports using a standard format and style, and encouraging students to orally communicate the outcomes of small group exercises in active learning sessions. In the second year, students are required to produce a substantial written group report and present their individual findings in individual laboratory reports on more challenging topics. To support the development of these skills, students should submit a draft of their reports to our Support for Academic Success Centre for feedback and further discussion with their personal tutor. In the third year, students are taught how to synthesise and critically review information from a variety of sources, and report this and their research results in a formal research report and an oral presentation.'

These processes run parallel to what students will be expected to do once in a working environment. By introducing these ways of approaching a problem and reporting back, automotive engineering courses are fine-tuning their students to dovetail straight into their chosen jobs



***“We have a team of technicians with a wealth of industry experience who work alongside the academics to support students on the course”***

and make them vital contributors right from the start, rather than having to begin at a basic learning point.

Dr Khazaeinejad continues: 'To complement the development of employability skills within the curriculum, personal tutors encourage students to engage in a range of extra-curricular activities such as student representation, part-time work, sports and recreation, society membership, volunteering, student ambassadorship, leadership and mentoring, cultural and creative activities, academic and professional collaboration, placement activity, enterprise activity, and careers and employability service events.'

'Activity in these areas is recognised by the university's Kingston Award Scheme. The careers service offers a range of events, including Careers Uncovered fairs, which include employers coming to campus to promote internship, placement and graduate opportunities, and spotlights on engineering networking activities where employers and alumni are invited on campus to talk about career pathways.'

Almost every automotive engineering course at university level has close ties to the auto industry. As well as giving students

the chance to learn from those already working in their chosen career and seeing first-hand how the sector operates, it simply makes sense for universities to work in cooperation with the businesses that will, ultimately, employ their graduates.

Dr Khazaeinejad goes on to add: 'We have strong links with local, national and international industry, and these links influence the development of our programmes. Working with our Industrial Advisory Board (IAB) gives us a forum where industry can inform us of the views of employers regarding the essential skills that they would want to see developed in our undergraduates. The IAB provides the subject teams with valuable inputs on the development of our programmes. Many of our IAB members are our high-flying alumni from McLaren Automotive, Formula One Management Ltd and other related companies. We also have a team of technicians with a wealth of industry experience who work alongside the academics to support students on the course. As a result, many of our graduates work in the automotive industry as a design engineer, project manager or automotive technician.'



## Case Study

As with many automotive engineering graduates, Conor Bunnell always had a keen interest in cars. However, he went from school to a photo-journalism degree initially. He soon found this was not the right course for him, although he maintains a strong enthusiasm for photography. Conor re-applied to Kingston University London for an engineering degree with an automotive element, which he says now means he can back up his love of cars with a knowledge-based interest in their design.

‘The first year of my course provided a fundamental starting point, while the second year became much more interesting as I specialised. This was followed by a placement for a year with Bosch, based at the MIRA test ground [Motor Industry Research Association]. Finding a placement was a challenge, because there is a lot of competition, but it pays to keep looking for one that’s appropriate to what you are interested in. The year with Bosch made me realise how specific different roles are with statistics, applied time and mathematics.’

An unexpected bonus of working for a year in industry was the approach to work Conor took back to his final year at university. The 24-year-old says: ‘I was definitely more organised after a year with Bosch. In my final year, I did a lot of project management for our Formula Student team, where I could apply what I’d learnt to organising design sessions and progress procurement.’

Conor originally expected to move into design calibration after he graduated, as this is the area in which he spent his time while on placement. However, he is now currently working as senior technician, engineering and workshop at Kingston University. He explains: ‘I hadn’t planned to go into the role I am now. However, because of the pandemic, I was asked to help run courses for the first-year students as online teaching increased. It’s opened my eyes to another engineering role, and



***“The year with Bosch made me realise how specific different roles are with statistics, applied time and mathematics”***

it’s fun getting my hands “dirty” rather than just sitting at a computer. There’s lots of variety and different projects. This role has also given me more experience of the type that industry wants, so it’s opened up more opportunities for my future in either the academic world or industry.’ ■



## THE USEFUL BOX

### Contacts:

**Brunel University**  
[www.brunel.ac.uk](http://www.brunel.ac.uk)

**Coventry University**  
[www.coventry.ac.uk](http://www.coventry.ac.uk)

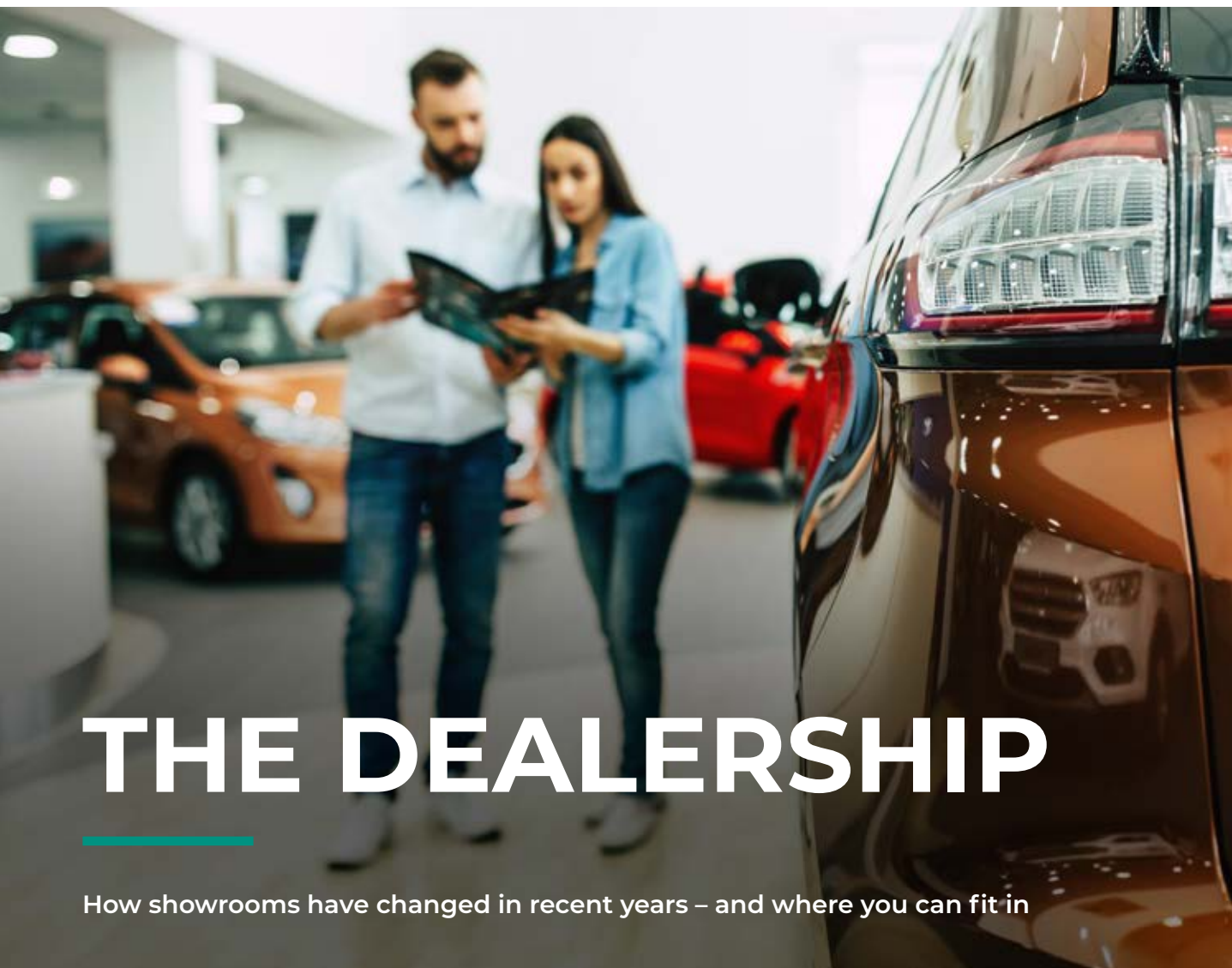
**Cranfield University**  
[www.cranfield.ac.uk](http://www.cranfield.ac.uk)

**Kingston University**  
[www.kingston.ac.uk](http://www.kingston.ac.uk)

**Queen Mary University of London**  
[www.qmul.ac.uk](http://www.qmul.ac.uk)

**Royal College of Art**  
[www.rca.ac.uk](http://www.rca.ac.uk)

**University of Warwick**  
[www.warwick.ac.uk](http://www.warwick.ac.uk)



# THE DEALERSHIP

How showrooms have changed in recent years – and where you can fit in

If you asked a lot of non-UK people what they thought of Britain – and we have – the chances are you'd recognise it as the place it was about 25 years ago. Car dealerships battle with the same problem of outdated stereotypes. Because a modern car dealership is light years away from the old, dingy one with a fast-talking salesman channelling Arthur Daley and Del Boy.

So what is a modern dealership like, and what opportunities can it offer as you

think about a career in the automotive industry? Firstly, of course, showrooms now are scrupulously clean, bright, modern and as well thought out as the interiors of the vehicles. Both the car cabins and the showroom layout have had far more thought put into them than the interiors of most houses.

For Snova Motor Group, this means following corporate guidelines for the many franchises it has. The family-owned group, spread across southern England, has 47 franchised sites, covering 18 brands. With a turnover of around £370m, it is solidly in the top 50 of the UK's motor

groups, and employs somewhere around 900 staff. So what do these people do?

## People as numbers

Diana Mackinnon was recently appointed the group's head of business for its BMW and Mini division. She heads up the brands' dealerships in Portsmouth and the Isle of Wight in a newly created role, having previously won the *Autocar* magazine award in the category of 'Great British Women in the Car Industry'.

That is an inspiring journey, after a long stint with Toyota and Lexus



during which Diana helped make her Edgware Road branch in London the largest Lexus centre in Western Europe. It also shows the flexibility and possibilities within the industry. Even so, she points out that there are few women in senior positions within the group, which is simply a reflection of the industry as a whole. Things are improving however, as her new role shows, and that is only going to gain momentum in the coming years.

Within her remit there are around 120 employees, split across the BMW and Mini franchises in Portsmouth and the much smaller showroom on the Isle of Wight.

The split of employees across Snows Portsmouth and IoW BMW and Mini franchises shows the scope of potential dealership jobs:



In addition there is the benefit of group functionality, so services such as HR, accounts and marketing are all done at group, rather than showroom, level. For example, there is a team of six just in outbound service bookings.

### Future acceleration

So how about the future? There is no question that Covid-19 has accelerated many things in this world, and that includes changes in how we buy and maintain cars. Online selling - what is known in the trade as 'distance selling' - really took off in lockdown. It now seems to be a permanently enhanced feature, with all the implications for IT, website design and other services.

Another accelerating trend is that of electrification, as you can read throughout this publication. Again, that has implications for what people want, how they want to be shown it in the showroom and so on. Snows one main site alone is going to cost the company around £250k to make it fully suitable for showing, selling and servicing electric vehicles.

Whatever it is buyers want to see, they are once again returning to showrooms in

person, 'to touch and see and feel'. This is, after all, a huge transaction for many people, and they still want the personal touch, the reassurance.

As Diana Mackinnon says: 'We have to embrace change, and we're excited by it. We are more accessible to the public, more transparent. Most customers are well informed, so it's more about not what we do but how we do it. They can buy a car from somewhere else, the same car, so it's more about the service we offer.'

'I sometimes see on a CV that they're "passionate about cars" - no. Forget about the car; this is an emotional experience, this is about the needs of the customer.'

That is, of course, using empathy - something women are traditionally considered to show rather more than men. The future is indeed going to be very different in a vehicle showroom than the old image. So where will you fit into it? ■



# DEALING WITH THE MANUFACTURERS

There are 4500-plus franchised dealerships in the UK. Here's how to join them

**T**he world of the franchised car and commercial vehicle dealerships is a huge and exciting one. There are more than 4500 franchised dealerships in the UK, employing many thousands of people. The largest dealership grouping, the Sytner Group, turns over more than £6bn a year - yes, six billion.

So this is a huge and impressive aspect of the British automotive landscape, with a real depth behind all those glossy and gleaming showrooms and forecourts.

But this is not a landscape without its share of mountains to climb and sinkholes to fall into. Which is why there is the National Franchised Dealers Association.

The NFDA is there to represent the interests of all those franchised dealerships. And a franchised dealership is one where the dealer has a contract with a manufacturer to sell new cars and service them.

Naturally, the NFDA has an important role to play in talking with government about forthcoming legislation and so on,

as well as helping dealers' relationships with the manufacturers. It is also heavily involved in many areas from finance and insurance to aftersales and recruitment.

## Driving your career

While all this information is useful to you if you're thinking of joining the automotive industry, which parts are specifically relevant to you? There are two areas that we would highlight, although it must be stressed that the NFDA is busy in a lot of industry projects.

The first is Drive My Career. This was launched in 2018 and is a major initiative aimed at connecting 'top employers in the retail automotive industry with the workforce of the future'. That's you.

So far, at least 1000 dealers have signed up to this timely programme. Gabriele Severini, communications manager for the NFDA, explains what Drive My Career means in practice:

'When it was set up, we steered members towards specific vacancies. You can feed in your postcode to narrow it down, but we took it further. However, things are moving now, and there is a wide variety of jobs available, from HR to IT and aftersales; a really diverse range of jobs.

'The challenge is attracting young people. We've had successful social media campaigning, including a popular YouTube channel, which has raised our profile. We are looking to attract people who might not have thought of the automotive industry as a place to work. Such as those in hospitality or retail, for example, who might be attracted to the higher rates of pay in our industry.'

Severini highlights that old prejudices take a long time to die away - like the idea of the pushy salesman. The NFDA is doing a lot to show that this stereotype is largely one of the past. Now the watchword is 'transparency', so the customer sees exactly what is going on, what things cost, what is included and so on.

## Electric future

Clearly, one of the areas of interest to younger people is that of electrification - although it must be noted there remains a solid interest in classic cars and V8s. However, with governments apparently committed to electric vehicles, this often plays well with younger people who are uneasy at the thought of petrol and diesel engines.

Which leads to the second NFDA initiative, the EVA accreditation scheme. The Electric Vehicle Approved certificate is a sign of retailer excellence in the electric-vehicle sector. What's more,



it has been approved by the government's Office for Zero Emission Vehicles (OZEV) as well as the Energy Saving Trust (EST).

A dealership showing the EVA logo means it represents a high standard in

dealing with electric cars and commercial vehicles. It is almost certainly going to be a growth area, and so is one that people entering the industry could do well to consider.

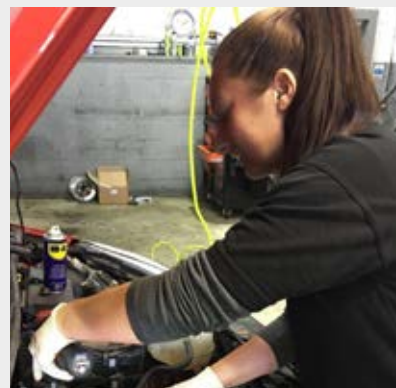
## Success stories

All of these schemes point to an organisation that is focusing on the future as well as the present - and not so much on the past. The NFDA is also one that focuses on results. Anyone looking for a job in the industry would be heartened to see the long list of success stories you'll find on the NFDA website.

People such as Hayley Pearson, who had already got two years' experience under the belt of her overalls when she was still a teenager. She is now a mechanic at the Lookers dealership, highlighting that any job is open to anyone. What would be her advice for someone thinking of joining her industry?

Firstly, she'd recommend that you become comfortable with light-hearted banter and a sociable work environment. Secondly, she recommends working for a larger dealership rather than a smaller independent, such as where she started: 'Here, I can work independently, get involved in a breadth of tasks and socialise with a friendly, supportive team.'

Now, who wouldn't want to do that? ■



## THE USEFUL BOX

### Contacts:

**National Franchised Dealers Association**  
[www.nfda-uk.co.uk](http://www.nfda-uk.co.uk)

**Drive My Career**  
[www.drivemycareer.co.uk](http://www.drivemycareer.co.uk)

**Electric Vehicle Approval**  
[www.evapproved.co.uk](http://www.evapproved.co.uk)



# THE AFTERMARKET

The sector that keeps vehicles running is as varied as it is fascinating

**T**he aftermarket is the area of the automotive world dedicated to keeping vehicles running safely and efficiently on the road.

Once you've bought/leased/acquired a vehicle on the market, the aftermarket is there for when you need that vehicle to be serviced or repaired, or when you want to add accessories. The aftermarket ensures that your vehicle is safe, legal and long running.

If you already own a car, then you may have already encountered the miracle that is the aftermarket. Your car goes in for a routine service one morning. The technician does the service and, while

doing so, notes that one of the engine hoses has a crack in it, which is just starting to leak. The dealership or independent workshop lets you know, gives you a price, and strongly suggests you get it replaced before it fails and dumps oil on the road and potentially damages the engine. Once you give the go-ahead, the huge mechanism that is the aftermarket can make sure your car is returned, functioning perfectly, new part unobtrusively in place - and almost certainly all in the same day.

Just think about that. The staff weren't expecting to have to find that particular hose for that particular vehicle that day. Now they have to. Obviously they won't be holding every part for every car in

stock, but they have only hours to find a replacement. And they do. So how did they do that?

## The aftermarket body

Think of it like your cardiovascular system. The dealership or workshop is the end of one of many veins and arteries, one tip from a multi-branching system. That system pumps parts and materials around the UK to keep the country's wheels turning. There will be a local distribution centre, connected to regional and national distribution hubs. Distribution companies can find and then deliver that engine hose to the dealership in as little as 20 minutes.

These distribution companies employ tens of thousands of staff, turn over billions of pounds and have cutting-edge facilities. One British national distribution centre covers one million square feet and is one of the largest automotive aftermarket facilities in Europe. It has a laser-levelled floor and a space-age automated picking system that wouldn't look out of place on *Star Trek*.

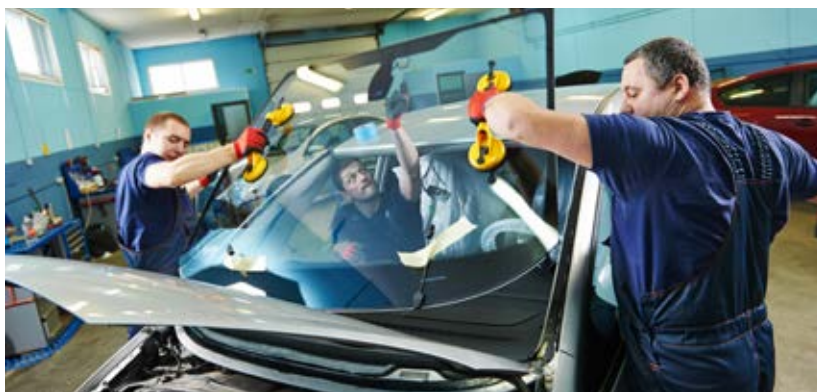
There are many big companies in this industry space. There are also tens of thousands of alternative parts providers, dealerships and workshops. All there to keep vehicles on the road and on the move, whether it is a car, light commercial vehicle, truck or double-decker bus.

### Work possibilities

The broader aftermarket is a huge sector employing hundreds of thousands of people in a diverse range of jobs that demand sophistication and adaptation. Just think of it. These days more companies are focusing on coming to the customer, too. If your windscreen is broken and needs replacing, companies can send someone to your house to replace it. Same with tyres that can be done on the driveway, or wheel renovation or small body and paint work.

It can be a highly technical job as well. Take the windscreen. It's not just a piece of glass; the windscreen can have heating elements, radio receivers and high-tech radar/lidar sitting behind it. These help systems such as lane-keep assist or adaptive cruise control function properly. Replace or repair the windscreen, and you'll need to make sure everything is calibrated properly so these advanced driver-assistance systems (ADAS) continue to work properly.

It's the same if you have some minor crash damage - maybe the bumper needs replacing. Again, a technician might come out to you, and again they will have to know all about ADAS - not only reversing sensors at the rear, but also automatic emergency braking, blind-spot detection and so on.



***“You could take a degree at university to start that way, or kick off as an apprentice and work your way up”***

The aftermarket has to keep on top of a lot of new technology, not least new drivetrains. Although a lot of the tens of millions of vehicles on the road are going to be internal combustion for many years to come, make no mistake that alternative systems including electric and fuel cell are joining the network in increasing numbers. The aftermarket, and its workers, will have to adapt and make sure it knows how to keep them moving, too.

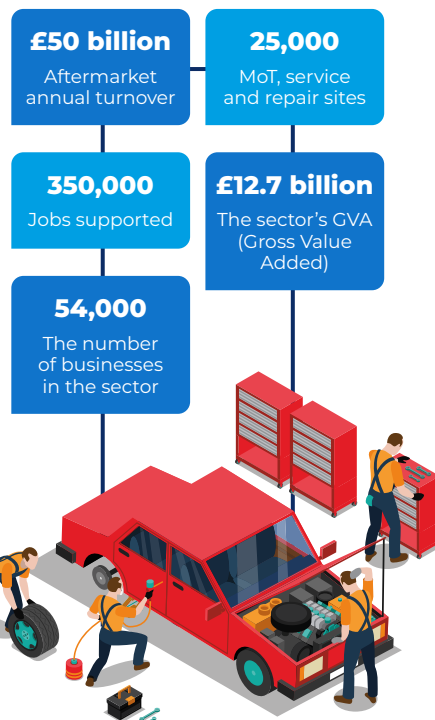
It's not just about distributing or fitting parts, either. You could get a job 3D CAD modelling for new parts design, working with materials technology, CNC machining, additive manufacturing, electronic design for parts and diagnostic equipment, or working in sales, marketing and advertising - the possibilities are endless.

Peter Lawton, senior section manager for aftermarket at the SMMT, sees plenty of opportunity for someone coming into the aftermarket:

‘You could take a degree at university to start that way, or kick off as an apprentice and work your way up. You could run a warehouse, lead and coordinate delivery teams, trawl the world's factories to find people to

make your parts, design new systems and components, or get your hand in actually fixing and maintaining vehicles. There are so many possibilities, working in companies with thousands of colleagues or just a handful.

‘The aftermarket is a highly professional sector that provides millions of consumers with a high-quality, value-for-money service that keeps their cars operating safely. It's well resourced, well supported and engaged with government to help promote its offering and make its future as viable as possible. It's a vibrant sector with lots of opportunities.’ ■





# WHY IT'S A NUMBERS GAME

Automotive accountancy makes it all add up

**A**ccountancy is becoming increasingly important within the automotive industry. Turning huge volumes of raw data and statistics into accurate financial reporting has elevated business management into a core discipline.

Now, more than ever, the availability of performance data, and the skill to interpret it, can transform numbers into invaluable intelligence and help shape and guide strategic business decisions. This is where accountancy skills have excelled in many retailing businesses across the franchised, independent and car supermarket sectors.

## Getting started in financial management

According to Steve Le Bas, an audit partner at BDO specialising in car retailing, the best entry point is work experience, especially for those aged 16-17 who are starting to give serious consideration to their future careers.



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***“It is all about being proactive, taking control of your career and making contacts”***

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‘From BDO’s point of view, we have people coming in on week-long work experience, and that gives them a flavour of what accountancy is all about. Some like it and some decide they don’t want to do it,’ he says.

‘It is all about being proactive, taking control of your career and making contacts,’ he continues. ‘For dealer groups I would recommend writing a letter to the finance department to see whether a work placement is something they would be interested in doing.’

Some of the larger accountancy firms offer specialist motor-trade services and participate in recruitment fairs in colleges and universities.

BDO typically takes on trainees from 1 September each year, although the recruitment process starts as early as April of the previous year as students approach their final year of college or university. The best advice here is for students to plan well in advance, and approach the top accountancy firms and complete an online application in time for their next intake.

Traditionally, BDO received more applications from undergraduates than students leaving school or college with A-Levels. But it says nowadays the split is more even, a reflection perhaps of the drop in students attending university.

Successful school and college leavers receive a four-year training contract with BDO, with university students offered three-year training contracts, ending with an ACA qualification in chartered accountancy.

Students working in finance departments of car retailing go through a similar process to achieve their ACA qualification. Training typically covers purchase ledger, credit control and



possibly a group-finance function, providing a fully rounded experience.

‘It is a tough three or four years, because you’re working nine to five, plus you’ve got to keep on top of your study work to make

sure you pass your exams. It’s a big commitment, but once you’ve got it you have a great CV; you’re a qualified chartered accountant and the world’s your oyster,’ says Le Bas.

## What does a career path in accountancy look like?

Depending on the size of the business, accountants within the motor trade can work operationally in individual sites or centrally overseeing a number of sites. There is also a well trodden route for accountants to become financial directors, dealer principals and group CEOs. The sky is your limit.

'In this day and age it's important to understand numbers; it gives you a good understanding of the world of business,' explains Le Bas.

Furthermore, the pandemic showed just how key the role of dealership accountants was, when sites and groups had to reassess their business models in response to the lockdowns, and formulate new ways of performing as profitably as possible.

'Accountancy is a pretty safe job; it really is quite resilient. In the dealer world, during the lockdowns, management accountants still needed to be drafted because cars were still being sold and services were being done. When you consider all the trades that suffered during lockdown, accountancy is a very safe profession,' says Le Bas.

## The appeal of automotive accountancy

According to Ed Steele, managing director of Steele-Dixon Automotive Recruitment, becoming an accountant in the automotive sector can often be an unplanned move.

'For a lot of accountants it's a happy accident. Many will admit that a dealership job came up and looked interesting, and the reason for that is probably because we can all relate to cars and understand the sector. Meanwhile, others will admit that it was an opportunity to work locally.

'However, once they start, they find it's hard to leave because it's a fascinating industry that keeps them really busy with plenty of variety. Also, as with any other





***“In this day and age it’s important to understand numbers; it gives you a good understanding of the world of business”***

role within retail automotive, it’s constantly changing and keeping you on your toes. There’s also high demand, and the rewards are good.

‘Accountancy in other sectors can be monotonous, but in automotive it’s fast paced; every month is a completely new beginning. And that’s exciting.’

## How are cars sold in the UK?

Historically low interest rates and the availability of car manufacturer-backed finance schemes have transformed the way vehicles are sold in the UK.

For most buyers now, the default way of financing a new car is via a Personal Contract Plan (PCP), whereby a deposit is paid and monthly payments are made over a set period, typically three years.

At the end of the term the customer has the option of paying a final ‘balloon’ payment and taking full ownership, or handing back the keys and rolling any remaining equity into another car funded by a new PCP agreement.

For buyers, the availability of PCPs has brought auto finance in line with the monthly budgeting already in place for, say, mobile phone contracts, utility bills and mortgage payments.

By breaking down the cost of a new car into affordable monthly payments, rather than its overall retail price, the choice of brands has opened up for consumers - as seen by the increase in the sale of the premium brands.

PCPs have also become popular with used car buyers, where consumers are also able to fund their purchases using monthly payments.

For sales staff the availability of PCPs has transformed the way they sell cars, with customers empowered to set their monthly instalments according to the size of their deposit.

Personal Contract Hire (PCH) is also a popular alternative to outright purchase or taking a bank loan. Again payments are made on a monthly basis, but ownership is retained by the finance provider, so you cannot own the vehicle at the end of the contract.

More recently, this Buy Now, Pay Later approach has even been adopted by car owners to pay for servicing and repairs, enabling them to spread the cost of large bills over monthly instalments.

The boom in demand for PCPs and other dealer-provided finance was monitored by the Financial Conduct



Authority (FCA), prompting in recent times the introduction of new rules and regulations on how car finance is sold.

From 28 January 2021 the FCA banned the use of discretionary commission models, whereby some dealers received commission linked to the interest rate customers paid, creating an incentive to sell more expensive credit to them.

The move has prompted greater transparency and fairer outcomes for consumers, and more robust guidelines for dealer staff selling finance. ■



### THE USEFUL BOX

#### **Accountancy firms in automotive:**

**ASE**  
[www.ase-global.com](http://www.ase-global.com)

**BDO**  
[www.bdo.co.uk](http://www.bdo.co.uk)

**Deloitte**  
[www2.deloitte.com](http://www2.deloitte.com)

**Grant Thornton**  
[www.grantthornton.co.uk](http://www.grantthornton.co.uk)

**MHA Macintyre Hudson**  
[www.macintyrehudson.co.uk](http://www.macintyrehudson.co.uk)

**UHY Hacker Young**  
[www.uhy-uk.com](http://www.uhy-uk.com)



# ALWAYS LOOK AHEAD

So exactly where are we going with all this, then?  
Well, actually, to some very exciting places



I

if you've set your heart on a career in the UK automotive industry, you are opening up a whole world of opportunity for yourself. The home-grown motoring industry is well known around the globe for its relationships and strong links with universities and colleges. It is a collaboration built on decades of working together to produce some of the best designers, engineers, researchers and manufacturing experts

on the planet, and there is no sign of that changing any time soon. If anything, it looks likely to increase and develop as traditional engineering and build methods make way for new technology, space-age materials and enhanced understanding and know-how. All this as we enter a new phase in the history of the automotive industry in the UK and in the wider world. Great leaps forward in fuel technology, an increase in the use of electric transport, plus enhancements in safety, connectivity and the use of

high-tech materials, not only herald a bright and exciting future for all who are involved in the industry, but also open up a host of new opportunities for graduates and college leavers.

Advances in the car, van, motorcycle and truck industries are not just about product life-cycles, keeping abreast of modern design and following the latest trends. There are continuous regulation changes in terms of fuel efficiency, the environment and road safety, while manufacturing processes constantly develop. Sales and aftersales - the way in which we buy our vehicles - is also going through a massive change.

Automotive manufacturers, research agencies and engineering firms are working with schools, colleges and universities to make sure that a steady flow of good people who are looking for a career in the automotive sector, is maintained and encouraged.

It's a two-way thing; a win-win situation for industry and career-seekers alike. So what do the coming years hold for those looking for a profession in this exciting sector? And which areas of the auto industry will present opportunities as we look to the future?



### Artificial intelligence

There's no doubt that Artificial Intelligence (AI) technology has a place in the future of the automotive industry. It will assist with decision making on which car or van to build next. It will provide new answers to safety problems and security issues. It will help marketers to create new sales campaigns. But all of this intelligence doesn't just happen. To make AI work, it needs data: about design, latest trends, customer behaviour, efficiency, insights and customer needs.

### Autonomous vehicles

We already enjoy certain levels of autonomous technology in today's modern vehicles. Lane assist, self-parking, adaptive cruise control, blind-spot monitoring and emergency braking



are all features we have in our cars, vans and trucks. But we are entering a future where cars will drive themselves, 'talking' to each other to keep a safe distance apart on motorways, staying connected with traffic-monitoring technology, and working with traffic-light systems to improve vehicle flow through busy areas.

## Electric vehicles

Nobody can be certain what the future holds for petrol- and diesel-powered vehicles. There is still plenty of discussion going on among politicians and industry leaders, but what is certain is that electric vehicles (EVs) have a big place in the automotive future. Already there is a stunning choice of hybrid and electric vehicles available, with more being announced almost every day. And as the charging-point infrastructure in this country grows, so the demand for electric and hybrid vehicles - both cars and vans - will grow with it.

## Materials

Vehicle manufacturers are continually looking for ways to improve the strength and security of their vehicles without adding weight. Research now, and in the future, will harness lightweight materials and use them in the design and construction of stronger and lighter vehicles. Nanotechnology, using stronger, more resistant materials such as graphene, can already be found in cloth materials, tyres, electronics and even fuel, and that work will continue into other elements of vehicle design and construction.

## Safety

Vehicle safety is one of the most important features of any vehicle. Manufacturers build entire advertising campaigns around safety, while regulations continue to adapt and evolve to improve vehicle occupants' well-being on the road. We are all familiar with seatbelts, airbags and anti-lock brakes



© DAF Trucks

- all standard today. But there are so many more developments to come, with continued improvements to smart airbags, adaptive headlights, collision avoidance, automatic braking, lane-departure warning and stability control.

## Sales

Customers rarely enter a vehicle dealership knowing nothing about the car or van they want. Most will have used the internet and other digital tools to help them decide, before they even contact a salesperson, what their next vehicle will be. It puts the customer in a strong position, it saves time for both buyer and dealer, and it means dealerships can be smaller and leaner. There are huge

changes coming in the next decade regarding the marketing, selling and servicing of vehicles.

## 3D

Three-dimensional printing in the automotive industry is not especially new - auto manufacturers have been using the technology for several decades to create parts and prototypes to test for looks, design and fit. The technology has evolved and continues to evolve, so the parts being created using 3D technology today are stronger, more robust and better made than ever. The future of this line of tech is huge, and it could be used to create not just prototypes, but real parts for vehicles. ■



# DOING THE RIGHT THING

Corporate Social Responsibility and sustainability

**T**here are plenty of opportunities to 'do the right thing' in the automotive industry. CSR is part of the fabric now of every organisation, from engineering to dealerships, from design to manufacturing. It should appeal to those involved in volunteering, or those who are considering working in the charity or sustainability sector.

No large company can operate in isolation from the world it trades in, nor its local community. Most modern businesses fully understand the value of exercising Corporate Social Responsibility (CSR). Search for 'CSR' and you'll get hundreds of definitions but, essentially, it's companies working to help communities or charities, and ensuring fair treatment and opportunity for all employees.

CSR is often coupled with sustainability, although this is such an expanding area that it demands its own career specialists. The move to electrification has brought extra focus to automotive industry sustainability programmes, which minimise the impact of the industry on the environment. In addition, the programmes are often concerned with human rights, such as zero-tolerance towards forced labour in any part of the supply chain.



## CSR in action

In 2020-21, the specific skills of the British automotive industry came to the fore during the Covid-19 pandemic. Among dozens of examples, motorsport and advanced technology business Prodrive worked with Cambridge University to develop a low-cost ventilator for global use, while Aston Martin switched to making PPE. During 2021 Bentley Motors and its partner the Cheshire Community Foundation awarded grants to deliver projects targeting Covid-19 recovery in Crewe, tackling food poverty, mental health and wellbeing, debt relief and financial education. On a smaller scale, Motorpoint, the UK's largest independent car retailer, hosted a drive-in cinema screening at its five-acre site in West Yorkshire to raise money for charity.

This drive to do the right thing works right through the supply chain. Companies like the Autocraft Solutions Group not only make and assemble engine components, they also produce EV battery assemblies and remanufacture engines, frequently re-using components, to help makers meet their corporate sustainability responsibilities. Focusing on things such as charity and the environment helps everyone – including the firms concerned.

It's a two-way gain. Wider societal issues increasingly matter to many people who actively choose to buy or work for brands that 'do the right thing'. For some car companies, supporting charities, education and local communities has been a way of life for decades. The USA-based Ford Motor Company Fund has existed since 1949 and aims to realise Ford's 'vision of becoming the world's most trusted company' by investing in programmes that support education, promote safe driving, enrich community life and encourage employee volunteering.

For six years Deborah Chennells has been the Ford Fund manager for Ford of Europe, and she is also responsible for the Ford Trust, a UK-registered charity that gives grants to local groups. She has worked for Ford for 25 years through



*Aston Martin helped make PPE in pandemic*



*Companies work with local communities*



*Land Rover gives expedition vehicles...*



*...and supports equestrian events*

aftersales, sales and marketing, then communications and PR including work on the Lincoln brand in the USA.

She says: 'CSR is a commitment across the company, so any employee can really get involved. You could work in marketing, for example, and be involved with charity sponsorships or vehicle provision, or you could work in HR around diversity, equality and inclusion, or you could be part of an employee resource group focusing on specific areas such as mental health, disability and accessibility. Often companies such as Ford empower employees to undertake community involvement activities during work time.'

### What qualities are needed?

I would say to anybody wanting to work in CSR, it's really about having a passion to help others and it's all about people, because you get involved with so many different people across so many organisations,' says Deborah. 'An understanding of charity law and regulation is helpful, and you have to do analysis around community needs - what the needs are and what you're attempting to try to address. The role also involves speeches, presentations and project management. It's great in that respect because you see something from the start and you see the impact.'

While most automotive companies allow employees to take part in volunteering during company time, you may face the challenge of getting colleagues to depart from daily work to get involved and see the benefits. At a higher level you'll need to be confident enough to persuade perhaps a board of management to invest in a particular charity, making your case with research, because these decisions can carry large financial implications.

There will be sensitive issues to handle. Knowing if the charity or community group that is asking for a link lines up with the strategy of your business (with due diligence checks)



can mean saying 'no' to some. You may be running employee volunteer programmes or dealing with people who are very focused on their own charity or group, so a listening, diplomatic touch is called for.

## Routes and qualifications: CSR

CSR management is becoming recognised as a professional role. Training courses are available, but as a graduate you're more likely to enter on a different level, transferring the skills you learned during higher education.

'If you were coming into the automotive industry specifically, you'd probably start in another area and build your way up,' says Deborah Chennells. 'You have to be a bit of a self-starter, but since there are opportunities in any role for you to get involved in CSR, you can get a glimpse - and if you like it you could look to progress to this area.'

Many of those who are involved in CSR start in Human Resources (HR) or sales and marketing and communications. Accountancy, public policy and business skills could stand you in good stead - for example, you may be awarding grants to organisations, or supporting business start-ups with a social purpose, as Chennells has done:

'Through our education initiatives we support many young people, and I have found it really interesting to work with students (known as the Gen Z generation) who are entrepreneurial and socially responsible, and connect with brands that demonstrate these values. We have helped many students set up social enterprises - businesses with a social purpose. We work globally with an organisation called Enactus, a registered charity dedicated to inspiring students to improve the world through entrepreneurial action. It's fantastic to see how many students are committed to helping others and making the world a better place.'

## Routes and qualifications: sustainability

For Ford, as with many automakers, sustainability encompasses a wide range of business elements. It's set aspirational goals across climate change, air, energy, waste, water, materials, safety, human rights, diversity, equality and inclusion, and access. It's also committed to the Paris Agreement to ensure its global operations achieve Carbon Neutrality by 2050.

'The breadth of topics covered by sustainability is huge, and the range of relevant qualifications diverse,' says Stuart Southgate, Ford of Europe director of Sustainability, Environmental and Safety Engineering. 'Typically, this includes

***"It's fantastic to see how many students are committed to helping others and making the world a better place"***

qualifications around environmental studies, engineering, business studies, system thinking, chemistry and others. It is important that candidates are able to think holistically in understanding the bigger picture of environmental issues and solutions along the life cycle of vehicles and mobility services, and have strong team-working skills.' ■

## Foodprint

One example of a social enterprise supported by the Ford Fund and Enactus is Foodprint, created by students at the University of Nottingham in 2017 to tackle the problems of food waste and food poverty in Nottingham. Foodprint acts as an intermediary between supermarkets, wholesalers, charities and the people of Nottingham.

Food that would otherwise go to landfill is collected from partners and taken to Foodprint's social supermarket in Sneinton. From there, it is sorted and redistributed to those experiencing food poverty in the city, be this through the network of community-eating cafés, food banks or school breakfast clubs. The food that is not redistributed is sold in the shop at extremely discounted prices.

It has impacted over 700 people on average per week, redistributed 10,702kg of food, saved the equivalent of 212,163kg of CO<sub>2</sub> and, since 2020, Foodprint has also been delivering PPE and care packages to the Nottinghamshire hospice as part of its Covid-19 relief efforts.



## THE USEFUL BOX

### Contacts:

**Chartered Institute of Personnel and Development (CIPD)**  
[www.cipd.co.uk](http://www.cipd.co.uk)

**The Charity Commission**  
[www.register-of-charities.charitycommission.gov.uk](http://www.register-of-charities.charitycommission.gov.uk)

**Enactus**  
[www.enactus.org](http://www.enactus.org)

**The Ford Britain Trust**  
[www.ford.co.uk/experience-ford/about-ford/ford-britain-trust](http://www.ford.co.uk/experience-ford/about-ford/ford-britain-trust)

**GlobalGiving**  
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# MANAGING THE MESSAGE

Motor manufacturers and their associated businesses need to talk to the world and manage their images, just like any other industry that sells products and has distinct brand identities

**T**he fast-shifting and global nature of the automotive sector can provide exciting opportunities if you're outgoing, interested in people and consider yourself a good communicator. There is a constant demand for communications, public relations (PR) and marketing professionals.

## External communications

Press offices are the shop window for any incoming media enquiries. Media can mean the traditional newspaper, car magazine or freelance motoring journalist, but it can also be a blogger, social media influencer or political correspondent. Much of the automotive-industry news has a wider impact on politics and the

economy. The correct handling of corporate issues can add immense value in reputational and financial terms.

The typical make-up of a global car-maker's UK press and PR team might be people who focus on product enquiries and PR (vehicle launches), corporate (business and financial news) and internal (employee) communications. Each team is led by a manager supported



by press officers, each of whom has their own specialism. They may be sited close to marketing colleagues and social media specialists.

Press officer is usually a junior role, but it's an ideal on-the-job training ground that gets you a mix of experience. Daily work is both reactive and proactive. Every day you will be taking incoming enquiries, monitoring coverage across

all outlets – especially social media – and responding quickly if an issue arises. Proactive work includes writing press releases, organising events, and 'selling in' stories to the best contacts to reach your target audiences.

So, what qualities are needed to be an auto-industry press officer?

- Being confident and enjoying talking to people at whatever level of seniority (your CEO may depend on your advice on how to deal with the media one day).
- Being organised and having the ability to keep to deadlines.
- Demonstrating a genuine ability to handle and resolve multiple and unrelated questions – or at least to manage expectations.
- Having an interest in others and developing a range of contacts outside your own team – knowing who to ask, and how to ask.
- Being robust when need be, as you may have to stand your ground and say 'no' sometimes.

## Pros and cons

Press office work may be for you if you relish the stimulation of not knowing what the day or the next call will bring. The skills are common to all press offices, but if you have some technical knowledge that can be an asset.

Car-making is international, and even if you work for a small specialist UK firm, it will have overseas markets. As a motor-industry press officer there's every chance you'll get to travel for work and meet colleagues in other countries.

If you work for an international group you'll have colleagues in other countries, and if you like learning languages you are likely to be offered lessons by the company, or time out to study.

Free cars? Probably not, but you'll certainly be allowed to sample the latest product in order to understand it. All press offices have a fleet of demonstration vehicles for media tests and placements, and the administration of a fleet is an absorbing and skilled job in itself.

Things will go wrong. There will be crisis moments, but each press office will have its own plans on how to deal with emergency issues.

Hours can be long - even though it may be in exotic foreign parts, a press launch can take you away for days of early starts and late finishes.

You are likely to need to be 'on call' to media out-of-hours (usually on a rota basis).

### Internal communications

Well-informed and positive staff can be an essential part of spreading good news about your company, so keeping them up to date, involving them in the company's plans and being a conduit to management responding to their concerns are all key elements of internal-communication skills.

Journalistic skills come into play for internal communicators. These include digging out interesting stories within the company (but not inside secrets - internal can go external in seconds), speaking to people and telling their stories.

### Public relations and marketing

Public relations is all about the way organisations communicate with the public, promote themselves and build a positive reputation or public image. Press offices perform a PR function, as do outside agencies.

Free media coverage is the objective. PR professionals use social media, events, celebrity associations and stunts to grab attention. If you consider yourself to be a creative 'people person', and are a good communicator, too, then a career in PR may well be for you.

Marketing in an automotive context runs on the same principles as it does for any other organisation or business. It's the process of getting people interested in your company's product or service, and tailoring it to their needs. This happens through market research, analysis and understanding your ideal customer's interests. The Chartered Institute of Marketing says that 'the essence of all marketing is about understanding people and what drives them to behave in the way they do'.



Marketing extends across all aspects of the business, including product development, distribution methods, sales and advertising. You may be dealing with commissioning surveys and consumer testing, or working with outside agencies or commissioning work from them.

There's no direct interaction with the media in the same way as a press office, but you'll have shared campaign strategies and messages, and your counterparts will provide some of the data on the effectiveness of how those messages are being communicated.

As you won't have the unpredictable nature of the interactions a press office experiences, knowledge of automotive technical terms won't be essential - but knowledge of competing brands and the automotive landscape will be an asset. A head for numbers and data analysis is also a benefit.

### Routes and qualifications

Degrees in PR are offered by many universities. After graduating, a short internship to gain work experience is the first stage. A placement as, for example, an assistant in an automotive press office can get you a foot on the ladder, but of course there will be a



lot of competition. As an alternative to university, the Institute for Public Relations has an 18-month paid-for PR apprenticeship, which is a level 4 higher apprenticeship scheme, equivalent to the first year of a degree.

Communications skills are transferable, so if there are no immediate automotive opportunities you can begin to learn your comms or marketing trade with an unrelated organisation. That way you can gain more qualifications to help you enter at a higher level, while absorbing what you can about the past and current automotive industry (without compromising your current job, of course).

Marketing qualifications can be gained on the job (starting as a marketing assistant), at university with a placement year or via apprenticeships, which provide qualifications starting at marketing executive level 4.

## Case study

### Charlie Smith, press and PR assistant, Toyota GB

Charlie Smith, 21, from Buckinghamshire is studying for a BSc Marketing degree at Newcastle University. He's on a placement year (2020-21) at Toyota GB's press office between his course's second and third year.

He works on the Press Relations and Social Media team, focusing on PR. The team consists of 12 people in PR, with a social media team of the same size which is responsible for creating social media content, responding to online questions and providing customer insights. This team also has a student placement.

Charlie's typical daily tasks include maintaining the media site with press releases and press packs, images and video footage. He assists with press queries referred to him by a press officer (such as requests for images). He attends new vehicle launches and subsequently monitors the media coverage generated. This entails working with the insight team to collate summaries of reactions.

He says: 'The automotive industry has always been a big interest of mine. I loved learning about the new models and makers bringing innovative new tech to market. I also appreciate the classics, too.'

'It wasn't just the automotive industry that drove my passion for this role, it was the PR world itself. I heard about the Toyota Student Placement scheme on either RateMyPlacement or LinkedIn, but I didn't want to limit myself to just one industry so kept my options fairly open - other applications included Disney and Nike.'

'I had some previous knowledge of hybrids as well as Toyota's reputation for reliability, but I've found this year so much more informative due to the commitment Toyota is making to becoming a mobility company, not just a manufacturer of cars. Its vision for the future, while still producing thrilling vehicles, is exciting.'

'Since joining, highlights have included launches of the GR Yaris (in Crawley as opposed to jetting off to Europe due to



***"As an entrant, the more automotive knowledge you have is a bonus, but there is no substitute for learning on the job"***

Covid-19), LC Convertible and UX 300e (Lexus's first BEV). Pre-launch I was responsible for producing the spec sheets on the vehicles so that the journalists had the right information when they drove them. I attended the launches and was able to meet and engage with the media.

'I've been able to apply general commercial awareness - how the wider business works and understanding the importance of relationship marketing - while maintaining relationships to generate coverage.'

'PR and marketing are both interesting, but different. In PR we are dealing with coverage, reputation and the brand image going beyond just the product. I've compiled several press releases about autumn driving, and how to pack a car for university or staycations, and this has improved my writing skills. Marketing becomes a lot more technical, including an awareness of the overall market - the mix of grades in a model line-up, for example, and which of those is anticipated to be the best seller.'

'As an entrant, the more automotive knowledge you have is a bonus, but there

is no substitute for learning on the job, and having that "can-do" attitude is most important. I wouldn't call myself a petrolhead with all the technical knowledge, but I have a drive to learn and find out more to ensure I'm an integral part of the team.' ■



### THE USEFUL BOX

**Chartered Institute of Marketing**  
[www.cim.co.uk](http://www.cim.co.uk)

**Institute for Public Relations**  
[www.instituteforpr.org](http://www.instituteforpr.org)

**The Motor Industry Communicators Association (MICA) has just been established in the summer of 2021.**  
[www.mica.org.uk](http://www.mica.org.uk)

**Public Relations and Communications Association**  
[www.prca.org.uk](http://www.prca.org.uk)



# IT'S A COMPUTER WORLD

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The automotive industry's computer-science roles are world leading





**T**he motor-manufacturing sector is a trendsetter. It leads where other segments follow, showing the way forward in terms of new technology, improving manufacturing processes and creating great inventions. Refining, modifying and fine-tuning, this incredible sector keeps up with the relentless demands of the vehicle-buying public in Britain, Europe and the world.

That makes it the place to be if you are looking for a career in technology. And, specialising in creation and discovery, this is the exciting world of computers in automotive. Such is the technological world of automotive design, production and sales today, computers are used along almost every step of the way, from initial design, research and testing, to production line, sales and marketing.

The need for electrical and computer engineers throughout the auto industry is growing at a rapid pace, and opportunities continue to present themselves as electrical and technological equipment is conceived, developed and manufactured for installation in today's modern vehicles.

The sheer breadth of electronics and electronic features in the modern car continues to grow, and qualified engineers will always be required by the world's auto makers to fulfil roles in vehicle controls, safety systems, autonomous driving, infotainment and communications.

Additionally, electrical and computer engineers will be increasingly called upon to help develop the future generations of hybrid vehicles, electric cars and vans, and even more advanced autonomous vehicles. This will one day lead to cars that have no driver intervention whatsoever (should any motorist wish for that).

### **Cars are getting 'smarter'**

Greater numbers of electric vehicles will need a more highly developed infrastructure of 'smart' charging points. Also, as cars improve in terms of communications, faster and more reliable networks will need to be created, developed and maintained.

Already computer programmes are widely used in modern cars, from the anti-lock brakes to the engine sensors, from the fuel-injector monitors to the suspension adapters, from the airbag sensors to the satellite navigation.

In the sales and marketing areas of the auto business, computers play a vital role in advertising, communicating and sales tools such as manufacturer websites that allow customers to 'build' and tailor their own car online before ordering it to be built.

There are so many opportunities for students interested in progressing within computers, and a career in this exciting field is just around the corner of the technological superhighway. The number of jobs in computer science within the auto industry continues to increase and develop as cars improve and become increasingly sophisticated.

In order to maintain the building of smarter, safer, more economical and more environmentally friendly vehicles, the automotive industry needs computers and computer engineers to design cars, vans and trucks, to control the robots that build them, to power the high-tech features that are built into them, and to drive the systems to help run the businesses that sell and maintain them.

Car makers are entering a new era. By 2030 it is possible that all new cars being built will be electric powered only. And in the few short years between now and that new dawn, a raft of other technology is being introduced to bring to the roads a completely fresh and novel means of transport for the decades ahead.

## Driven by computer

Cars and other traffic will soon be driven more by computers and software, and less by traditional engines and fossil fuels. Much of this new generation of technology is already underway, but new cars will increasingly drive themselves, cruise at steady speeds in a safe, continuous line, park themselves, help keep you on the road, look ahead for danger, and detect reasons why they should be braking for you.

They will listen to commands rather than be controlled by buttons and switches. They will employ artificial intelligence (AI) to watch you, track your eye and hand movements, and learn from the way you drive and react. Routes taken will be tracked and learned, while communications - human-to-human and car-to-city infrastructure - will improve and become even easier. Transport will be safer, cleaner, quieter and more energy efficient. And computers will be the reason for this development.

As this technology grows and develops, it will become cheaper and easier to obtain. As with any technological feature - such as the latest watch, phone or laptop - as more are produced and improved, the cost comes down, bringing with it ways to find increased savings for the manufacturers.

And even though today's modern cars carry an OEM (Original Equipment Manufacturer) brand badge - and many of these are household names - they are actually made up of components from a wide array of suppliers, among these software and hardware producers. This equipment is used in a car's lighting, braking, infotainment, engine management, safety and security - and it all needs specialist hardware built, and software developed.

Today's high-tech automotive world employs specialist techniques such as digital twins that mimic the performance and handling of real cars without having to build real prototypes. Worldwide demand for electric cars has accelerated work in



this particular area, along with automated guided vehicles and autonomous cars that offer lane assist, automatic emergency braking and parking assistance.

Robots, controlled by computers, are now using artificial intelligence to allow them to recognise components and car panels, to help with production methods and even repair damage.

## Individuality and uniqueness

Consumers are constantly looking for more individual and unique custom-made designs for their cars. Gone are the days when there was little choice of options and colours: 'You can have whatever colour you want, as long as it's black'.



Manufacturer and dealer websites now include elaborate features that allow customers to build their own car to their exact specification. This is possible only thanks to sophisticated computer programmes.



Modern cars and vans are becoming more like computers on wheels with each new generation. Total full-electric vehicles on our roads could be less than a decade away, and with that technology comes a raft of other clever know-how and expertise in the form of autonomous and self-driving vehicles. Within those vehicles will lie software that controls the cars in terms of AI, sign, road and people recognition.

And in the car plants and vehicle factories, an army of robots, paint sprayers and automated guided vehicles (AGVs) carrying components are hard at work assisting the human workforce build the cars and vans on the production line.



So what careers are available in this critical and fast-moving sector?

### **Computer programmers**

The days of car dashboards with a speedometer, rev counter and small number of instruments and warning lights is now a distant memory. Ten or 15 years ago, that was all a computer programmer was expected to create for an auto maker. Today, though, it's a different story - most modern cars have 'smart' touchscreens, connecting with wireless networks and equipment while on the move, controlling almost every feature in the car from one central point.

Computer programmers are responsible for developing increasingly more complex and faster programmes that can assist with all these many facets, and in a way that is easy and user friendly for the driver.

### **Automotive hardware developers**

How do you get this high-tech computer programming to work on a moving vehicle? The only way is through tough and highly developed hardware, built skilfully into a car's engine bay and cabin.

This hardware - the switchgear, casings, touchscreens, sound cards and data-storage units - all need to be designed to withstand the rigours of constant, repetitive use, while enduring the continual bangs and bumps of uneven roads, often in the heat of a vehicle's engine bay. And as designs change and develop, the need for good-quality hardware will increase.

### **Researchers and strategists**

Car makers not only need high-quality hardware and software but, looking to a constantly developing future, they also need a plan. Their technology officers will lead research programmes to test and innovate, finding new ways of doing things, developing exciting, fresh ideas and keeping abreast of competitors in a tough and aggressive automotive arena.

The motor industry could simply not survive without high-tech computer-science expertise. As we move towards a bright new transport future, increasing numbers of computer-science jobs in the automotive industry will present themselves to make the car, van, truck and motorcycle industries smarter, safer and cleaner. ■



# ENGINEERING, FROM NICHE TO BROAD

From aerodynamics to design to manufacture; what specialism will you choose?



hard to see why. Producing a vehicle that has a lifespan of at least 15 years, that can survive being used in all weathers and all sorts of conditions, is exceptionally difficult. Established automakers have spent 50 years or more improving the way cars are engineered and manufactured.

Thousands of individual components and systems have to be designed to work in harmony. This requires an enormous amount of prototyping, integration and almost endless testing. Extensive proving of prototypes over huge distances is carried out in deserts and in the coldest places on earth, some 18 months or more before a car reaches the showroom.

Developing an engineering concept into a viable vehicle requires the most extraordinary level of attention to detail. Engineers have to test and de-bug everything, from extremely large and complex wiring looms to reducing the levels of noise, vibration and harshness in every aspect of the car (transmission, body, suspension, even the movement of the interior fittings).

But there's much more. Consider headlamp and lighting development - especially intelligent units that can self dip and bend. Exhaust design, tuning and refinement. Windscreen-wiper system engineering, a set-up that works even with a weight of snow to clear. Seal designs for door and body closures. Engineering door handles and locking systems that still work at -30 degrees.

### What jobs are out there?

To see examples of the niche and highly specialised jobs that make up the car industry, it's useful to look at recruitment websites. These reveal the sheer breadth and scope of engineering jobs within that particular world.

A good example is 'automotive compliance engineer with a working knowledge of homologation'. So what's homologation? It's ensuring that a vehicle or upcoming new vehicle meets all the laws and regulations that apply in all the markets in which it will be sold.

Spa also has a very broad five-year 'mechanical with automotive engineering' MEng on its curriculum.

It should be noted that the width of the subjects across the years at these universities is remarkable. For example, the Brighton course includes engineering mathematics and practice, materials and manufacture, manufacturing engineering, automotive powertrain and sensor technology, and advanced Computational Fluid Dynamics (CFD) for automotive applications. Among the Bath modules are manufacturing operations and technology, thermal power and heat transfer, and fluid dynamics with historical perspective.

Creating these degrees as kinds of super-foundation courses is understandable. Not just because of the numbers of disciplines that make up vehicle design and manufacture, but because of the depth of expertise that is required by car makers in all the areas of engineering.

### Specialist or generalist

Such widely based courses do make it easier to work out what specialism you would be involved with in a career in automotive engineering. And it's not

ne of the favourite clichés on automotive social media is 'making cars is hard'. It was originally meant as

a warning to endless electric vehicle start-up companies that arrived post-Tesla. It also happens to be 100% true.

The sheer complexity of a modern vehicle is reflected in specialist automotive-engineering degrees. These are currently offered, in various forms, at 36 universities across 130 or so individual courses. While a first degree in mechanical engineering was probably once the most common entry point, some universities are now offering much more focused degree-level study.

Notable is the University of Brighton, which markets a course that cover five years - including a year on industry placement - culminating in a MEng degree. Loughborough University offers a similar course, over four years. Bath

This role requires keeping abreast of all the relevant requirements, keeping the documentation up to date, and 'liaising between local and global other related departments at all stages of the vehicle-development process'. Although this seems to be a mix of law and management, the role also demands hard engineering skills - that is, being responsible for the 'passive crash-safety performance' of a vehicle.

As mentioned above, the wiring loom of a vehicle is one of the hidden complexities of a vehicle. There's a specialist position for fitting the 'electrical distribution system' (EDS) into a vehicle structure, with the 'routing and packaging engineer' responsible for the routing and packaging of a wiring harness in a new vehicle structure, working with engineers for other parts of the vehicle and de-bugging the EDS as the new vehicle approaches mass production.

Every single component - from a wheel bearing to a sun-visor hinge - has to be designed, costed, released for production and, in most circumstances, then manufactured by an outside contractor.

So it shouldn't be a surprise to discover that there is such a position as a 'squeak and rattle launch support engineer'. Clearly, after spending hundreds of millions of pounds and four years engineering a new car, the model would be undermined in the eyes of customers if it was riddled with errant noises.

The role requires the engineer to 'carry out vehicle squeak and rattle subjective assessment and objective measurements' as well as 'develop upon existing methodology, guidelines and processes to support the design, development and manufacture of squeak- and rattle-free vehicles'. Time will be spent in the factory, alongside the production line 'completing off-tracks vehicle evaluations, tracking faults, introducing containments and permanent corrective actions'.

It's also interesting to see that the job involves being in close contact with suppliers, the new-model launch team and the manufacturer press garage to



monitor possible problems as the first production cars accumulate miles.

Besides the vehicle design itself, there is also the extremely complex and challenging discipline of pressing, assembling and painting vehicle body shells, as well as building production lines.

In this area, another real-world post is 'lead engineer for manufacturing'. Members of the manufacturing engineering team are responsible for providing continuous improvements in both process and quality engineering for the teams they support.

Three areas of expertise are listed: 'Working with logistics and facilities to determine efficient station layouts, including modifications to existing facilities, racking and part-presentation requirements'.

As far as hard production engineering is concerned, the job involves 'selecting appropriate jigs and fixtures, including specialised hand tools and power-tool requirements to meet vehicle quality and hours-per-car targets, whilst ensuring operator safety targets are achieved'.

Yet the role, as with many senior auto-engineering positions, also covers areas outside pure engineering,



And don't forget supply-chain companies, such as Frank Dudley Ltd, which makes technically demanding pressings, panels and stampings for many of the OEMs.

### Going niche

Students who already have an idea of what particular area of automotive engineering they are interested in can also be accommodated by a handful of niche courses. One example would be the University of Southampton's race-car aerodynamics one-year Masters in race-car engineering. The course has access to the RJ Mitchell Wind Tunnel, which it claims is the largest university wind tunnel in the UK.

A one-year MA, which requires a first-class degree, covers such modules as Computational Fluid Dynamics, Computational Aerodynamics, and an introduction to machine learning. Although the course is expressed through race-car design, it could very much be applied to future production vehicles.

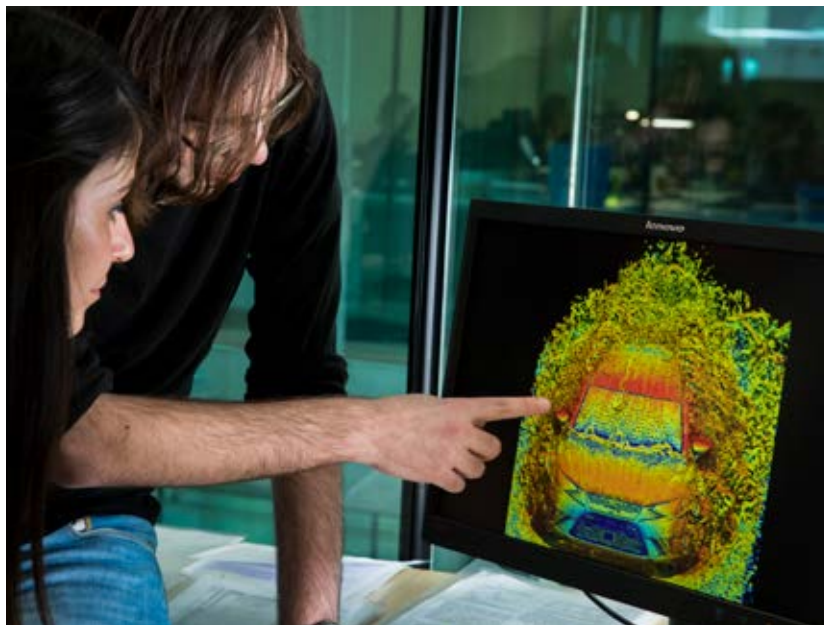
With electric vehicles being encouraged to the market via widespread regulations, aerodynamics in the widest sense has never been more important than now. But for all new designs of passenger car, when the body and the structure finally come together, a significant amount of aerodynamic development then takes place, in both virtual reality and the wind tunnel.

Aerodynamic performance has been important for a long time in automotive development, but it is becoming ever more crucial thanks to both onerous fuel-economy regulations and the need to extract as much forward motion out of an electric car's battery pack as possible.

Take, for example, this job description posted by a UK-based Formula 1 team for an 'aero performance engineer'. The role requires the execution of aerodynamics development on a range of vehicles, 'ensuring that targets are achieved in line with development schedules'.

Tasks will include 'generating presentations, technical reports and technical papers for presentation at conferences' and 'liaising with cross-functional R&D groups within both design and test organisations based in UK, Spain and Japan'. 'Working with model makers on full-scale wind-tunnel models and working with company stylists to iron out problems' sounds like an extremely attractive part of the job.

Of course, transportation design is not just about passenger cars. Harper Adams University in Shropshire has a very distinct five-year MEng placement course called 'automotive engineering (off-highway)' for people with an interest in farming and building equipment.



The university says 'the course covers everything from the principles of suspension design, vehicle mobility and properties of off-highway terrains, to the electronic control of vehicles, and ride and handling optimisation'. The course is accredited by the Institution of Agricultural Engineers (IAgrE).

Arguably, niche is good in automotive engineering. Settling on a specialism that can be grown over a career, and that

you can become an expert in, is an interesting approach when many in careers guidance think that the average person might need to retrain two or three times in a working life.

And whatever the fuel powering a vehicle - future synthetic fuels, batteries, hydrogen or fossil fuels - the global demand for engineers to create new types of powered transport is highly unlikely to diminish over the next 50 years. ■



# FROM SKETCH TO FINISHED PRODUCT

Fusing design, materials, aesthetics and fashion is glamorous but demanding work

**T**he creative side of bringing a new vehicle to life is arguably the most glamorous part of the automotive industry. However, this doesn't mean that the process of taking a vehicle from a rough sketch to a finished product sitting on the showroom floor isn't just as rigorous and professionally demanding as the engineering, testing and construction processes.

The creation of a brand-new vehicle requires input from designers and stylists, people concerned with ergonomic and

user-experience design, specialists in trim materials and colour, 3D modellers who work both in clay and on screen, and specialists who can liaise with the engineers who are working on the understructure of the vehicle.

All of these roles are potentially international, because automotive design studios are spread right across the world and they all use similar methods and approaches to new vehicle development. Indeed, the creative side of the automotive industry is one of the careers with the most potential and flexibility for advancement and travel.

It is also a notably diverse part of the car industry. Such is the demand for the best talent, what matters to employers is pure ability. It has been the case for many years that the content of a designer's portfolio is by far the most important thing about them.

It does mean, though, that a career could mean working in a number of different countries, especially for car stylists. The best of these people - who include increasing numbers of female employees - are fought over by car manufacturers. It's not a dissimilar situation to the football world - star



designers are frequently poached by rival car-makers.

Such is the dedication and single-mindedness required to work in automotive design, the truth is that the field is open only to the most talented, hard-working and inventive individuals. In that sense, it is very unlike other careers in the car industry, where a general engineering instinct can be directed by training and further education into a number of specialisms.

Those who succeed in the design disciplines tend to have an extremely keen interest in automotive design from a younger age. However the clay-modelling and colour and trim disciplines generally have a less car-obsessive intake and are more suitable for candidates who are not pure petrolheads.

## Styling and design – inside and out

There's only one way into a car styling studio and that is via a first-class degree, although many successful designers also compete a postgraduate course. At the time of writing there are six first-degree courses in the UK that offer transportation design courses.

The longest-established of these is Coventry University. Coventry and the Royal College of Art also offer postgraduate degrees. In some cases it is possible to get manufacturer sponsorship to attend these post-grad courses.

Understanding what is desired and required when embarking on an education in transportation design is much easier today than it has ever been. And it must be remembered that trucks, vans and buses also have to be designed, to an ever-higher standard.

The web and social media are full of car design tutorials including how-to videos and tutorials of how to render (the industry term for illustrations) in various types of software. While seeing the superb standard of rendering from experienced car stylists can be daunting, endless practice will pay dividends.



That said, it is necessary to have the desire and drive to endlessly draw and sketch if you are to succeed in the industry. The reality of this career is that a new recruit will spend years drawing and sketching all day, no matter whether you are in a Mazda design studio in Germany or the Dacia studio in Romania.

The development of a new car will take at least three years, and probably four, which gives some idea of the huge care and attention to detail that go into the styling process and the interface of design and engineering.

The key to success is an endless series of ideas about how a new vehicle might look inside and out, and an instinctive feel for the history of the brand you are working for. Manufacturers, understandably, place a premium on genuine originality and the ability to ponder new ways of doing things.

There's an extra emphasis on such skills as the car industry increasingly adopts battery technology, which inevitably changes the whole 'package' of the car (the way its bodywork and interior spaces are planned out).

Aside from the need to become a crack illustrator, students will also be introduced to small-scale 3D modelling, which is the next stage after weeks of sketching and developing ideas. This is usually executed using blocks of foam, sometimes with

modelling clay skimmed over the foam.

It is generally recognised that having experience in taking an idea into 3D greatly improves a designer's skills.

Becoming a professional car designer – whether of interiors or exteriors – is one of the hardest careers to crack in the whole industry. It requires natural flair with an endless appetite for drawing and new ideas. It is also arguably one of the best careers, because it's also one of the most influential design jobs of any kind.

## Colour and trim

This is an area of car design that does not require quite the zealotry of exterior work. It is one that rewards wider skills, especially in colour and surface design, and an understanding of the possibilities of textured materials. Again, it is a career that requires a degree, most likely in fashion and textiles.

There is no shortage of fashion and textiles courses in the UK, with some universities offering as many as four different variations. It would be a good idea to search out one that has more of a leaning towards industry and mass production.

Colour and trim departments are usually based very near the design and modelling studios, and work closely with the designers. Once the design of the

interiors is finished and released, the colour and trim department will start work. The design covers every single interior moulding, of which there are many, as well as the seats and door panels.

Fabrics for the seats; textures and paint finishes for the plastics; all kinds of interior brightwork; various kinds of wood trim - they are all considered for the interior of a new vehicle, whether it's an adventurous concept car or a serious production vehicle.

The arrival of mass electrification in the automotive industry has resulted in a complete rethink of interior design and layout, and the materials and finishes used, so this creative area has a wider brief than ever before.

One concern is the rise of sustainable materials. For example, recycled cork being used for interior trim and new seat fabrics being developed from recycled plastics. The colour and trim department has to be at the cutting edge of new materials - materials that are both appealing and capable of lasting for 15-plus years of hard use.

### Clay modelling

Despite decades of 3D digital rendering technology, car-makers have not abandoned one of the oldest auto-design techniques - modelling cars by hand at full size. Becoming what Jaguar Land Rover calls a 'studio modeller' requires a design degree, but it is a skill that has to be learned live in the studio.

Once a design has been worked up from sketches to polished renderings and then small-scale models, the design department will release the design to be modelled in full size.

Although the basic shape can be milled by a machine, the clay modellers have to create the real design entirely by hand using basic steel hand tools to gently shape the clay. It is quite a physical job because of the stretching and crouching required when working on a model. But this is an extremely specialist skill, and one that is in demand around the world.



### Surface modeller

This is a computer-based job that takes the final full-size design and produces a final digitised surface which bridges the gap between what the design team wanted and what is feasible to manufacture. This is because the particular surface - say the bonnet of a new design - has to be able to be pressed in steel or aluminium. The surface modeller has to produce a



digitised surface that can be successfully produced for a press tool. These skin surfaces are called 'A-surfaces' in the industry, and have to be of the highest quality. A design or engineering degree is required, and the employee should have a clear flair for digital modelling.

## Studio engineering

Working in one of the most interesting and complex disciplines, studio engineers are super-skilled 'whole vehicle engineers'. They work with designers and engineers to build an exact model of a new car design (inside and out), which can prove that a proposed design is feasible for mass manufacture.

This is a career requiring a high degree of skill, and one that will take years to master. However, there is the prospect of a long-term occupation. This is a very hands-on craft discipline, with entry needing a degree, ideally in either design or engineering.

## Cubing

Another related degree-level studio skill is 'cubing,' which isn't much of a clue to the actual job. What it actually requires is liaising with surfacing specialists and the studio engineering team to oversee the production of hyper-accurate full-size models. These are then assessed for the way the panels will fit together and how proposed production body surfaces will look on showroom vehicles.

## Is it for you?

The creative side of car manufacturing is an exciting and worthwhile career arena, but it is extremely competitive and highly specialised. It is also entering a new phase where design and brand management are becoming ever more important as car-makers roll out more electric vehicles. With the differences under the bonnet becoming far fewer than they ever were, more emphasis will be placed on the looks and the design of the interior.

Much greater recyclability and the need to embrace the 'circular economy' also mean that the creative departments will be even more important to a future where making cars will be under ever-more scrutiny.

The working environment for automotive creatives is also often one of the best. Studios and modelling studios are usually well-designed and stylish, and far from the typical open-plan office made up of ranks of cubicles.

It is also a life of secrecy. Many new designs are generated, and only a few make it over the hurdles to roll off the production line. All those fascinating might-have-beens will have to remain secret. All design work undertaken is a closely guarded secret, because the media and opposition are very interested in it. Being part of a big team that puts hundreds of thousands of examples of a design onto roads around the globe is a rare privilege. ■



## THE USEFUL BOX

### Design schools in the UK

#### Coventry University

Coventry University in the Midlands offers Automotive and Transportation Design undergraduate and postgraduate courses.

[www.coventry.ac.uk](http://www.coventry.ac.uk)

#### Huddersfield University

The School of Art, Design and Architecture (ADA) at Huddersfield University offers a selection of design-related courses, including Transport Design, Product Design and 3D Digital Design.

[www.hud.ac.uk](http://www.hud.ac.uk)

#### Loughborough Design School

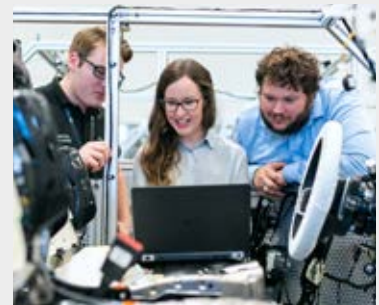
The Design School at Loughborough University also features a range of product and industrial design courses for both undergraduates and postgraduates.

[www.lboro.ac.uk](http://www.lboro.ac.uk)

#### Northumbria University

The School of Design at Northumbria University in Newcastle includes a Transportation Design course.

[www.northumbria.ac.uk](http://www.northumbria.ac.uk)



#### Royal College of Art

The Royal College of Art in London is the world's only wholly postgraduate university of art and design. It offers degrees in Industrial Design, Engineering and Vehicle Design.

[www.rca.ac.uk](http://www.rca.ac.uk)

#### Staffordshire University

Staffordshire University offers BA(Hons) Product Design and BA(Hons) Transport Design degree courses.

[www.staffs.ac.uk](http://www.staffs.ac.uk)

#### Swansea College of Art

Swansea College of Art offers courses in Automotive and Transport Design (MDes, BA).

[www.uwtsd.ac.uk](http://www.uwtsd.ac.uk)



# VIRTUAL AND DIGITAL ENGINEERING

## Product Development Process including Computer Aided Engineering

**T**he automotive Product Development Process (PDP) is getting ever shorter with the need to react to quick changes in the market. Take, for example, the decline in diesel engines, the push to electrification, or simply trends such as Sport Utility Vehicles (SUVs) in all sizes.

The PDP for every new vehicle starts with a concept. This is a package of requirements such as the market segment it sits in and the competition it will be benchmarked against, the technology required, deadlines, costs and pricing. Development engineers then create a package and safety concept. The structure of the bodyshell - the 'body in white' - and

its aerodynamic properties are drafted. Styling decisions are made in parallel by the design teams, starting from simple drawings (see panel). All these groups may be working in different countries.

This then passes into computer simulations. In the late 1980s, if a carmaker had invested in a Computer Aided Design (CAD) system, it was at the forefront



of technology. Today, you can buy two-dimensional CAD software online and, depending on the school, some of today's young engineers will already have encountered CAD in their teens. Autodesk is the system most colleges and universities use, because it runs on both Apple and PCs.

CAD translates drawings of components and objects that were once created on drafting tables with pens and set squares into two and three-dimensional computer simulations. These enable engineers and designers to try out various 'what if' scenarios before investing in product manufacture and physical testing. Cars still need to be driven on all roads and in all weather.



Computer Aided Engineering (CAE) evolved from CAD and simulates the entire product-engineering process, from design to virtual testing, with components given the material properties of the real thing, such as the weight and strength. CAE also simulates how hundreds of components will interact with each other. These lead into CAD-CAM, which simulates the manufacturing process.

A further related discipline to CAE is Computational Fluid Dynamics (CFD), which simulates air and fluid flows. This is especially important in the automotive industry. CAD is also used for creating rapid physical component prototypes through high-speed milling machines and 3D printers.

### How CAE is used

Digital and virtual engineering reduces development time and cost, and allows products to be brought to market more quickly. It also reduces the cost of development and improves sustainability, all while maintaining the quality and safety of the finished product. It allows

design and engineering teams across the world to share their work with each other. Cars can be tailored to fit the different regulations for each market in a virtual world.

For example, in developing the next-generation all-electric Macan due in 2022, Porsche created 20 virtual prototypes for testing everything from aerodynamics to energy management and acoustics. Aston Martin used CFD in the design of its first-ever off-roader, the DBX, for the entirely novel scenario that an Aston Martin might be used to tow a mobile home. CFD was also used to test the heating and ventilation system to optimise air distribution throughout the cabin, ensuring that front and rear occupants received a balanced airflow.



© Porsche

CAE is also used for unique projects. In 2018, Volkswagen Motorsport developed its first all-electric-powered racing car, the ID. R Pikes Peak (named after the famous US hillclimb) using CAE to balance lightweight construction and endurance. The car's aerodynamic components were calculated using CFD. There was no time to complete hundreds of development laps, or for the driver to even be able to complete one full test run of the actual track. The 124-mile track already largely existed as a computer model. Simulations calculated how even the smallest modifications to the body and the spoilers affected the drag coefficient, the downthrust or the inflow of coolers.

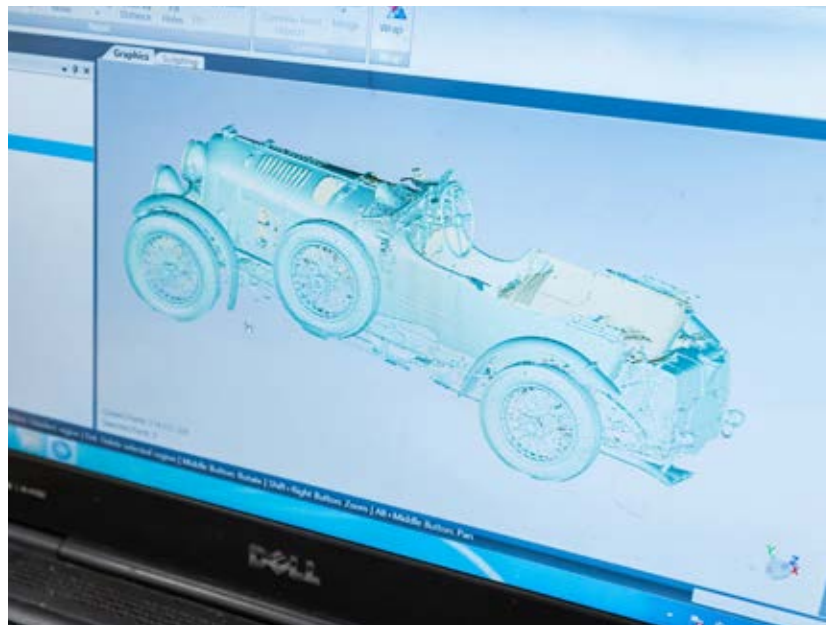
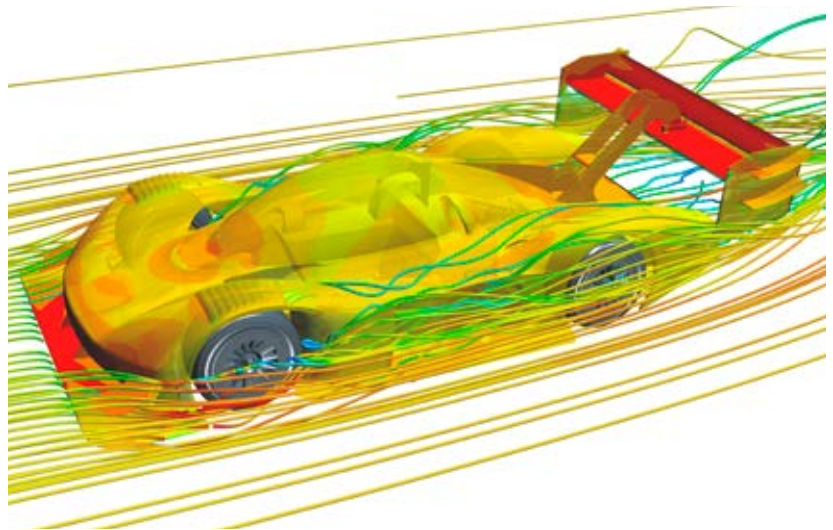
When Bentley recreated a series of new 'Bentley Blowers' from 1929, a CAD model served as the master design and engineering model for the new cars. Supply-chain companies can be equally cutting-edge, such as BorgWarner with technology sales of over \$10bn a year.

### CAE and CAD skills and training

Degrees in automotive engineering and mechanical engineering will cover both CAD and CAE as part of the course. Experience in one field of engineering can be readily transferred into automotive industries. You can expect to be trained in the use of CAD and CAE on the job, not least because automotive companies tend to have software systems that are tailored to suit them.

Based in Thatcham, Berkshire, Xtrac is the worldwide leader in the design and manufacture of transmission systems. This includes top-level motorsport and high-performance automotive applications. Apprentice manager Warren Page explains that the company makes extensive use of CAE.

'In our line of business, you don't get very long to do the whole package, whereas with a standard automotive part you do a whole series of tests,' he says. 'But for motorsport there might be changes in the rules, for instance,



and you make the changes and then test them virtually. When we do a prototype, it goes into the car, they do a bit of testing and then they race.'

Xtrac has run apprenticeship and undergraduate programmes for a number of years, where the young people gain practical experience before training on CAE software. 'The apprentices will have already been on the shop floor,' Warren explains. 'They've looked at drawings and understood drawings, so they understand the standards that the drawings are done to. When they go

up into engineering, the level-two apprentices follow our own training package, and from that they can do their own drawings. They have a mentor with them, and that normally works quite well. And then that grows from there.'

### Designing CAD

As well as young engineers and designers trained in the use of CAE and CAD, there's another career route for developers of specific software for the automotive industry. Britain's Ricardo PLC was

founded in 1915, and it now has offices and technical centres across the world, providing engineering and environmental consultancy in the transport, energy and scarce-resources sectors.

Ricardo Software currently has 50 developers working on bespoke CAE and CFD systems that are used in both the wider industry and its own divisions. There are basically two software-development roles: application and user interface development, and solver development. The first requires a good knowledge of computer science, programming languages, object-orientated programming etc. It's a general software-development role not specific to CAE. Solver development requires an understanding of maths and physics, with the ability to learn programming languages.

Ricardo offers graduate schemes and young professional roles across three different sectors: automotive rail, energy and environment. Its software developers generally come in as new university graduates, or from another company in a similar role, or they transfer from an engineering role (CAE/CAD user) from another Ricardo division. Generally, a member of the software team holds a degree in computer science, engineering, maths or physics. All these qualifications will give a good foundation for a career in CAE/CAD, so CAD training is not a necessity to get you into the field - but any previous experience will help.

'My route into software engineering started during a PhD in Fluid Mechanics,' says Valerio De Felice Francesco, 41, who joined the CFD team at Ricardo in 2017. 'The CAE developer in CFD teams must have a very solid mathematical, mechanical and computational science background, as well as good interdisciplinary knowledge of both solid and fluid mechanics. They must be driven by an interest in modelling complex multi-physics phenomena.'



## Creativity and CAD

How does the creativity of visual ideas for tomorrow's transport intersect with CAD? 'Pen and paper are still very important for initial first sketches,' explains Nick Hull, associate professor of Automotive and Transport Design at Coventry University. 'There's no faster way to think ideas out. More precisely, either a biro or rollerball pen for line-work, or a coloured Derwent crayon. Then coloured in using either marker pens or else scanned in and rendered in Photoshop for 2D images. We teach that from the first semester of first year - it's a vital skill these days.'

'We teach clay modelling too in the first year, but in a professional studio scale models are becoming rare now. It's more usual to produce a quick digital model in a few days and mill it out to assess basic proportions and volumes, then go into a full-size model.'

'A lot of students struggle with CAD software, but it's vital to master today. My students use two main softwares for 3D models: Autodesk Alias for building a 3D model's interior and exterior, then Autodesk VRED (pronounced VeeRed), for creating an animation of the vehicle, or adding a realistic background and lighting. These are the main softwares used by manufacturers, too, and allow easy

compatibility with engineering digital softwares such as AutoCAD or Catia. Neither is cheap to buy, but we have multiple licences for up to 100 users.

'Autodesk Alias basically renders a model in simple grey tones, but you can import it into VRED, which allows an infinite number of colours, textures, materials etc. It's basically the software used for customer model configurators on their websites - you know, spending 30 minutes spec'ing up your ideal McLaren P1 and so on.' ■



## THE USEFUL BOX

### Contacts:

**Autodesk**  
[www.autodesk.co.uk](http://www.autodesk.co.uk)

**Coventry University**  
[www.coventry.ac.uk](http://www.coventry.ac.uk)

**National Careers Service**  
[www.nationalcareers.service.gov.uk](http://www.nationalcareers.service.gov.uk)

**Ricardo**  
[www.ricardo.com](http://www.ricardo.com)

**Xtrac**  
[www.xtrac.com](http://www.xtrac.com)



# HOW TO SELL A CAR

When it comes to bringing cars to market, sales are the final piece of the jigsaw

**T**he best car retailers have learned from other sectors - notably hospitality, a major recruiting pool for dealer sales staff, and the high street, with Apple Stores regularly cited by car dealer bosses as the kind of no-hassle retail environment they wish to emulate.

Consumers are also savvier than ever. The average client walking into a showroom has already spent hours online looking into their next purchase. They know what they want to buy, what its main features are, how much they are prepared to spend and how it will be financed.

These buyers do not want to be sold to. They expect sales staff to be product

experts, able to answer an array of questions and facilitate their purchase. Consequently, the job of the salesperson is evolving into a more advisory role, requiring excellent interpersonal and communication skills, passion for the products and the ability to consistently deliver positive customer experiences.

And it does not stop there. We are



already starting to see an acceleration in the roll-out of connected vehicles, autonomous driving is becoming a reality and hydrogen is shaping up to become an alternative green fuel contender. All will require knowledgeable and enthusiastic showroom advocates.

### What are the best first steps?

If you are in school or sixth form, and are thinking about going into car sales, then consider the work-experience option.

If your school runs an annual scheme with local employers, then why not use this as an opportunity to see whether you can get a placement with a car dealer? While you are more likely to be washing motors than selling them, you will get a good 'behind-the-scenes' insight into the workings of a dealership.

Many dealers have close ties with their local communities, including secondary schools, so will already offer placements. These will be particularly worthwhile because they will be actively looking for potential trainees, so it is an ideal opportunity to make yourself known and get a foot on the careers ladder.

If you are in sixth form then do a Google search for 'car dealers' to identify businesses in your vicinity, visit their careers pages and see if any entry-level jobs are being advertised.

Some dealer websites provide a good insight into what sort of employer they are, with corporate mission statements and customer reviews. You should also get a good feel of their role in the community, with posts on events and organisations they support. The bigger dealer groups provide details of the benefits they offer, too.

Send in a speculative CV asking about opportunities even if you don't see a sales job. Being proactive shows initiative and could be rewarded by an invitation to come in for a chat. Some dealers like to recruit GCSE and A-level students for first-job sales positions, as they can be trained and nurtured - and this is where career paths could start to open up.



### Standing out from the crowd

If you are invited in for an interview for a sales position, here are some easy wins that could help make you stand out:

- Find out all you can about the company (and the group it's part of) from its website.
- Use LinkedIn to research the background of the sales manager, or the person who will be interviewing you.
- Search Glassdoor to see what employees think of the business.
- Check Google Reviews to see what customers think of the business.
- Research the brands, or franchises, it represents. Dealers do not necessarily look for petrolheads, but product awareness is a bonus.
- Use as much as you can from what you've gleaned from the above in your interview. It will show you've done your homework.

### Vocational qualifications

For those who are still at school, the best advice from the Institute of the Motor Industry (IMI) is to look at a sales apprenticeship with a car retailer as a good starting point for a career in sales.

'It's important to think ahead. Don't let the initial pay scale of an apprenticeship deter you from seeing the longer-term benefits of this career route,' says Joanna Hollingdale, careers and student membership manager at the IMI.

'The rewards and recognition are high on completion of an apprenticeship. It's also important to recognise that this industry is continually evolving, making it a very engaging and exciting place to work with developing technology and ownership models in the future,' she continues.

### Employer case study: Sytner Group

'The Sytner Group is the biggest franchised dealer in the UK, with more than 140 dealerships representing some of the world's most prestigious brands including Mercedes-Benz, BMW, Jaguar, Bentley and Ferrari.

'We encourage all our dealerships to form relationships with local schools and colleges, with a view to setting up programmes. Students can come in and do some work experience in sales, service and IT, as well as in other parts of the business. For us, work experience



is an important criteria that helps differentiate those candidates who have made an effort.'

**Mel Rogers, director of human resources,  
Sytner Group**

### Diversity in car retailing

Women have traditionally been under represented, especially in car retailing. However, this imbalance is changing. The Automotive 30% Club was launched in 2016 with the aim of achieving a better gender balance by filling at least 30% of key leadership positions with women by 2030. It has growing active support from many car makers, retailers and suppliers.

The IMI also has an initiative that focuses on the greater inclusion of further under-represented groups.

### Sales are not just about cars

It is worth considering that a sales career is not just about selling new and used cars. There is also a plethora of add-on products including:

- Finance
- Extended warranties
- Service plans
- Paint and interior protection
- Accessories
- GAP insurance



### Car manufacturer sales

If your interest in car sales is more strategic than hands-on, then consider a career with a car brand or OEM (Original Equipment Manufacturer).

The UK is the second-biggest new car market in Europe, and plays a leading role in the operations of many international auto brands. Head offices here look after the sales, marketing and distribution of new cars into the retail and fleet markets.

Many brands are receptive to work placements, providing a perfect opportunity to see how the businesses are run from the inside. See if you can get a placement in the marketing department, as this is where the car adverts you see on television and social media are masterminded.

Longer vocational work placements are also available for some degree courses.



### THE USEFUL BOX

The Institute of the Motor Industry (IMI) provides accredited qualifications across the automotive sector, and recommends consideration of these two routes for school leavers who are considering a career in car retailing:

**Qualification full time  
at a college:**  
**[tide.theimi.org.uk](http://tide.theimi.org.uk)**

**Apprenticeship where you earn  
and learn at the same time:**  
**[awarding.theimi.org.uk](http://awarding.theimi.org.uk)**



# THE VOICE OF THE MOTOR INDUSTRY

## SMMT supports the automotive sector

The transition towards increasingly electric, connected and autonomous vehicles is a **seismic change for the automotive sector** and it brings exciting opportunities for students looking at a career in the industry.

Some of the most **highly regarded automotive companies** as well as many race teams are based in the UK, making cutting-edge products that are in demand around the world.

Jobs with these companies are sought after as they are **highly skilled and well rewarded with a range of opportunities available**, from product development and design to vehicle engineering, software creation as well as sales, marketing, corporate and communication through new channels.

There is a career choice for everyone and, as **the UK looks to become a world leader in producing the next generation of vehicles and mobility solutions**, there has seldom been a better time to work in the automotive industry.

The Society of Motor Manufacturers and Traders **supports and promotes the interests of the UK automotive industry at home and overseas**. Working closely with member companies it acts as the voice of the motor industry, promoting its position to government stakeholders, the media, employees and future employees.



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and how we might be able to help you to achieve your ambition.

STEM is the surefire fast track to success



The Worshipful Company  
of Coachmakers