



**UK LOW VOLUME AND  
SPECIALIST VEHICLE  
MANUFACTURERS' REPORT 2021**  
HOME TO THE MOST DIVERSE  
AUTOMOTIVE PRODUCT RANGE  
IN THE WORLD



“Specialist manufacturers continue to add a priceless societal and economic contribution across the UK ”

The UK is home to one of the most diverse automotive industries in the world. As well as hosting globally competitive, mass market manufacturers, the UK is also the world’s leading location for the design, prototyping, engineering and manufacturing of luxury, sports and specialist vehicles. Products and technologies produced by these manufacturers have some of the highest levels of domestic content seen across the entire automotive industry.

Since SMMT last published a report on the specialist and low volume vehicle sector back in 2017, the UK and international landscape has changed considerably. With an ambitious plan to decarbonise the country’s transport, a new trading partnership with our biggest export market, the EU, and an international race towards connectivity and automation, the automotive industry is facing its most fundamental change in a century.

For the sector’s small volume vehicle makers, which includes some of the most recognisable brands in the world – Aston Martin, Bentley, LEVC, Lotus, McLaren and Rolls Royce to name but a few – this transformation poses a unique challenge. Whilst these manufacturers are very much committed to the journey towards Net Zero, both in the products being developed and in the manufacturing processes used to produce these vehicles, the approach taken can be different and particular challenges are expected for the sector’s smaller businesses accessing in-demand technologies.

Specialist manufacturers continue to add a priceless societal and economic contribution across the UK. Special purpose vehicles, ranging from taxis, wheelchair accessible and adapted vehicles, hearses and motorhomes, reflect a true British success story, adding considerable value via conversions and customisation, and providing mobility solutions to consumers all over the UK.

This new report delves deeper into the substantial contribution afforded by specialist and low volume manufacturers. Though the products offered vary significantly across the different manufacturers, the contribution to innovation and technology development in the UK and the highly skilled employees that support the sector’s productivity and growth is considerable.

As the nation looks to build back better from the disruption of the past few years, the government’s Plan for Growth and ambitions for a competitive Global Britain must reflect the needs of this sector. From a regulatory agenda that reflects the sensitivities of low volume manufacturers and the costs associated with their businesses, to a trade agenda which removes market access barriers, the importance and value of Britain’s low volume, premium and specialist vehicle manufacturers must not be taken for granted.

A handwritten signature in blue ink, consisting of stylized, overlapping loops and a long horizontal tail.

**Mike Hawes**  
**Chief Executive**

The Society of Motor Manufacturers and Traders (SMMT)

# LOW VOLUME AND SPECIALIST VEHICLE MANUFACTURERS

## LOW VOLUME

- 01 Alcraft Motor Company Limited
- 02 Aston Martin Lagonda Limited
- 03 Bentley Motors Limited
- 04 Bowler Motors
- 05 Caterham Cars Limited
- 06 Dare (UK) Limited
- 07 David Brown Automotive Limited
- 08 Elemental Motor Company Limited
- 09 EV Limited
- 10 Ginetta Cars
- 11 Gordon Murray
- 12 Liberty Vehicle Technologies Limited
- 13 LEVC
- 14 Lotus Cars Limited
- 15 McLaren Automotive Limited
- 16 Morgan Motor Company Limited
- 17 Pilgrim
- 18 Radical Motorsport Limited
- 19 Rolls-Royce Motor Cars Limited
- 20 SAIC (MG Motors)
- 21 TVR

A low volume manufacturer is typically defined as a producer of less than 10,000 vehicles globally per year. The products offered vary substantially, from super cars to accessible vehicles for the vulnerable.

## SPECIALIST MANUFACTURERS

- 22 Allied Vehicles Group
- 23 Arrival
- 24 Bradshaw EV
- 25 Eagle Specialist Vehicles
- 26 Euromotive
- 27 GM Coachwork Ltd
- 28 Lewis Reed Group
- 29 Quinn Hearse & Limousine
- 30 Vic Young

Specialist manufacturers are highly diverse and produce a vast array of different types of vehicles and products, from sports cars, luxury tourers, limousines and SUVs, to taxis and wheelchair-accessible vehicles.

Specialist manufacturers develop vehicles and products that are valued at a high price and often incorporate innovative and advanced technologies. Typically, these businesses employ a highly specialised and skilled workforce, which helps differentiate their products from mainstream production.



# OVERVIEW

## Low volume

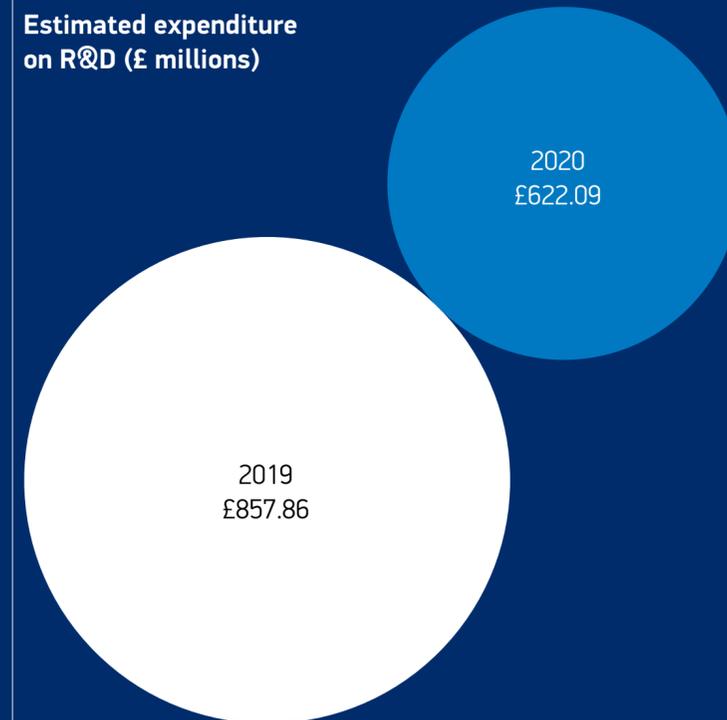
### Turnover (£ billions)



### Number of employees (direct) - UK



### Estimated expenditure on R&D (£ millions)



### Number of vehicles produced



## Specialist manufacturers

### Turnover (£ millions)



### Number of employees (direct) - UK



### Estimated expenditure on R&D (£ millions)



### Number of vehicles produced



# 01 THE CONTRIBUTION AND VALUE OF THE PREMIUM, LOW VOLUME, SPECIALIST VEHICLE MANUFACTURERS

↳ UK automotive is diverse, vibrant and the leading location across the globe for low volume, premium and specialist manufacturers. The breadth of brands and products cannot be found in any other country in the world and reaches into every nation and region of the United Kingdom.

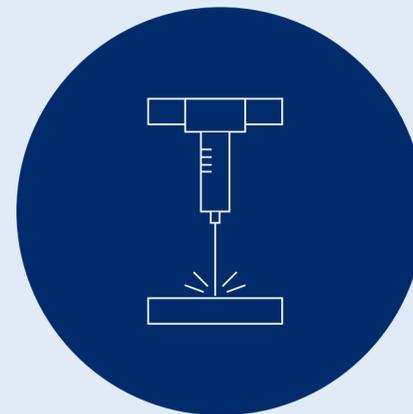
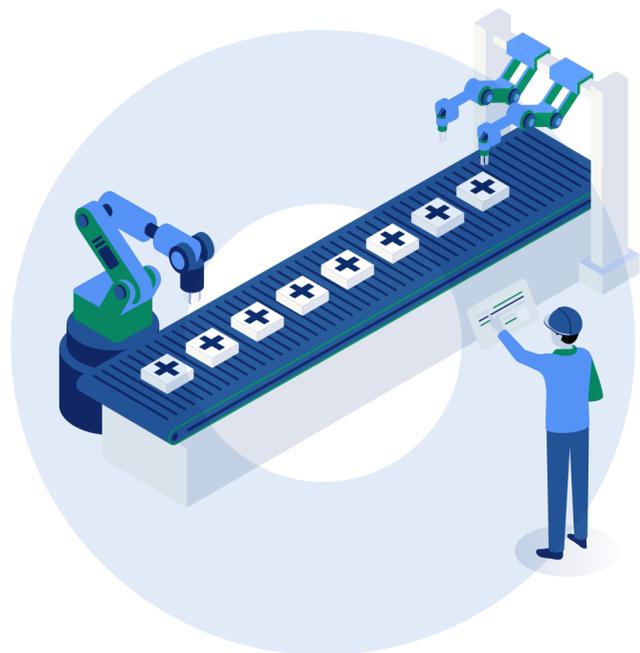
The richness and value of the sector is as much in the global brands as it is in the lesser recognised specialist manufacturers – the taxis, wheelchair accessible and adapted vehicles, hearses, limousines, and motorhomes. These distinct and varied products play an equally important role in the UK’s automotive market reflecting a unique strength of the UK – no other country has the engineers or associated supply chain to support the development and evolution of such a range of technologies and service providing vehicles.

During the coronavirus pandemic the automotive industry was heavily impacted. Many manufacturing operations across the country came to a halt with plant shutdowns occurring, workers furloughed, and sales figures suffering as a result of the long-term closure of automotive showrooms and markets impacted globally.

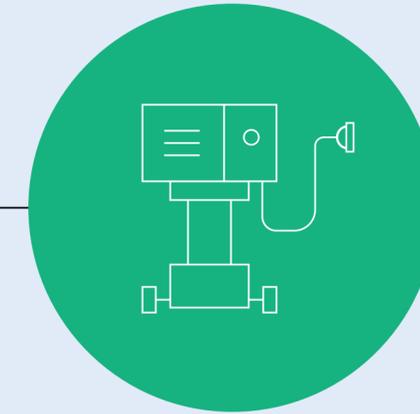
Whilst the UK’s specialist vehicle builders were not spared from the impact of the pandemic, many chose to pivot their operations and regear their factories to serve the UK’s most vulnerable communities, supporting efforts to design and build ventilators for the NHS, as well as manufacture and distribute PPE for at-risk workers.

The contribution made by the UK’s specialist vehicle manufacturers is evidence not only of their commitment to their communities and the UK’s national effort, but also the high level of technical skill and innovation that exists within them to transform existing production lines to develop entirely different products, and the critical importance of securing and supporting domestic manufacturing capability.

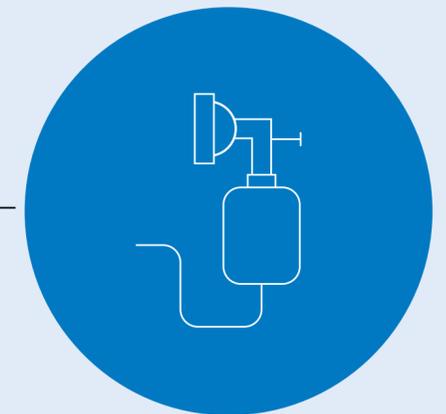
**Whilst the UK’s specialist vehicle builders were not spared from the impact of the pandemic, many chose to pivot their operations and regear their factories to serve the UK’s most vulnerable communities**



**At Aston Martin’s headquarters in Gaydon, advanced cutting machines, normally used to cut out intricate leather shapes for interiors, instead produced silicone components for respiratory protection devices. These allowed the boxes to be stacked, taking up less room during transit and in busy intensive care wards.**



**At the height of the pandemic, McLaren joined the VentilatorChallengeUK consortium, deploying the significant engineering capabilities of its staff to produce more than 13,000 medical ventilators, and in doing so, doubling the amount previously available to the NHS.**



**The McLaren Manufacturing Technology Centre (MTC) developed a new intubation shield for use with ventilators in collaboration with Rolls-Royce.**

As government looks to build back stronger from the pandemic, implement its Plan for Growth and Global Britain ambitions, and level up the regions, the importance and value of the UK’s low volume, premium and specialist vehicle manufacturers must be embedded and secured.

Sustaining the breadth of these businesses – covering the design, development, manufacture, sale, remanufacture, repair and maintenance for the range of vehicles and technologies – must be a major priority of government. Not only as the nation looks to build back better from the economic losses occurred during the recent pandemic, but also as our sector and the UK plans for a greener, global, and more digitalised future.



# 02 GLOBAL PRODUCTS, GLOBAL BRITAIN: TRADE AND MARKET ACCESS

↳ The UK's specialist vehicle manufacturers develop high quality products valued by consumers all over the world. The export footprint of the low volume, premium and specialist vehicle manufacturers reflects the pioneering and world-beating technology and products which the UK's producers offer.

Negotiating Free Trade Agreements (FTAs) with both new and old trading partners is crucial for the sector. Automotive has welcomed government's efforts to secure the UK-EU Trade and Cooperation Agreement (TCA) and third country continuity deals, which replicate the relationships the UK enjoyed as a member of the European Union (EU). Many low volume producers find significant value in distributing their exports widely across the world, with a prevalence in North America and Asia, as well as Europe. Securing preferential market access in these regions will be a crucial factor in sustaining the competitiveness of the segment.

Low volume, premium and specialist manufacturers might also benefit from the overall growth in global markets and opportunities for new trading partnerships. These manufacturers combined exported more than 18, 500 units in 2020, and before the pandemic were one of the few sub-sections of the industry registering consecutive years of sustained growth in 2018 and 2019, reflecting the robust foundations of the segment. However, one risk arising

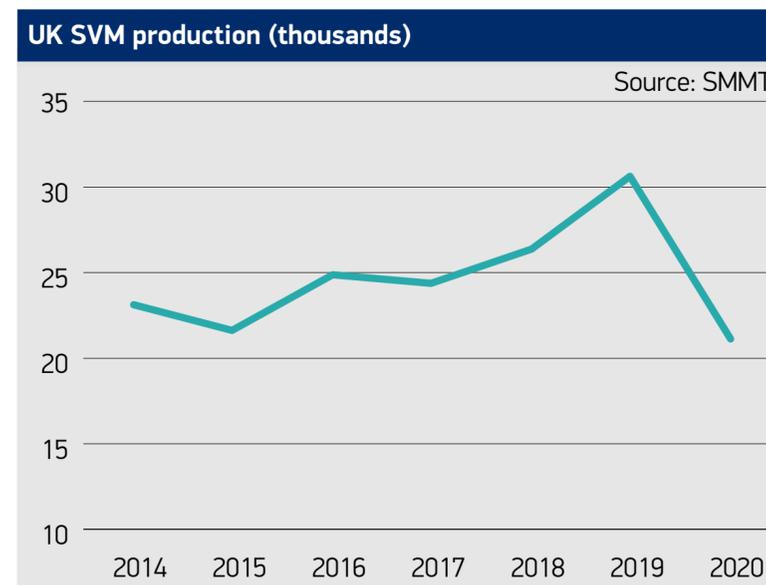
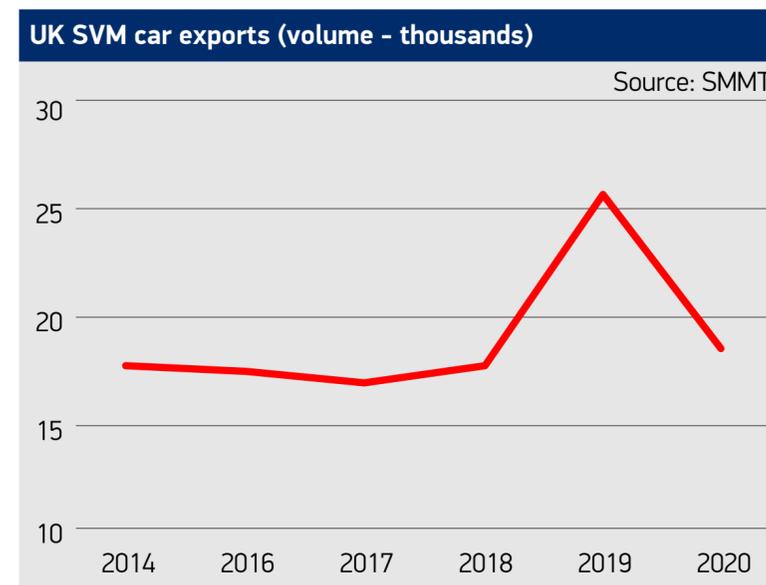
from global trade, highlighted throughout the pandemic, is that whilst many small businesses can be more flexible and mitigate some of the effects of global disruption and economic shocks given the low volumes, there is substantial exposure to cost and inventory in their supply chains.

In several cases, the UK's premium manufacturers have little or no domestic competition in the nations in which they sell into and yet still face barriers when putting their product on the market. Breaking down the barriers to market access should be a major policy priority for government to encourage the global sales of the UK's specialist vehicles and is a clear growth opportunity. Technical barriers to trade (TBTs) are a difficult hurdle for both businesses and consumers to overcome, often adding significant administrative burdens for the business and increased cost for the consumer. For example, exporters of premium cars to Australia pay a Luxury Car Tax (LCT) of 33%, despite its lack of a domestic car manufacturing industry. Canada, likewise, will impose its own LCT on vehicles costing over \$100, 000 in 2023. Negotiating the removal of these taxes in FTA discussions is of key importance for the sector.

Moreover, the rules and regulations in other countries often fail to consider the unique nature of the UK's products, since their own markets do not reflect the same level of diversity. Over the years,

strong engagement with the EU has ensured suitable provisions and sufficient lead times are in place to enable low volume producers to compete alongside larger companies with more resources and global reach. Efforts to replicate similar conditions are under consideration in China, but more can be done to broaden this approach to other markets, as well as ensure the UK remains aligned to European standards and regulations given the integrated nature of low volume manufacturers to their European supply chain. For these manufacturers, it is critical to minimise obstacles to export, given the impossibility for manufacturers of low volume, specialist and premium vehicles to diversify their product to avoid entry barriers, due to the high costs associated with production.

Specialist and premium vehicle producers also tend to have high levels of domestic or local content within their products. This means there may be less of a concern around tariff and rules of origin constraints, but they face issues arising from non-tariff barriers. Ongoing negotiations covering new agreements with the US, Australia, New Zealand and India, as well as the renegotiations for updated trading terms with Mexico, Canada and South Korea must ensure regulations and policies enable these manufacturers to access the market without disproportionate burdens, offer their products to consumers at a competitive price, and support market diversity and innovation.



# 03 A RESPONSIVE REGULATORY AND STANDARDS AGENDA

↳ Due to their low volume, specialisms, and diversity, it is critical that the impact of regulations and standards for these companies is fully understood when under development, both domestically and globally. Regulatory impact assessments catering to the different vehicle segments are required to ensure the impact is felt proportionately to the smaller number of vehicles over which manufacturers must amortise any costs, the typically lower mileage over which they are driven and the greater societal benefits that these vehicles can bring.

The matter of regulations and standards, although always an elevated priority for the industry, is an especially predominant concern at present. The UK could be regarded as at a crossroad regarding its regulatory agenda. Having left the EU, it now has its own ambitious targets on environmental and safety performance.

Automotive is one of the most heavily regulated sectors in the world and the industry has long since benefitted from a broad international regulatory framework under the aegis of the UN, as well as deep ties with the European Union - on which the sector's trading relationship relies heavily - and access to originating parts and components to avoid tariff barriers. As the UK pursues its own standards, targets, and regulatory agendas outside of the EU, the needs of, and risks for, UK automotive must be understood.

In 2020, the UK exported more than 87% of all low volume, premium and specialist vehicles produced here. As a global industry, global harmonisation is a critical ambition. Regulatory alignment, and the consequential removal of technical barriers to trade (TBTs) has played an essential role in promoting the industry's international competitiveness.

When considering its future regulatory regime, government must look at how the impact will be felt across different segments of the UK market. Whilst those businesses selling only into the UK may benefit from less onerous requirements, those who export, including the premium and luxury manufacturers, will be subject to significant risk if the UK decides to introduce its own technical requirements. Even minimal divergence for these models may impose significant cost and administrative burdens and must be weighed up carefully and with input from across industry.



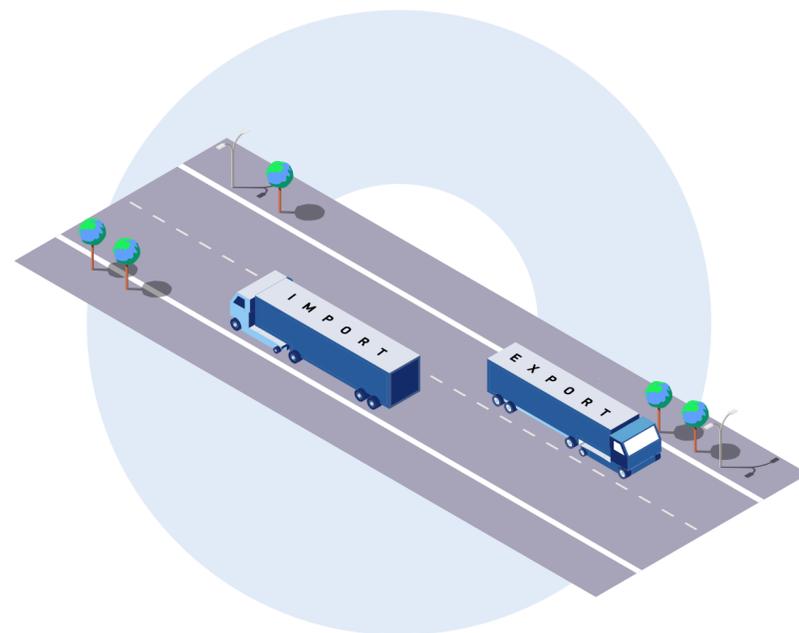
**In 2020, the UK exported more than 87% of all low volume, premium and specialist vehicles it produced.**

Some regulations and policies at an EU level recognise the bespoke nature and unique requirements of low volume manufacturers and special purpose vehicles with the Type Approval framework containing specific provisions for vehicles, produced either in small series or for specific purposes. Other individual regulations have specific requirements or increased lead times included within them, such as the EU's New Car CO<sub>2</sub> Regulation and Real Driving Emissions (RDE) provisions. Other regions also reflect the specificities of these segments, and it is essential that such considerations are maintained both within the UK regulatory framework and within the International Whole Vehicle Type Approval under the UNECE framework to harmonise provisions where possible.

Suitable lead times are also required ahead of the introduction of new regulations. Often small volume manufacturers' products have longer life cycles than mass market products, which is necessary to recover investment costs due to lower annual volumes of sales. During periods of regulatory changeover, test facilities will often be block booked by larger OEMs who need to have longer term plans. This means that small volume producers can struggle to find testing capacity to approve their products, causing delays to production and / or model launches.

Domestically, similar issues can arise. For example, the Plug-in Car and Van Grants should be reviewed to support the uptake of ultra-low emission Wheelchair Accessible Vehicles (WAVs) and other special purpose vehicles, such as hearses. These are critical transport modes which should not be excluded by a one-size fits all approach.

The UK's unique sector requires an industrial and regulatory framework which can ensure the UK remains the best place to develop, manufacture and market next generation vehicles.



## 04 GLOBAL PIONEERS IN TECHNOLOGIES, PRODUCTS, INNOVATION AND INVESTMENT

↳ Low volume, premium and specialist automotive manufacturing has become a staple of the UK's economy – a uniquely and quintessentially British success story. These manufacturers play an unparalleled role in the development of the UK's most advanced and world-leading technologies and products, which in turn play an important role in developing the wider British automotive industry.

Low volume manufacturers frequently design innovative and customised solutions that meet market preferences across the globe. Many premium car manufacturers and Tier 1 Suppliers, for example, contribute not only to the production of road cars, but also products for the racetrack. McLaren and Aston Martin are currently involved in Formula 1, while others participate in different forms of motorsport at the leading edge of technology and innovation. Safety, performance, and environmental developments for the track are often transferred to the road.

The low volume manufacturers also often pioneer technologies in association with the UK's world-leading universities. The relationship between these manufacturers and the academic sector has already begun to forge major advancements in automation and mobility and the market for premium vehicles in the UK is likely to grow further, with higher customisation leading to higher margins on vehicle sales.

Alongside premium manufacturers, the UK hosts numerous specialist vehicle manufacturers, including those undertaking multi-stage builds for a variety of applications, such as wheelchair accessible vehicles or emergency service vehicles. Purpose-built vehicles with bespoke conversions serve some of the UK's most vulnerable communities while others, such as taxis, produce some of the UK's highest annual mileage vehicles, illustrating their importance to the consumers who purchase and use such products. The London Electric Vehicle Company (LEVC), for example, is representative of the wider societal and environmental benefits that this segment often brings, since the journeys undertaken by their consumers contribute positively to the UK's broader decarbonisation targets.

The sector also has a strong track record in delivering improvements for vehicles in the wider mass market. Examples include; the lightweighting of vehicles through material substitution, which enables the downsizing of powertrains; innovative aerodynamic designs to drive fuel efficiency and cut CO<sub>2</sub> emissions; and the



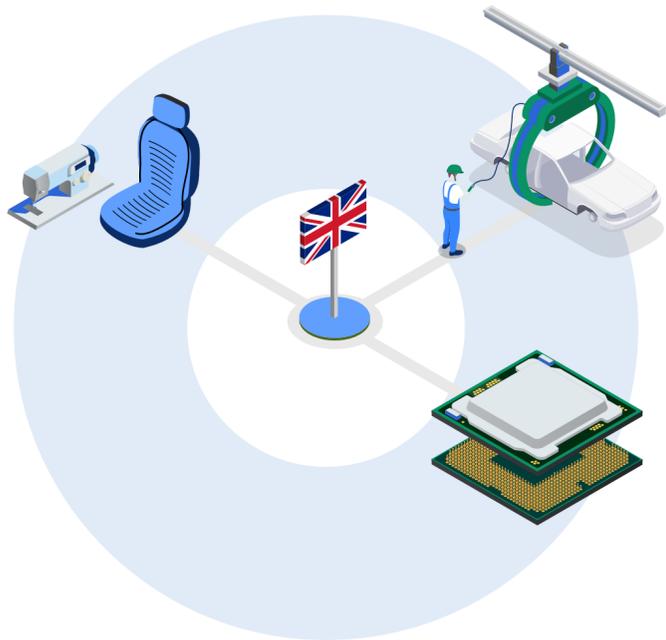
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introduction of hybrid vehicles, now seen across the industry, which have already started to deliver widescale environmental benefits.

Another strength of the UK sector is the value which specialist vehicle manufacturers often add to their products via conversions and customisation. In some circumstances, these conversions can be rather conventional and without too much complexity, whilst others can add extensive cost, in some circumstances more than £15,000, to the original product and require a highly specialised skill set from the employer's engineers. An example is a conversion which allows a wheelchair user to drive the vehicle whilst seated in their wheelchair.

As the UK undertakes a once in a generation transformation and begins to seek new mobility solutions, the road ahead represents both an important opportunity and risk. The UK's 2030 end of sale date for new petrol and diesel cars and vans requires a rapid transformation and while low volume manufacturers are committed to decarbonising, with some publishing plans for their electrification journey, government strategy should not close the door on other technology routes. Taking a technology neutral approach towards the UK's carbon target will increase the likelihood of a successful transition to zero emission vehicles whilst preserving consumer choice.

In addition, the future success of this sector will depend on the appropriate regulations and policy interventions made today which provide the assurance businesses in the sector require to remain competitive and deliver investment decisions. Without this, the UK may no longer be a place that develops and manufactures ground-breaking products that are the envy of the world.



# 05 INVESTING IN SKILLS AND APPRENTICESHIPS

↳ The UK's low volume, premium and specialist vehicle manufacturers are home to some of the world's most skilled engineers. These employees are critical to the success of this world-leading segment and are amongst the most productive workforces in the world.

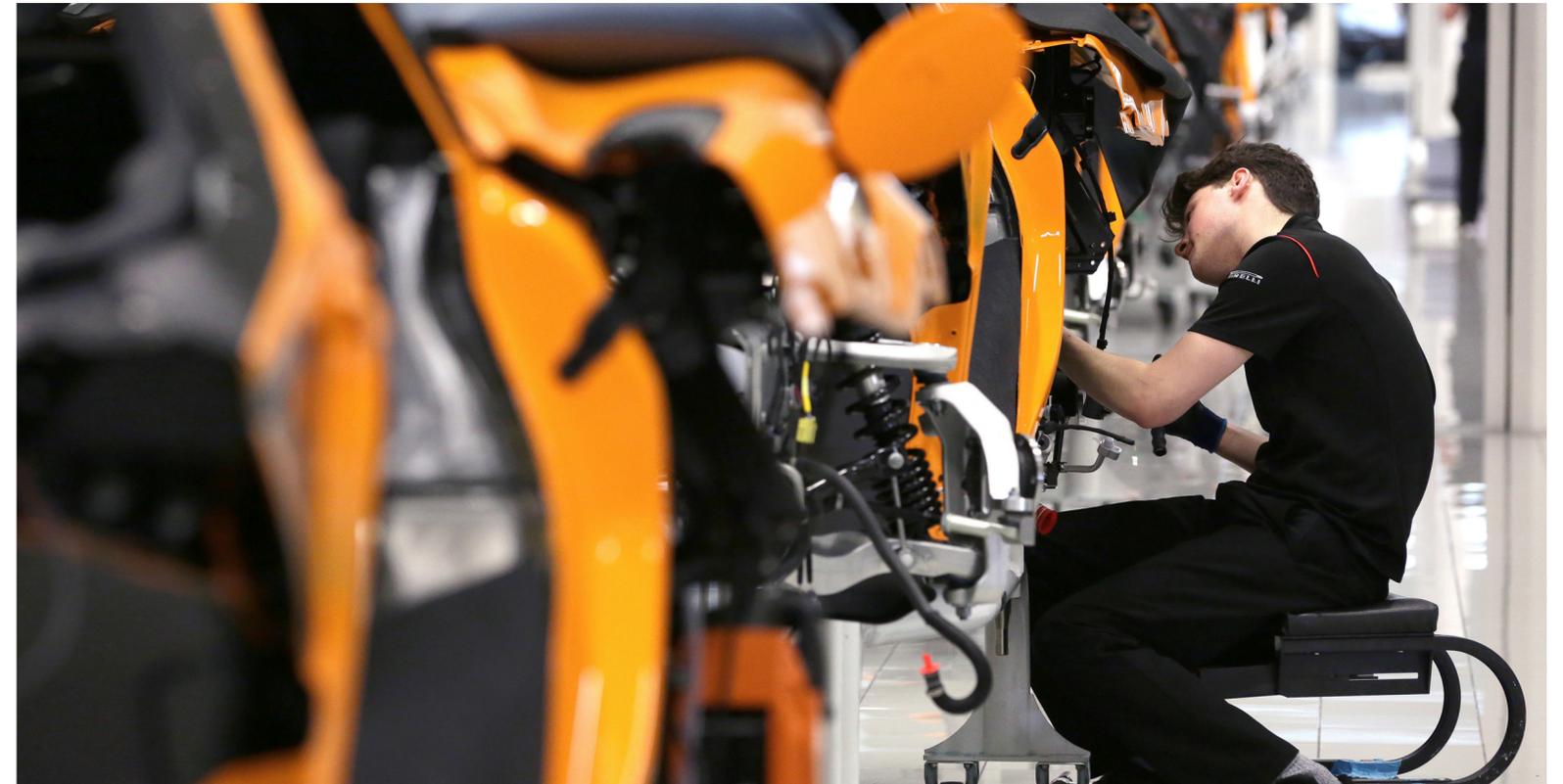
Just like the products represented by the sector, the skills and talent possessed by these engineers is equally as diverse, unique, and highly technical. Specialist manufacturers afford significant levels of customisation, niche vehicle builders develop highly skilled, hand-crafted vehicles, while premium manufacturers are developing innovative hyper cars.

The broader automotive sector has always struggled with a skills gap, felt even more acutely by low volume and specialist manufacturers who design and develop leading edge technologies. The sector's specialist manufacturers have estimated at least 43% of the workforce will need upskilling or reskilling by 2030.

The sector has undertaken substantial analysis to understand the workforce transformation required, working alongside stakeholders such as the High Value Manufacturing Catapult to deliver pilot stages of the Emerging Skills Project. Continued government investment in this programme, especially support to deliver training content, will aid the entirety of the UK automotive market, but small volume manufacturers especially, who require support to take large cohorts of their workforce off the production line.

Specialist car manufacturers will also need to look around the world to access the best possible talent. Access to European talent is still required, especially given the pace of change in technology and consumer demands.

On top of this, the coronavirus pandemic has had an acute impact on apprenticeships in this part of the automotive industry. This segment of the sector has largely postponed new apprentice intakes given financial and headcount constraints. In lieu of government granting temporary flexibilities to the Apprenticeship Levy, several apprentices have not been able to continue their apprenticeship courses, with government interventions too small to offset the financial hardships caused by the pandemic.



The low volume and specialist manufacturers within our sector remain committed to apprenticeships as a route into automotive employment and continuously strive to understand how to make best use of existing mechanisms, such as the Apprenticeship Levy, however current entry requirements are acting as a barrier to uptake.

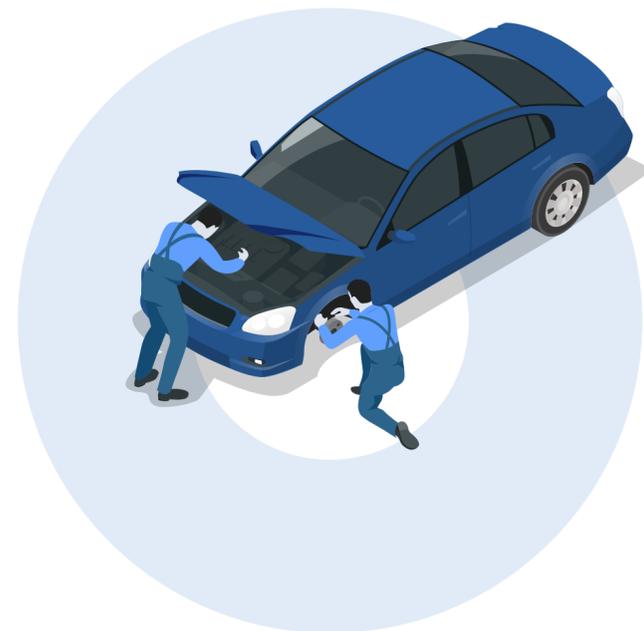
The sector has a keen interest in the development and review of apprenticeship training standards. Funding bands must represent the true cost of apprenticeship delivery to ensure high-quality training continues for apprentices. Failure to do so may result in lower quality apprenticeships and some courses becoming unviable, as businesses

**The sector's specialist manufacturers have estimated at least 43% of the workforce will need upskilling or reskilling by 2030.**

will need to meet an increasing number of these costs from business funds on top of existing levy payments.

Many of the manufacturers in our sector have undertaken an analysis of the new funding model and are now experiencing significant downward revisions of the covered costs across all automotive standards that are delivered, from Engineering Manufacturing Technician to Light Vehicle Service and Maintenance, and Heavy Vehicle and Motorcycle. There will be a noticeable impact on many of the most popular standards offered and this impact will be felt most deeply by apprentices who are the backbone of the success story of the specialist segment.

As the sector faces a huge shift in capabilities driven by rapid changes in future societal and mobility requirements, and, as the UK operates under a new immigration system, the industry's upskilling and reskilling requirements become increasingly critical to the future success of the sector.



# 06 DELIVERING A RESILIENT AND COMPETITIVE ENVIRONMENT FOR SPECIALIST VEHICLE MANUFACTURERS AND THEIR SUPPLY CHAINS

↳ Maintaining the UK’s highly diverse and world-leading automotive market must be a priority ambition of government. Year-to-date figures show the UK is home to the third largest domestic automotive market in Europe, with significant levels of production still taking place. The contribution made by the low volume, premium and specialist vehicle manufacturers, many of whom only have UK-based facilities, is invaluable and irreplaceable.

With the sector facing a huge transformation whilst simultaneously recovering from the coronavirus pandemic, global supply shortages, of which semiconductors are the most notable, and adapting to a new trading relationship with its biggest partner, its future should not be taken for granted. The sector requires government to work in collaboration with industry to ensure the best possible business environment is put in place to ensure the UK remains an attractive location for investment in manufacturing, research, design, engineering, and production of the wide range of vehicles sold in the UK.

With regards to the UK’s production of ultra-low and zero emission vehicles, investment in gigafactories, electrified and hydrogen supply chains and infrastructure all require a coordinated focus and targeted and timely interventions to ensure investment does not stray elsewhere. The delivery of the Automotive Transformation Fund, combined with the provision of 60 GWh of battery production within the UK by 2030 and support for the low volume and specialist vehicle builders by piloting facilities to support specialist battery development production, powertrain development and battery assembly, are the steps government must take to secure the UK’s battery supply chain.

Moreover, existing government policies should be reviewed to evaluate whether they negatively impact business competitiveness. For example, much of the industry does not qualify for rebates from high electricity costs as the sector is not classified as an ‘energy intensive industry’. These energy costs, as well as business rate expenses, are avoidable barriers for increasing both foreign and domestic investment in the UK. Similarly, the UK’s relatively poor tax incentives for R&D is a further example of where the country lags behind international competitors in providing the optimal environment for our world-leading businesses to continue to thrive.

The Department for Business, Energy and Industrial Strategy’s review of the UK’s subsidy regime is another opportunity for



government to create the right conditions for global automotive businesses. The new subsidy regime, and its subsequent application, must provide flexible support – reflecting the conditions needed to secure current employment in the sector, as well as champion growth in those companies anchored to the UK which do not have the flexibility to move capital abroad. The fiscal contributions these businesses afford to the UK should be recognised as significant and valuable and must not be taken for granted.

Strengthening the UK’s domestic suppliers’ base by encouraging greater investment into the country and ensuring business participation in innovative production systems and supply chains will also be key challenges for the future of the sector. The low volumes and bespoke engineering involved means certain specialist car manufacturers may face difficulty accessing some emerging technologies due to the cost and complexity involved for their suppliers. Recent issues with the shortage of semiconductors further highlighted the need for the UK to develop as flexible and resilient a supply chain as possible. However, for low and specialist

The UK’s production of ultra-low and zero emission vehicles, investment in gigafactories, electrified and hydrogen supply chains and infrastructure all require a coordinated focus and targeted and timely interventions to ensure investment does not stray elsewhere.

manufacturers, the risk is that suppliers of key components might choose to prioritise their larger customers.

To preserve and expand upon the low volume and specialist vehicle market’s significant contribution to the UK economy, automotive has called for the following steps to be taken: firstly, the creation of a Build Back Better Fund to support the UK’s valuable manufacturing jobs as the sector recovers; secondly, a long-term skills strategy that supports retraining of the existing workforce; and finally, expediting the delivery of the Automotive Transformation Fund to secure a competitive and sustainable future for UK automotive.





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