Capacity
Capability
Connectivity

The Midlands: Opportunities in Automotive
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Welcome to the Midlands

The Midlands is one of the most dynamic areas in the UK. Located at the heart of a connected transport network, it has close proximity to London, and access to 75% of the UK within 2 hours.

Home to over 10 million people and 440,000 businesses, the region includes the cities of Birmingham and Nottingham alongside Coventry, Derby, Hereford, Leicester, Lincoln, Stoke-on-Trent, Wolverhampton and Worcester.

Our local economy is worth more than £207 billion, generating nearly 15% of the UK’s Gross Value Added (GVA), and experiencing growth of 18% over the last five years. We’re home to 27,500 businesses in advanced manufacturing, employing 246,100. We export £43bn worth of goods to 178 countries, growing at a rate in excess of the national rate. The Midlands is indeed an engine of growth at the heart of the UK.

The home of Shakespeare, Robin Hood, JRR Tolkien and Sir Isaac Newton is today at the centre of plans for a new high speed rail network and an innovation hub for advanced manufacturing, automotive, life sciences, digital technologies and rail technologies.

Birmingham Airport handles over 10 million passengers across 140 routes annually, while East Midlands Airport is the UK’s second largest cargo handler. In total, 45% of British rail freight and 33% of heavy road freight goes to, from or through the Midlands.

The region has the fastest improving rail network in Europe and by 2033 will be the hub of the country’s new HS2 high speed rail network – expanding capacity and connecting to London in less than 50 minutes.
The region's 20 universities support a world-class science and innovation base making the region a global centre of excellence in areas such as advanced manufacturing, engineering, low carbon and autonomous technologies, healthcare, life sciences and agri-food and drink.

A high quality of life also attracts people to live, work, study and invest here, with the Midlands region blessed with five Areas of Outstanding Natural Beauty, 60 historic houses, two UNESCO World Heritage Sites and a thriving culture of sport, music and the arts.
The Midlands Opportunity

Capacity, Capability, Connectivity

Positioned centrally among vehicle manufacturers and suppliers, the region provides optimum access to the UK automotive market including seven volume car manufacturers, seven commercial vehicle manufacturers, and 16 of the world’s top 20 automotive suppliers.
As well as manufacturing, the Midlands is a world class centre of automotive research and development with universities, centres of excellence and industry leading organisations. Global vehicle and component manufacturers have chosen the Midlands as a location for technical and R&D centres and activity in order to capitalise on the engineering strengths of the region.

Well served by motorway and rail links and with two international airports, this strategic location creates efficiencies in the supply chain, and contributes to the global competitiveness of the Midlands.
Automotive Manufacturing

Sports, volume and premium car manufacturers, commercial vehicle manufacturers and off-highway manufacturers are all located in the Midlands. Major brands include Toyota, BMW, Dennis Eagle, Jaguar Land Rover, Aston Martin, Triumph, Norton, JCB, SAIC, Changan, London Electric Vehicle Company, and Morgan.

All manufacturers are buoyant and have investment plans for future model programmes. As an example, Toyota is investing £240m to upgrade its Burnaston plant to introduce the new Toyota global manufacturing system as part of a long-term investment plan; Jaguar Land Rover has invested £3.5bn in the last 5 years in vehicle and engine manufacturing capacity. A further £1.2bn is currently being invested in increasing engine manufacturing capacity and expanding powertrain and vehicle design and engineering capability.

1100 trucks deliver £35m worth of components each day from the EU to UK vehicle and engine plants.

With over half of the UK’s automotive activity in the Midlands, there is a significant opportunity to increase localisation of component supply. Major components currently imported include castings, forgings, pressing, alloy wheels, lighting, mouldings, glass and HVAC.
Tier 1 manufacturers are supported by over 1300 supply chain companies with wide ranging capabilities in metal forming, composites, precision engineering, electronics, plastics, prototyping, interior and exterior components amongst others.

Vehicle electrification creates other component development and supply opportunities. Apart from large-scale battery cell assembly, potential components and competencies include:

- Injection Moulding – connectors, casings
- Pressings – motor & battery assembly
- Windings – motor
- Castings – casings
- Pipework/tubing – cooling system
- Magnets – motor
- Machined components – various
- Chip fabrication – electronics
- Power electronics assembly – electronics
- Chemical processing – battery
- Metals processing – motor & battery

The Warwick Manufacturing Group has been awarded £80m as part of the UK government’s Faraday Battery Challenge to create the UK Battery Industrialisation Centre (UKBIC) and will see the development of the next generation of battery systems across battery chemistry, electrodes, cell design, module and pack level and will see a partnership between academia and industry.
University of Warwick is home to a globally acclaimed business school and Warwick Manufacturing Group (WMG). The latter specialises in new materials, lightweighting, volatile chemicals from interior trim, 3D X-ray analysis and design walls, hybrid vehicles, joining technologies, manufacturing low-carbon technologies, battery technology, noise, vibration and harshness, mechanical and electrical engineering and connected and autonomous vehicles.

The Advanced Propulsion Centre (APC) at the University of Warwick provides the UK automotive industry with resources and facilities to develop advanced propulsion systems in low carbon technologies and supply chains. The APC will invest £1bn over ten years in collaboration with automotive industry partners.

The National Automotive Innovation Campus (NAIC) will be at the University of Warwick. This £150m facility will be operational in 2018 and involves partners, Jaguar Land Rover, Tata Motors European Technical Centre, WMG/University of Warwick and an expanding network of supplier companies. The NAIC will focus on the long-term multi-disciplinary challenges of the UK Automotive Council such as electric vehicles (including energy storage and e-drives), carbon reduction (including hybrids, light-weighting and composites) and smart and connected which includes on-vehicle competence, driver assist and cyber security for connected vehicles.

Coventry University offers a wealth of Automotive knowledge including the National Transport Design Centre. The university, through its Centre for Mobility and Transport, has created the state-of-the-art National Transport Design Centre (NTDC) to teach and inspire the next generation of vehicle designers. Launched in 2017, the multi-million pound centre of design excellence is supporting UK innovation in the transport industry and providing greater opportunities for designers to join the automotive, aerospace, rail and marine worlds.

The centre is set to meet a range of needs from across industry, with a focus being on collaborative research projects, postgraduate education in transport design, and support for the UK’s high-value manufacturing sector and its supply chain to improve design capability.

Institute for Advanced Manufacturing & Engineering
The Institute for Advanced Manufacturing and Engineering (IFAME) is a collaboration between Coventry University and Unipart Manufacturing Group and aims to:
• Develop industry-ready engineering graduates
• Research and develop innovative technology for automotive, aerospace, oil and gas, power generation and rail sectors
• Disseminate research and technologies for the benefit of Unipart, its suppliers and UK manufacturing
• Create new postgraduate learning opportunities and professional development courses for industry
**HORIBA MIRA** is a global provider of engineering, research and test services to the automotive, defence, aerospace and rail sectors. HORIBA MIRA works in close collaboration with vehicle manufacturers and suppliers around the world, providing comprehensive support ranging from individual product tests to turnkey engineering design, development and build programmes. HORIBA MIRA Technology Park is Europe’s largest transport technology R&D cluster.

**Cenex - Centre of Excellence for Low Carbon and Fuel Cell technologies**

Cenex was established in 2005 as the UK’s first Centre of Excellence for Low Carbon and Fuel Cell technologies. Today Cenex operates as an independent not-for-profit consultancy specialising in the delivery of projects, supporting innovation and market development, focused on low carbon vehicles and associated energy infrastructure. Clients typically work with Cenex via consultancy projects but also work with Cenex as a partner in research projects, via national government sponsored programmes or through the Cenex LCV Event.

**Loughborough University**

The automotive courses at Loughborough have established a national and international reputation for the quality of the courses and the graduates produced. The courses are unique in that they are run by academics working with the automotive Industry. The strong automotive focus continues throughout the courses with the continuation of vehicle design ultimately leading to the complete design of a vehicle and the introduction of a broad range of automotive modules. Both courses are designed to develop engineers with strong analytical, modelling, experimental and design ability, but also with excellent communication and team working skills.

As part of the Advanced Propulsion Centre’s network of spokes, the Digital Engineering & Test Centre brings together the automotive and digital communities to develop and use virtual engineering tools and techniques to accelerate the development, test and manufacture of automotive propulsion system.

**SMMT Industry Forum**

Industry Forum helps major global manufacturers understand, optimise and improve both manufacturing capability and business performance.


- Analyse and transform manufacturing and supply chain operations by providing expert consultants and interim resource skills
- Inspire and train key manufacturing and operations staff
- Audit, benchmark and monitor business performance
Mapping the Midlands' Automotive Capability
Automotive R&D

The Midlands has a world-class infrastructure to realise automotive innovation. Major manufacturers (e.g. Changan, Royal Enfield and SAIC) have set up technology and R&D centres in the region.

The combination of support from academia, agencies, organisations, supply chain and funding streams means that there is assistance available across all TRL and MRL levels from discovery and feasibility through to proven system and full rate production.

Examples of centres of excellence include:

The National Automotive Innovation Centre, opening in 2018, will provide a critical mass of research capability combining automotive expertise nationally and internationally.

The Advanced Propulsion Centre was formed in 2013 and is a £1bn, ten year commitment between government and the automotive industry to position the UK as a centre of excellence for low carbon propulsion, development and production.

Recently opened, Coventry University’s National Transport Design Centre is a new facility focusing on undergraduate and postgraduate education in transport design to improve design capability.

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Connected and Autonomous Vehicles

Regulation changes to allow driverless cars to be tested without any human operator inside or outside the car, and without the legal constraints and rules that apply in many other EU nations, and much of the US makes the UK one of the best places in the world to develop, test and sell connected and autonomous vehicles integrating end to end mobility services to transform travel.

MERIDIAN, funded jointly by the government’s flagship £100m CAV investment programme and by industry, will create a cluster of excellence in driverless car testing, along the M40 corridor between Coventry and London, to accelerate the development of this technology and grow intellectual capital in the UK. Transport agencies, academia and industry are collaboratively making the Midlands the UK centre of CAV development.

The development, market readiness and deployment of Automated Driving Systems (ADS) is being accelerated through activity which reinforces ‘vehicle in the loop’ simulation capabilities with real-life conditions on 40 miles of roads within Coventry and Warwickshire to address real-world location issues to improve CAV autonomy and connectivity.

The emergent CAV cluster is focusing on issues and topics such as intelligent parking solutions, traffic signal technology enhancement, data mining systems to optimise the transport network and travel advice, piloting of autonomous pod vehicles, growth and development of real world test environments in which the automotive industry can trial new technology, development of freight focused CAV solutions, future-proofing the cybersecurity foundations of CAVs.
From small independent shops, to iconic retail stores and designer outlets, the towns and cities in the Midlands provide a distinctive experience, packed with modern attractions, great restaurants, pubs, bars and green spaces. It’s not just the eleven Michelin-starred restaurants that makes the Midlands a great place to eat and drink, its vibrant food and drink scene will suit most tastes. There is so much to experience from Artisan cheeses, to food festivals and craft beers and ciders.

Enjoy classic performances by the celebrated Royal Ballet, or experience vibrant contemporary productions alongside modern artists at the Royal Shakespeare Theatre.

The Midlands has some of the finest living and working landscapes in the UK with five Areas of Outstanding Natural Beauty and over 33 nature reserves. From ancient deer parks to the 10,000 acre Sherwood Forest, which is home to over 1000 ancient oak trees and the legend of Robin Hood, whether it’s walking, abseiling, or cycling, the Midlands offers a great environment to enjoy physical activity and a wide range of sporting experiences.

We're home to major football clubs Aston Villa, Leicester City, Nottingham Forest, West Bromwich Albion, and 6 of the 12 clubs who founded The Football League in 1888. As the birthplace of Rugby, the Midlands has a strong affinity with the game, and hosted the Rugby World Cup in 2015.

This is an excellent place to play golf, with courses throughout the Midlands, including The Belfry, a former host of the Ryder Cup.

Home to many of the F1® teams, F1® racing has been thrilling an international audience at Silverstone for 65 years, providing a world-class motorsport experience at one of the fastest racing circuits in the world. Meanwhile Formula-e, the low carbon alternative, is based locally at Donington Park.

And the Midlands offers a range of options for schools and study, including a number of the finest private schools in the UK.
1

*Derbyshire Peak District*

1

*Royal Shakespeare Company, Stratford-upon-Avon*

2

*Nottingham City Centre*
The Department for International Trade (DIT) helps businesses export and grow into global markets. We also help overseas companies locate to and grow in the UK.

We can help with information on how to set up in the UK, provide sector specific information about the automotive industry in the UK, and support you to identify the right location here for you and introduce you to local partners and supply chains.

Our network of UK specialists includes a team who are based in the Midlands, providing expert local knowledge of projects, potential public and private sector partners and other local business support.

For more information on automotive opportunities in the Midlands, please contact: enquiries@drivemidlands.co.uk
The UK's Department for International Trade (DIT) has overall responsibility for promoting UK trade across the world and attracting foreign investment to our economy. We are a specialised government body with responsibility for negotiating international trade policy, supporting business, as well as delivering an outward-looking trade diplomacy strategy.

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