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Motorsport Valley UK®

The UK is in a leading position in the technology-driven world of motorsport, with suppliers and teams servicing a range of race series on both two and four wheels.

The UK motorsports and performance engineering sector accounts for around 4,500 companies, supporting at least 40,000 new jobs. This creates an annual turnover in the region of £9bn, much of which is exported.

There is a concentration of activity in the middle of the country, known as Motorsport Valley®, with SIlverstone at its heart. The Motorsport Industry Association (MIA), the trade body for the sector, works on behalf of its members as they seek to uncover new opportunities and win new business in the UK and overseas.

Household names within the Valley include the majority of Formula 1 Teams including Mercedes, Williams, Mclaren, Lotus and Red Bull. We are also home to many of the World Endurance Car Teams and can boast the technical hub for the new Formula E series at Donington Park.

This is complemented by an extensive range of suppliers providing a variety of specialist expertise in areas such as aerodynamic testing, composite development, material fatigue and powertrain development as well as test tracks and Universities for collaborative research and graduate recruitment.

Many of these companies have a diverse client base, working across industries as broad as aerospace, marine, defence and energy, as well as servicing core motorsport and mainstream automotive clients.

The following provides an overview of the services and expertise available within Motorsport Valley® to companies in a range of high performance engineering, whether you are in motorsports, mainstream automotive, aerospace, marine, defence or other industry where there is a need for specialist services and high calibre staff.

In the UK, industry and Government have worked in partnership to invest £1bn in an Advanced Propulsion Centre whose work will look at areas such as engine boost and electrical control technologies as well as the increasingly important areas of battery technology, hybrid development and energy recovery systems.

In addition, the Government has invested £60m into a UK Centre for Aerodynamics.

Our *Heritage*

Our *Heritage*

Silverstone was opened as a World War Two airfield in 1943, one of many that sprang up across the UK. Following the war, these became redundant but there was still no major race track in the country.

In 1948, The Royal Automobile Club entered into a lease with the Air Ministry and in October 1948, Silverstone's first event took place, known as the RAC Grand Prix.

In 1951, the British Racing Drivers' Club took over the lease from the RAC and set about turning the temporary airfield track with straw bales into something more permanent. The BRDC also established the British Grand Prix date for July.

The British Grand Prix has now become a major part of the British sporting calendar - one of those "must see" events alongside the FA Cup Final, The Grand National and Wimbledon.

SILVERSTONE

Experience is everything

Today...

Test Facilities

The ability to draw on specialist third party skills is a key strength of the Motorsport Valley® area.

Silverstone, the home of the British Grand Prix, provides motorsports and premium automotive marques with the ability to test prototype vehicles in a high speed and confidential environment.

This is complemented by a range of specialist centres across Motorsport Valley® that can assess any component or sub-assembly configuration – spanning the initial materials to be used such as engines, telemetry and aerodynamics.

MIRA, near Leicester, has the UK's only full scale aerodynamic wind tunnel and a 760 acre proving ground which includes a performance circuit, dry and wet handling areas and testing areas for durability and noise levels.

Millbrook, near Bedford, also provides an extensive array of tracks and laboratories across a 700 acre site that are used by a variety of automotive manufacturers for testing, validation and homologation purposes.

This section provides an overview of the capabilities within Motorsport Valley® of use to a range of industries.

Wind Tunnels

MIRA has a full scale aerodynamic wind tunnel that has clients from a number of different fields, including motorsport, automotive and aerospace.

Other facilities in Motorsport Valley® include two wind tunnels that are available for third party use from Williams Advanced Engineering, thus tapping into their Formula 1 experience, enabling full size and scale model testing.

These facilities enable lead times to be compressed with guaranteed repeatable conditions and assessing issues such as stability and downforce.

Test Tracks

Silverstone offers semi-exclusive and exclusive testing for race teams, while Donington Park hosts pre-season, in-season and post-season testing of the new Formula E race series.

These significant international tracks are complemented by a range of smaller facilities throughout Motorsport Valley®, including a variety of ex-military bases where high speed testing can be conducted in private.

Materials Testing

The ability to design a vehicle that is both lighter and stronger is not only of interest to those in motorsport but also to companies in aerospace, marine and defence.

Prodrive, for example, has facilities across Motorsport Valley® in Banbury, Oxfordshire, as well as Milton Keynes in Buckinghamshire, and is developing space application products as well as servicing premium automotive clients.

Sigma Composites in Buckingham specialises in the design and manufacture of advanced composites in a range of industries, including F1, automotive, aerospace and defence.

Many companies have their own autoclaves, but Motorsport Valley® also offers companies the ability to use third party facilities. For example, firms can utilise for the autoclaves at Bicester College in Oxfordshire, which have been used by the F1 teams at peak times in their season as well as smaller companies with no in-house facilities.

Specialist courses within a variety of Universities also support the need for companies to hire skills in this field.

In addition, the University of Oxford runs a Materials Characterisation Service for industry that enables use of specialist facilities and research expertise to determine the properties of a proposed new component, whether on a racing car or aeroplane for example.

Engine Testing

With the increasing demand on both motorsports and mainstream vehicle manufacturers to cut emissions and increase fuel efficiency, but still maintain power and performance, there is added pressure to continually develop powertrain systems.

Throughout Motorsport Valley®, there is a range of specialist research facilities, private companies and Universities offering consultancy services. For example, MIRA offers an Engine Noise Test Cell whilst Ilmor Engineering in Northamptonshire provides full engine diagnostic testing utilising a range of fuels.

Oxford Brookes University has a number of engine test cells and Williams Advanced Engineering is developing the next generation of hybrid propulsion systems.

Flybrid Automotive, now part of Torotrak plc, is a pioneer of the KERS system and is based at Silverstone.

Skills Availability

The ability of a company to hire and continually develop the appropriate skills is a key ingredient in its success.

Motorsport Valley® contains a number of worldleading Universities and Colleges from which companies can develop research partnerships to enable them to tackle specific technical challenges as well as hire new technicians and graduates.

The University of Oxford's Energy & Power Group looks at the increasingly influential area of energy efficiency, while Cranfield University has a particular expertise in aerodynamics.

Coventry University has one of the UKs strongest motorsport degrees and students can even use the half-scale wind tunnel provided by Mercedes F1 AMG.

WMG, Part of the University of Warwick, provides a wide range of research and development resources for automotive and high-performance applications.

Graduate Recruitment

The Motorsport Valley® has a range of Universities, including Oxford Brookes, the University of Oxford, Cranfield, Coventry, Warwick, Buckingham and Leicester, from which to recruit staff. Many courses have significant industry input to ensure their relevance to the subject matter. This includes:

- Aerodynamics
- Suspension
- Powertrain
- Stress Analysis
- Chassis Engineering
- Engine Design
- Tyre Dynamics

Graduates therefore gain a strong understanding of the entire design process, which makes them highly adaptable and sought after by companies.

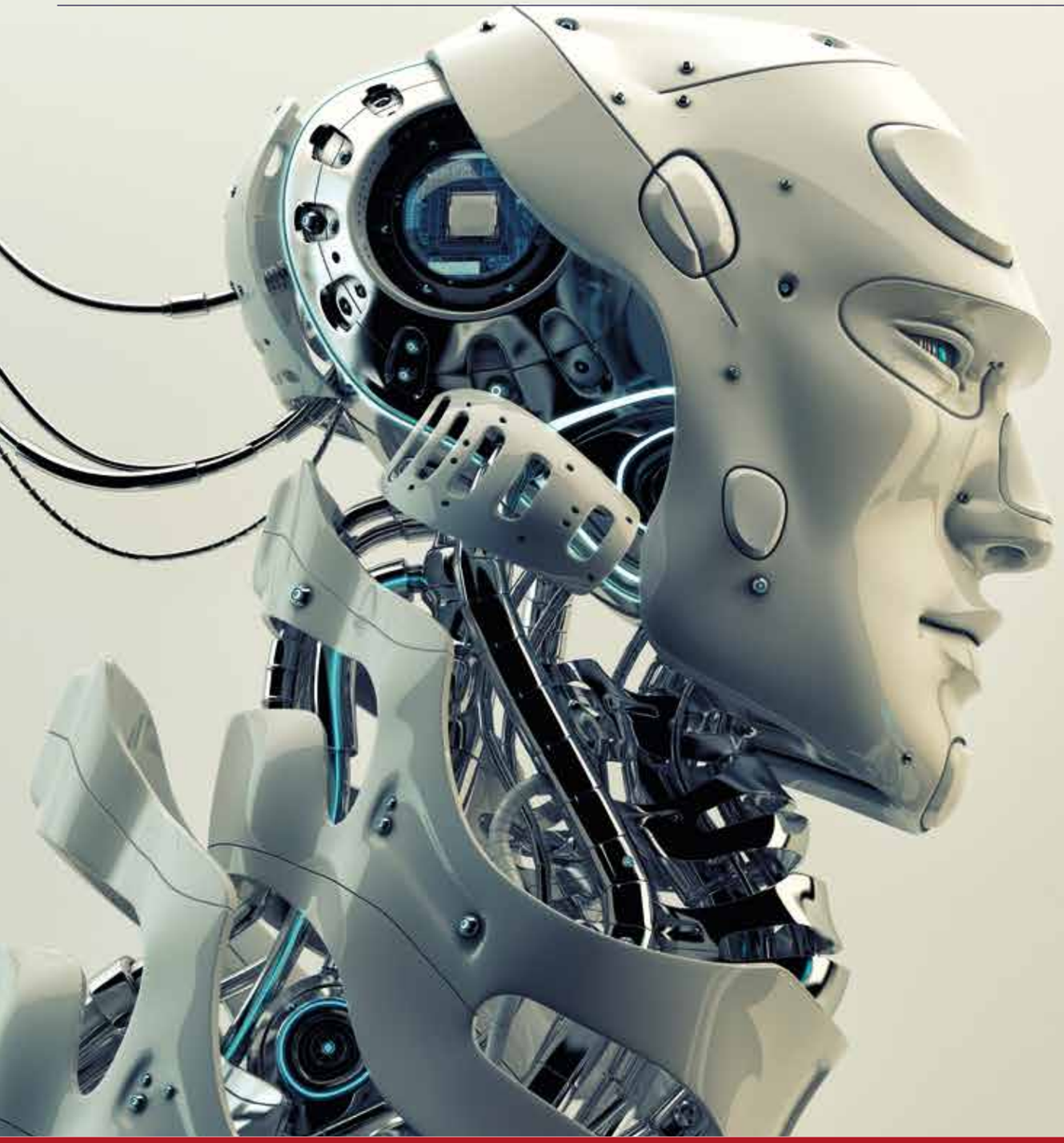
Companies such as Audi, Aston Martin, Bentley, BMW, Honda, Jaguar Land Rover, Mini, Nissan and Toyota continue to take a range of graduates in roles such as race engineers, designers, aerodynamacists, chassis and powertrain engineers.

Apprenticeships & Training

There is a variety of Apprenticeship courses available throughout Motorsport Valley®. These give students a practical insight into the skills required to enter a variety of engineering roles. F1 teams such as Williams and Lotus actively support Apprenticeship programmes, offering placements to students, working in partnership with colleges.

University Technical Colleges

University Technical Colleges (UTCs) are shaping Great Britain's future engineers. SIlverstone UTC offers the very best academic and technical learning in High Performance Engineering & Motorsport and Technical Events Management for up to 600 young people. Elsewhere, Lotus is heavily involved in helping shape the student programme at the UTC in Norwich.



Our tomorrow

Adapt to Survive

An average of 30% of turnover within motorsports and high performance engineering companies is re-invested in R&D, far higher than other hi-tech sectors such as IT or pharmaceuticals.

This reinforces the positive impact that this sector has on the growth of the economy, dependent on new innovations.

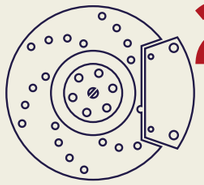
Motorsport Valley® attracts automotive Original Equipment Manufacturers (OEMs) and leading motorsport teams keen to harness the race-bred research and development, rapid prototyping capabilities, high-tolerance engineering skills and next-generation technology to find 'the competitive edge' for the development of modern road and racing vehicles.

Engineering firsts are often displayed on the track that then evolve into mainstream automotive products. Examples include four wheel drive, active suspension, disc brakes and now latterly ceramic brakes for high-end road cars.

UK Motorsport supports

40,000

full and part-time jobs, of which

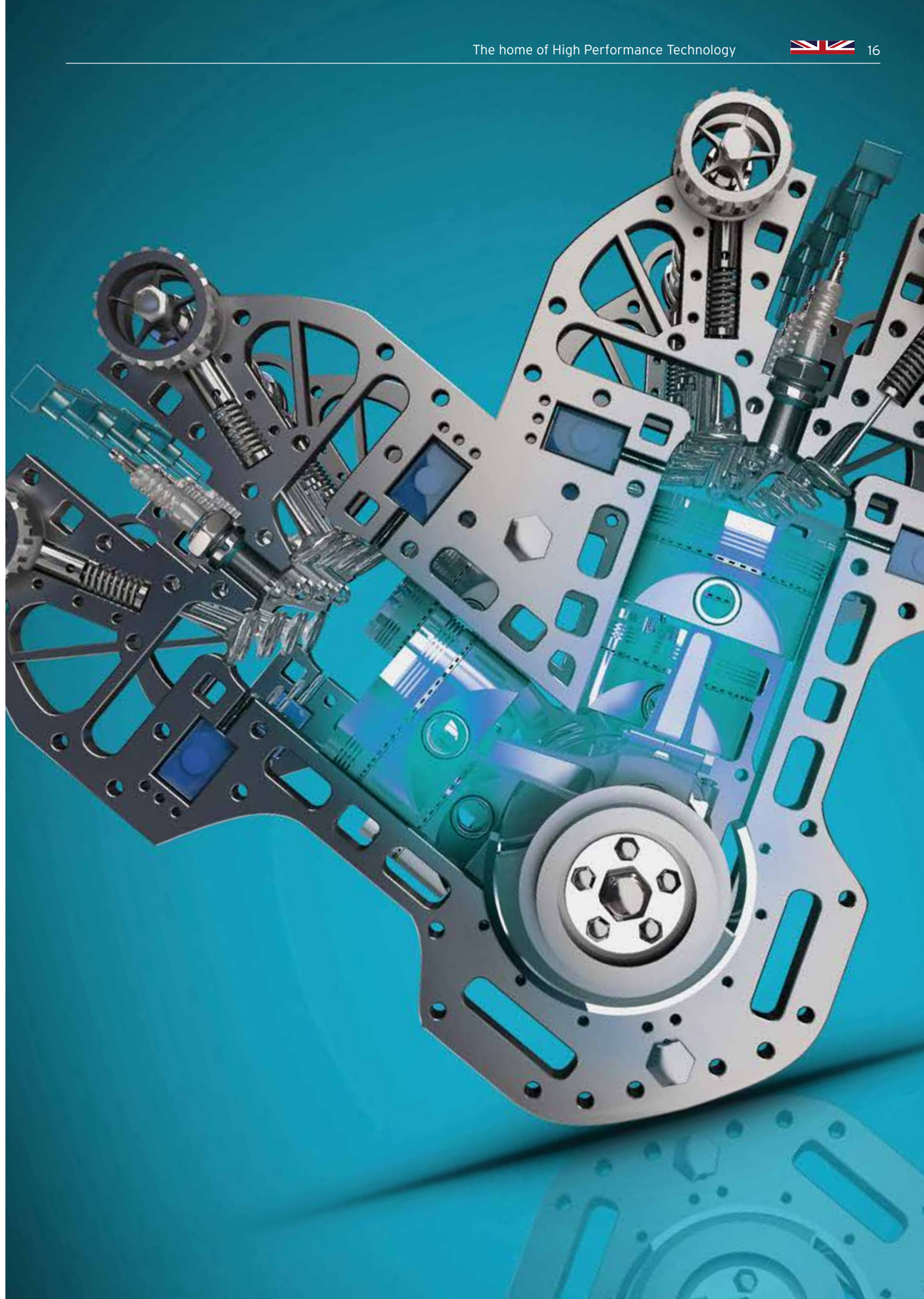


25,000

are qualified engineers

Sectors that value the engineering prowess of companies to be able to make components that are lighter, yet stronger, and cope with ever higher tolerances are of interest not just to the automotive industry but also to sectors such as aerospace, defence, energy and marine.

With a limited number of end users for direct motorsports applications, companies have to look at other markets. Cross-sector diversification is often the key to survival.



Efficiency is key

In the new era of F1, there is an even greater focus on the need for the cars to maximise their efficiency with the introduction of various energy recovery systems and the deployment of fuel -saving race strategies.

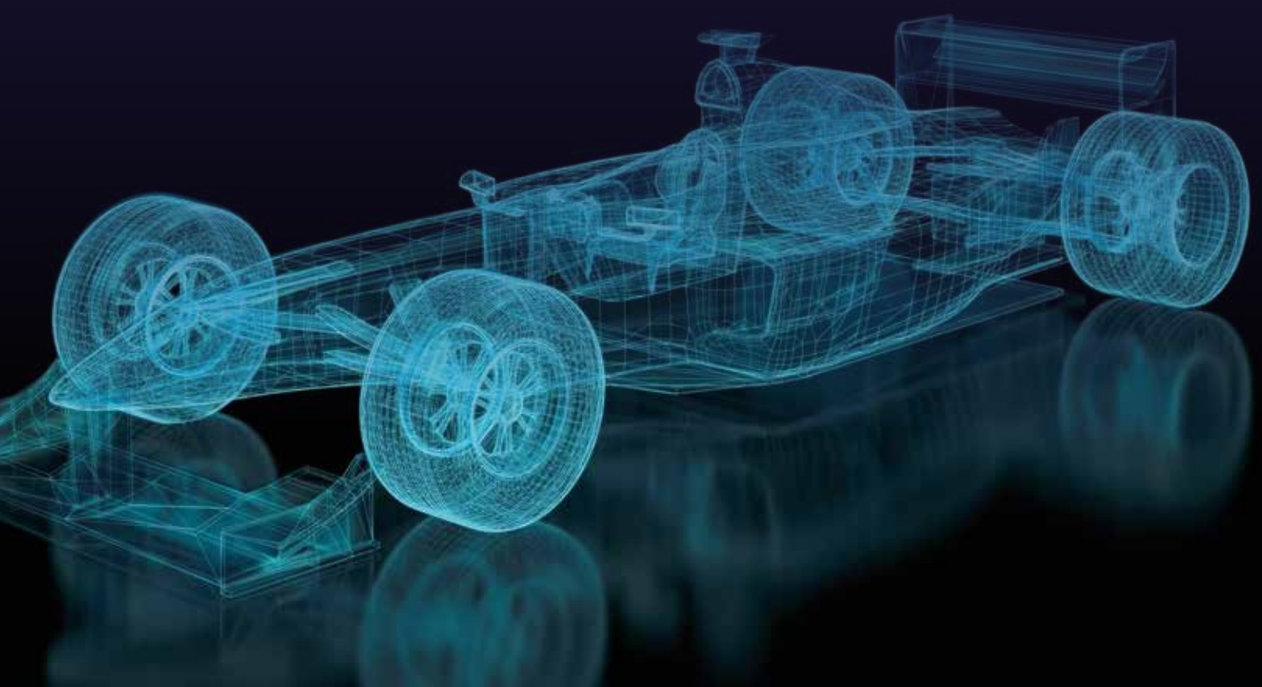
This has direct correlations with road cars, hence the interest of major OEMs, like Mercedes, who are keen to link the technology in their F1 cars to the technology available in their road cars.

Many racing series are actively embracing the opportunity to develop green technologies, including Formula E, by encouraging the use of alternative powertrains with hybrid technology.

The lightweighting expertise within Motorsport Valley® will also have a significant impact on the transformational weight reductions of the mass market vehicles of the future.

Advances in aerodynamic modelling, honed from F1, will also bring benefits to a variety of transport sectors eager to cut costs through fuel savings. This includes the haulage industry and aerospace as well as mainstream automotive.

Motorsport provides the laboratory for future technologies, across a range of industries.



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UK Trade & Investment

MOTORSPORT INDUSTRY ASSOCIATION
www.the-mia.com

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