



ETG MOTORSPORT MANUFACTURING SECTOR



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ETG ARE YOUR MOTORSPORT SUPPLY CHAIN PARTNER

The motorsport industry is, without doubt, one of the most appealing, crowd-pleasing and marvellous sides of modern manufacturing –

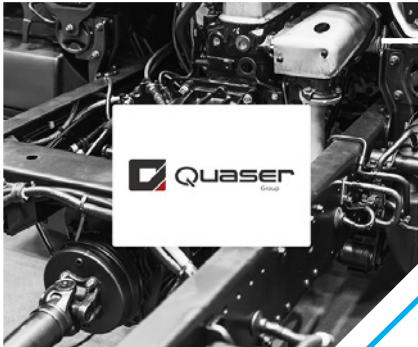
A prelude to the OEM automotive industry that receives much of its R&D innovations from the high-tech F1 sector.

In an industry worth billions of pounds, the Formula 1 industry is at the very pinnacle of global motorsport. Every nation has industry sectors where it can consider itself the global leader; a geographical area with a niche. For the UK, motorsport is that sector. As the epitome of precision engineering, F1 employs tens of thousands of people and generates a multi-billion pound turnover for the UK economy with almost every team located in 'motorsport valley' that sprawls across Oxfordshire and Northamptonshire. Coincidentally, bordering both of these counties is Warwickshire – the home of the Engineering Technology Group (ETG).

Whilst it is claimed that F1 has its roots in the European Grand Prix of the 1920s and 1930s, there is a clear reason why almost every F1 team is based in the UK. It was in the aftermath of World War II that the UK's fighter pilots, mechanics and aircraft engineers found themselves with an abundance of spare time, abandoned airfields – and a unique skill set. The science of making a fighter plane light, fast, agile and aerodynamic was soon transferred to the development of the modern racing car – hence why the majority of F1 teams are UK based.

The modern F1 and general motorsport industry have evolved beyond recognition, but the skills remain the epitome of modern manufacturing. Nowadays, sports teams and their supply chains must react at breakneck speeds, delivering complex lightweight components and assemblies to the race track at the drop of a hat. This is why technology from ETG is a fundamental need for much of the motorsport supply chain.

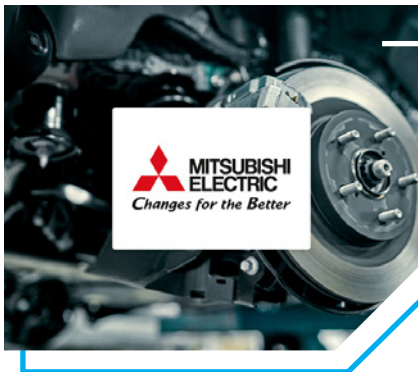




QUASER

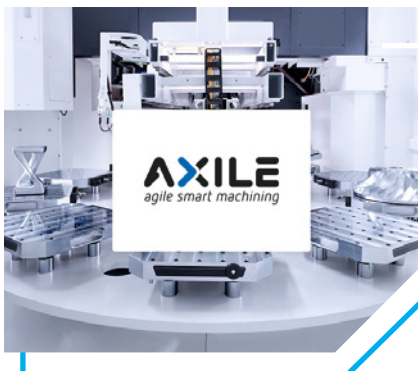
Quaser has a complete range of 3 to 5-axis vertical machining centres, pallet-loaded machining centres, horizontal machining centres and automation cells that can deliver the productivity demanded by the motorsport industry. The motorsport supply chain demands prototypes, one-offs and small volume runs of extremely complex components that are produced from aerospace-grade alloys such as titanium.

As each of the machining technologies incorporates a multitude of options to deliver absolute flexibility for the end-user, Quaser machine tools can be found everywhere in the motorsport supply chain – especially in the F1 community. With the flexibility to adapt to any machine shop and product requirement as well as providing extremely adaptable and productive solutions, the Quaser brand of machine tools is one of ETG's bestselling product lines – especially in the F1 industry.



MITSUBISHI EDM

With several F1 teams already using Mitsubishi EDM technology from ETG, it is evident the brand has been the 'go-to' name in the F1 industry for more than a generation. From the racing teams and through the supply chain, the value of Mitsubishi EDM technology can be applied to cutting and profiling complex geometries and forms through to finishing 3D printed parts. With a comprehensive range of high-end Mitsubishi Electric Die-sinking EDMs, Wire-cut EDMs and fine-hole EDMs – ETG is supporting motorsport manufacturers in their quest to enhance productivity with high levels of speed and accuracy.



AXILE

The motorsport industry has found its perfect machine with the AXILE brand of agile and smart 5-axis vertical machining centres, mill/turn and large bed double-gantry machining centres. AXILE provides manufacturers of everything from simple to complex parts in one-off to volume production an industry-leading solution.

For the fast turnaround F1 and racing teams that demand a precision machine with a large working envelope – AXILE is the machine of choice. Large bed gantry machines are perfect for machining bodywork and chassis parts whilst the smaller machining centres offer distinctly nimble and agile kinematics that combine with power, rigidity and speed – to deliver the perfect combination for the industry. With AXILE's proprietary ART™ intelligent monitoring system, the brand can perfectly serve the UK's highly sophisticated motorsport manufacturers and racing teams.

Pit Equipment



CHIRON Group
AXILE
Quaser agile smart machining

Airguns
Alignment



CHIRON Group
Quaser
Nakamura-Tome

Jacks



DURMA

Fabrication

KAPP NILES

Gearbox Casings & Gears

Engine components

CHIRON Group

MITSUBISHI ELECTRIC
Changes for the Better

Quaser

Nakamura-Tome

OPS INGERSOLL

Aerostructures

Chassis parts

CHIRON Group

Quaser

MITSUBISHI ELECTRIC
Changes for the Better

AXILE
agile smart machining

OPS INGERSOLL

Balance Systems

Transmission

CHIRON Group

Wheels

Nakamura-Tome

Wheel nuts

CHIRON Group

MITSUBISHI ELECTRIC
Changes for the Better

Quaser

Nakamura-Tome

Brakes and suspensions

MOTORSPORT PRODUCTION



KAPP NILES

As a globally renowned group of companies with high-quality and economical solutions for finishing gears and profiles, KAPP NILES is the go-to name for high-end gearbox components. KAPP NILES is the industry benchmark brand and a partner for companies in the motorsport, F1 and OEM automotive industries. The perfect interaction between machines, tools and technologies enables extremely precise machining to a thousandth of a millimetre with specialist technology that ensures the most precise and smooth gear changes under the most challenging of conditions.

The KAPP NILES brand incorporates machines for profile grinding, generation grinding, dressing and grinding tools as well as measuring machines and solutions, so when a racing team needs reliability, durability, precision and performance from its gears – the team to turn to is ETG.



BALANCE SYSTEMS

As the world leader in balancing machines for rotating components and process control systems, technology from Balance Systems achieves the perfect balance for rotating components in high-end fast paced industries like the motorsport sector. The high performance of rotating parts the motorsport arena is critical for optimal performance, and Balance Systems caters for every facet of this fast-paced industry with high-performance balancing machines for electric motors, alternator rotors, brushless rotors, fans, electric fans, brake disks, drums, clutches, turbines, flywheels, shafts, pumps, wheels, pulleys, propellers, couplings, spindles and more.

Balancing Machines are advanced technological solutions that enable users to eliminate vibration in moving components by providing the perfect balance to improve the life and performance of electrical, mechanical and electromechanical systems within a vehicle. Vibration and noise are typically caused by the unbalance present in the rotating parts and in the top echelons of motorsport it can impact results on the track.



DURMA

The motorsport sector industry continually evolves its 'lightweighting' innovations to reduce fuel consumption and create greater efficiencies through aerodynamics. Nowhere is this more apparent than in the chassis and body of the vehicle, which continually undergoes greater scrutiny with regards to aerodynamics, strength, safety and stability – all evolving at pace with weight reduction and aerodynamics at the core of evolution. Now, racing teams and manufacturers will be delighted to know that their pressed, punched or formed sheet metal parts can be delivered by ETG and the DURMA brand.



NAKAMURA TOME

As a world leader in the design and manufacture of single-process, multi-tasking mill-turning machines for the motorsport sector, Nakamura has established a firm foothold in the industry. Developing products by utilising the most innovative technologies, the high precision CNC turning centres and machining centres are applied worldwide by motorsport teams, whatever the class or racing. Nakamura turning centres can be found as the perfect solution for producing specialist nuts and bolts, knuckles, studs and drums, steering rack shafts, suspension ball joints, semi-active suspension, shock absorbers, constant-velocity joints, brakes and so much more.



CHIRON

Fast turnaround, high precision and maximum process capability are crucial for the motorsport sector. Top companies and innovation leaders in the racing industry have been using high-end CNC machine tools and turnkey solutions from CHIRON for decades. A CNC machining centre from CHIRON is the ideal solution for the high-speed cutting of components made of any material – whether titanium, aluminium, steel, stainless steel, Inconel, plastic or graphite – all the materials used in racing vehicles.

When it comes to the precision high-speed machining of wheels, the 5-axis CHIRON 18 Series is the machine of choice. For flexibility and productivity, the CHIRON FZ18S offers numerous configuration and equipment options and all 18 series models are available with one or two spindles to deliver unprecedented productivity levels. CHIRON machines can also be found producing suspension and undercarriage and structural parts as well as engine parts and aerodynamic elements of a racing car.



OPS INGERSOLL

OPS Ingersoll is a brand that stands in a class of its own when it comes to high-speed machining centres and EDM technology. If you want machine tools that are as fast-paced and high-performance as an F1 car, the technology and performance of the OPS Ingersoll range are at the front of the grid. For manufacturers in the niche area of designing and producing engines, chassis and aero-structure components for the motorsport sector where quality, precision and speed are needed beyond the realms of the typical machine shop – OPS Ingersoll is the 'go-to' brand.



Making Engineers Champions...

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