

# AUTOMOTIVE & ELECTRIC VEHICLES



## **AUTOMOTIVE & ELECTRIC VEHICLES (EV)**

### ETG ARE YOUR EV AND AUTOMOTIVE SUPPLY CHAIN PARTNER

ETG and its principles are at the very cutting edge of the drive to zero emissions in the automotive market.

Brands like Chiron, Nakamura-Tome, Vulcan, Quaser, Kapp Niles, Stama and Balance Systems are all at the very forefront of delivering solutions to the world's leading automotive manufacturers and their supply chains. Whether its battery modules and chassis, rotors and gear shafts, disks and callipers, transmission housings or high-speed rotary components and electric motors - ETG has the most productive bespoke solutions for your requirements.



### Etg's Machine Tool Associates Are Dedicated To Making Electric Vehicle & **Automotive Manufacturers Champions**

For as long as the automotive industry has been manufacturing vehicles on a mass-production scale, ETG's partners have been supplying the sector with machine tools and technology to ensure the most productive and reliable manufacturing technology keeps production lines moving. The world's leading OEMs are reliant upon our technology and decades of manufacturing expertise.

If you have a challenge in your automotive production facility - ETG is the only brand that can deliver a complete solution that provides a productive solution with confidence and peace of mind assured.

### Why is balance so important?

In electrical machines, rotor balancing is often necessary, as it's possible to find products that are not perfectly symmetrical and rotating parts that vibrate, produce noise and may damage the system. Even a slight unbalance may cause high vibrations and serious damage to components. In the case of rotors, balancing reduces noise, vibration and energy consumption.

In the automotive sector, the components that require balance range from accessories for armatures, blades, brake discs, clutches, drums, electric fans, fans, flywheels, grinding wheels, impellers, motors, pulleys, pumps, rotors, spindles, turbines, turbochargers, universal joints and many more. Whatever you need to balance, Balance Systems and the Engineering Technology Group (ETG) have the solution you require.



### **CHIRON GROUP**

High precision, maximum process capability and minimum unit costs are crucial for the automotive industry. Top companies and innovation leaders in the automotive and vehicle construction industries have been using economical CNC machine tools and successful Turnkey solutions from Chiron for more than two decades. A CNC machining centre from CHIRON is the ideal solution for high-speed cutting of components made of any material - whether titanium, aluminium, steel, stainless steel, cobalt, chromium, gold, magnesium, Inconel, plastic or graphite.



### **NAKAMURA TOME**

Nakamura has established a firm position as a world leader in the design and manufacture of single process, multi-tasking mill turning machines for the automotive industry. Developing products by utilising the most innovative technologies, the high precision CNC turning centres and machining centres are applied worldwide by the automotive industry.



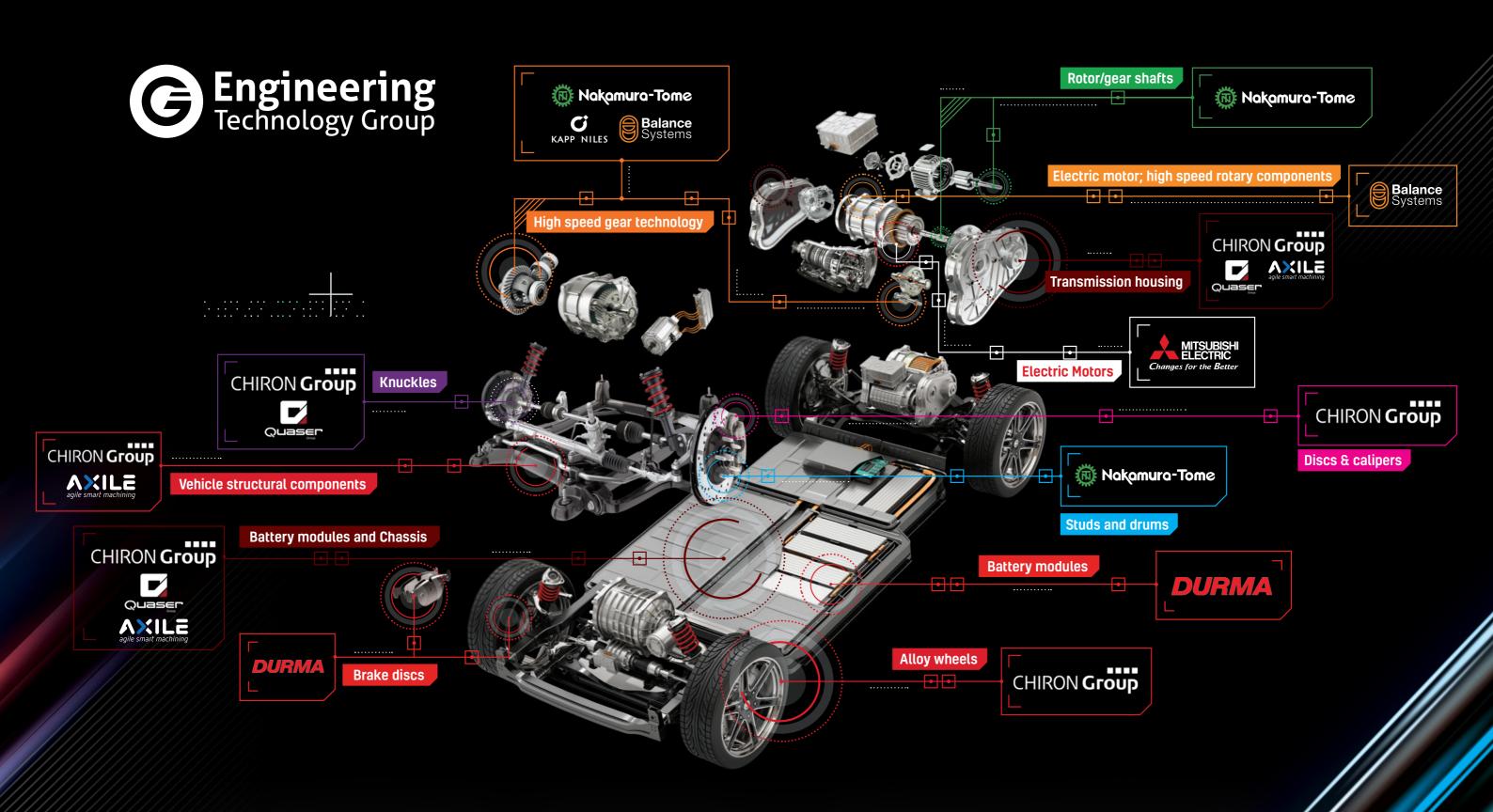
### **BALANCE SYSTEMS**

Balance Systems is a world leader in balancing machines for rotating components and process control systems for machine tools. Attaining perfect balance for rotating components in the automotive industry is critical for the performance of any rotating parts. Balance Systems caters for every facet of the automotive 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...



### MITSUBISHI ELECTRIC

Mitsubishi EDM technology has been the 'go-to' name in the automotive industry for more than a generation. Whether it is the mould tool workshops, the subcontract supply chain or the automotive OEM manufacturers, Mitsubishi Electric Die-sinking EDMs, Wire-cut EDMs and fine-hole EDMs from ETG enhance productivity with high speed and a level of accuracy that makes work easier for both the first-timer and longterm users of this technology when handling everything from simple to complicated shapes.



## ELECTRIC VEHICLE PRODUCTION



### **QUASER**

With its range of powerful, precise, robust and highly productive machine tools, 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 automotive industry. 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 in the automotive supply chain around the world.



### **AXILE**

The automotive industry has found its perfect machine tool with the AXILE brand of agile and smart 5-axis vertical machining centres, mill/ turn and large bed double-gantry machining centres. For the automotive manufacturer that demands a precision machine with a large working envelope - AXILE is the machine of choice. With nimble and agile kinematics that combine with power, rigidity and speed – AXILE delivers the perfect combination for the industry. With AXILE's proprietary ART™ intelligent monitoring system, the brand can perfectly serve the UK's highly sophisticated automotive manufacturers.



### **VLB Group**

Vehicles cannot operate without high-quality precision tubes and pipes for the delivery of everything from air and water to fuel and oil. In the automotive industry, tubes and pipes are critical components – and that is why the VLB Group is such a major contributor to this sector. The VLB Group has been a key player in the automotive industry with standard and bespoke designs and manufacturing of a wide range of CNC tube bending machines and plate forming solutions - that are available exclusively in the UK and Ireland through their partnership with ETG.



### MITSUBISHI ELECTRIC

Kapp Niles is a globally renowned group of companies with high-quality and economical solutions for finishing gears and profiles. This makes this industry benchmark brand a partner for companies in the automotive industry. The perfect interaction between machines, tools and technologies enables extremely precise machining to a thousandth of a millimetre.

The KAPP NILES brand incorporates machines for profile grinding, generation grinding, dressing and grinding tools as well as measuring machines and solutions.



#### **DURMA**

The automotive industry has rapidly evolved its 'lightweighting' innovations to reduce fuel consumption and create greater efficiencies. 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 design for manufacture at the core of evolution. Now, automotive manufacturers will be delighted to know that their pressed, punched or formed sheet metal parts can be delivered by ETG and the Durma brand.

### **ELECTRIC VEHICLE MANUFACTURE** THE FUTURE

### ETG is a key supply chain partner to both OEM manufacturers and the subcontract supply chain in the UK Electric Vehicle (EV) market.

ETG solutions can be found at design companies that develop prototype gearbox and EV drivetrain systems as well as transmission systems for world class brands such as Audi, Lamborghini, Aston Martin, Mclaren, Maserati, and Triumph.

ETG's technology solutions can also be found in the design and manufacture of low and high voltage electric motors, generators, power electronics, and control systems suitable for the automotive, commercial, marine, rail, and the manufacture of low voltage AC induction and synchronous reluctance motors, inverters and controls for a wide range of electric vehicle applications.

Of course, we don't just work with the world's leading manufacturers on powertrain systems - at ETG, we also support manufacturers of EV commercial vehicles and the manufacture of track control arms, stabilisers, struts, tie rod ends, axial joints, wheel drive systems, axles, brakes, e-powertrains, e-superchargers and suspension parts to name a few. With our technology partners that are the benchmark in the EV industry, we supply solutions to the most prestigious automotive brands and supply chain partners the industry has.

If you are part of the EV automotive supply chain and want to find out how ETG's machine tool and sheet metal solutions can assist in your manufacturing processes, please call 01926 818 418.





## G Making Engineers Champions...

