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WELCOME

TO TOYOTA GAZOO RACING EUROPE

TOYOTA GAZOO Racing Europe is a unique high-performance development, testing and manufacturing facility located in Cologne, Germany.

High performance, precision and diversity are core principles at TGR-E and our technical specialists have in-depth engineering experience across various sectors.

TGR-E has honed its competences in top-level competition, from our world championship-winning rally cars, Le Mans-winning hybrid prototypes, to record-breaking electric vehicles via the pinnacle of motorsport, Formula 1.

TGR-E has decades of experience at delivering solutions for prototype development, specialist testing or enhancement of existing components.

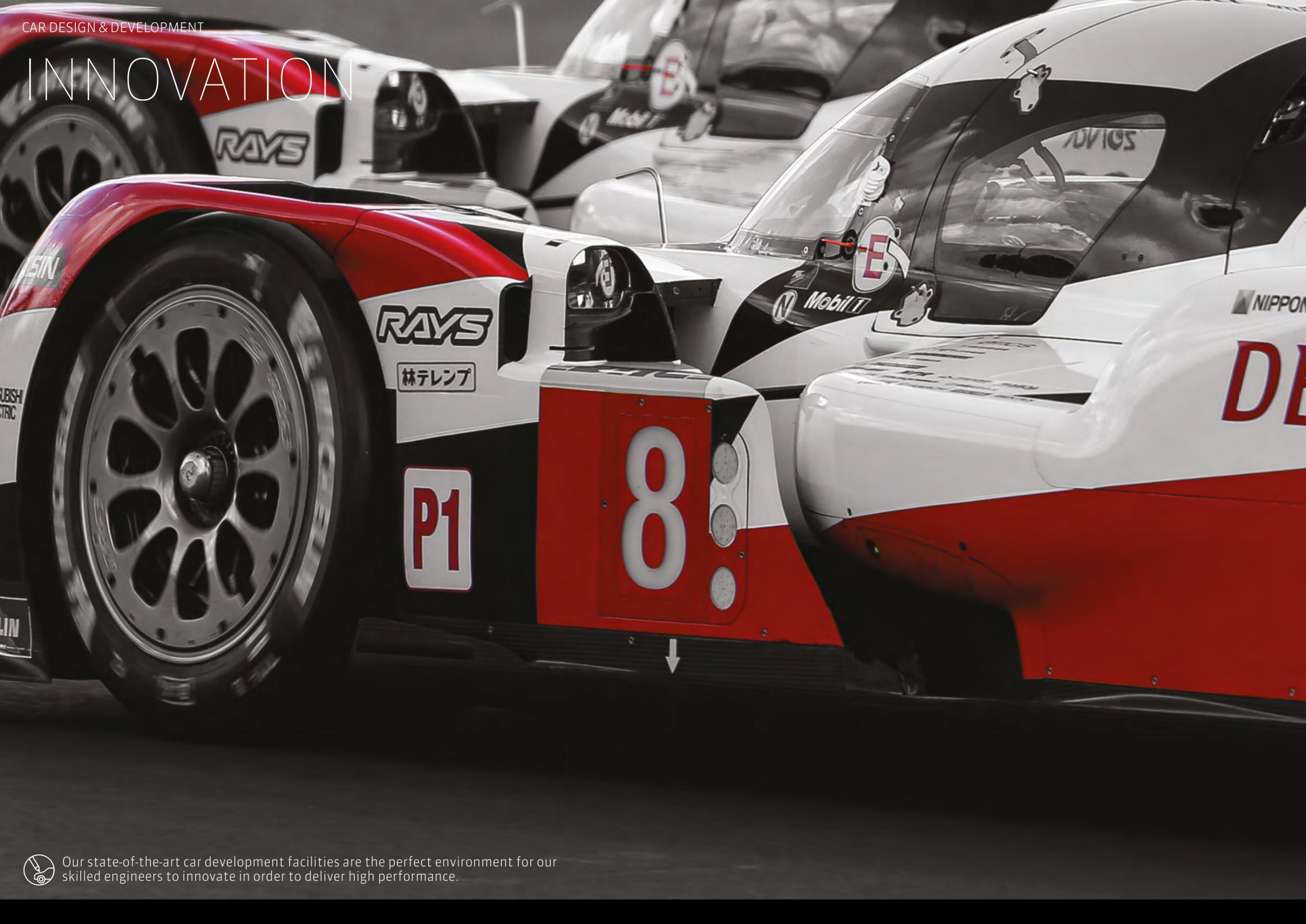
Constructed to the highest standards with no compromise on quality or functionality, the spacious 30,000m² facility and its highly-skilled staff of around 300 offer a remarkable range of machines, facilities and expertise.

TGR-E has developed into a one-stop shop for specialised services focusing on high-performance automotive services.

Our range of services encompasses the complete development cycle, with seamless interaction between systems and facilities to ensure speed, efficiency and, most importantly, quality.

TGR-E's complete range of processes and systems is far too lengthy to list in detail but one look at the highlights and it is clear that high performance and innovation drives all aspects of our Cologne facility and workforce.

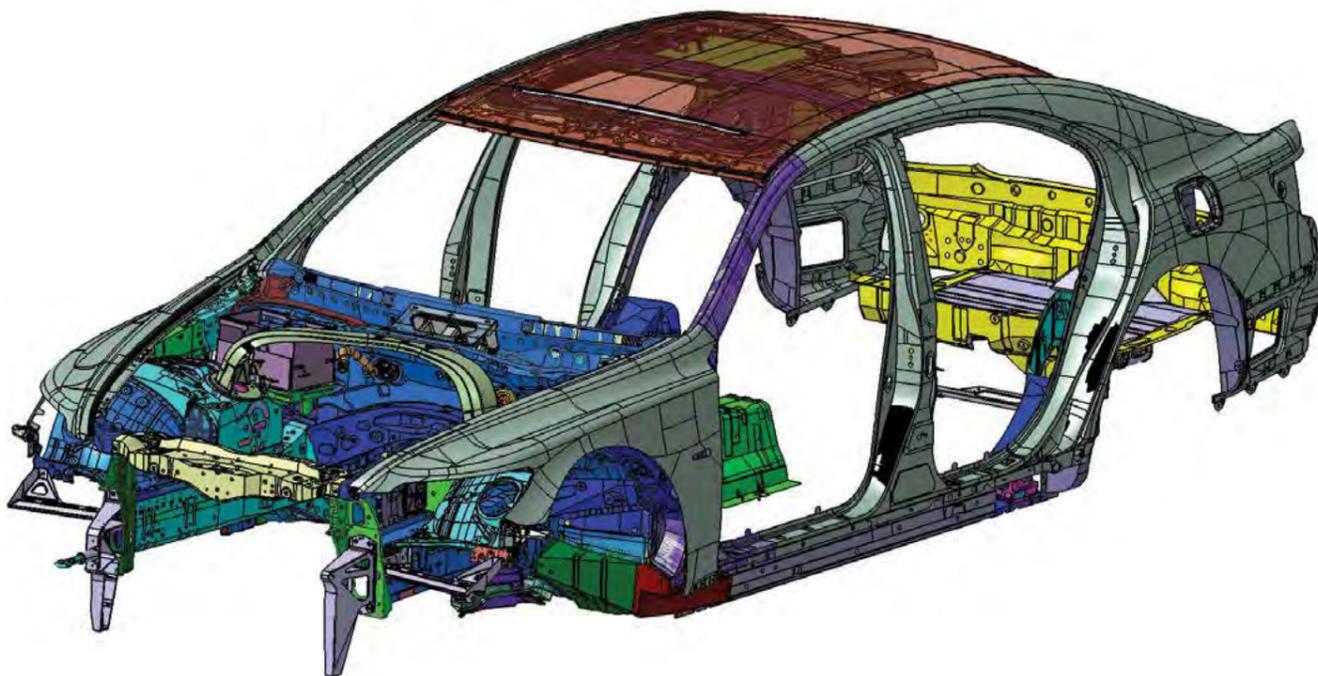
INNOVATION





PERFORMANCE PLANNING

CAR DESIGN COMBINES CALCULATION, DESIGN AND EXPERIMENTATION TO DELIVER HIGH PERFORMANCE ACCORDING TO YOUR SPECIFICATIONS.



With a highly-skilled team of designers and the facilities to back them up, we have all the necessary tools to realise your targets, whether in complete vehicle design or specialised part development.

TGR-E's car design department uses Catia V5 technology and offers part designs for almost any application, utilising our extensive experience in high-performance development while integrating our established time and cost-saving procedures.

Our calculation group will confirm structural efficiency through material and geometry optimisation while experimentation on our component testing rigs verifies calculations or proves prototype parts and systems, validating the achievement of performance targets and ensuring effective development.

Supporting the design and development process, our material specialists ensure you select the best solution for your performance and pricing specifications.

We have in-depth knowledge of high-performance composite design, including structural items and impact absorption

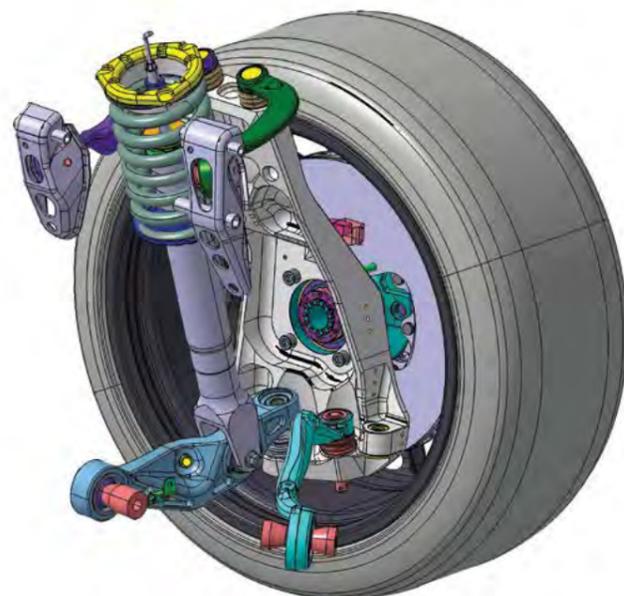
structures, with specialised calculation engineers to ensure appropriate strength and weight while various static or dynamic load cases can be tested in controlled ambient conditions.

TGR-E has experience of high-performance gearbox technology, including driveshafts and differentials, and offers a full range of developments supported by specific tests.

We also offer a variety of specialist component solutions from carbon and metallic suspension elements to steering or brake systems development, supported by a full range of calculation techniques, including topology optimisation and on-site testing.

Hydraulic system development is another area of expertise, with thorough simulation tools and the testing of servo valves and pumps, as well as other systems and components.

Additionally, integration with engine and component testing allows unified development of fuel systems and water or oil coolers, encompassing lay-out, design and experimentation.





VIRTUAL DEVELOPMENT TOOLS

DETAILED UNDERSTANDING OF HOW A COMPONENT OR FULL VEHICLE PERFORMS IS ESSENTIAL IN DEVELOPMENT WHICH IS WHERE OUR CFD AND CALCULATION SPECIALISTS CAN HELP.

We offer supercomputing power and detailed analysis, both in the field of computational fluid dynamics (CFD) and calculation.

Our CFD experts use powerful software to experimentally improve flow efficiency and performance, with up to 80 million hexahedral cells making up a complete vehicle model.

This delivers a full understanding of flow dynamics no matter what object requires testing and this process integrates perfectly with our wind tunnel, chassis calculation and simulator technology to create an efficient development cycle.

All you need is CAD geometry of your development item and our experienced engineers can create a model and begin CFD analysis.

An automatic post process suite streamlines the development process and eliminates the need for complex, time-consuming manual analysis, delivering a bespoke selection of

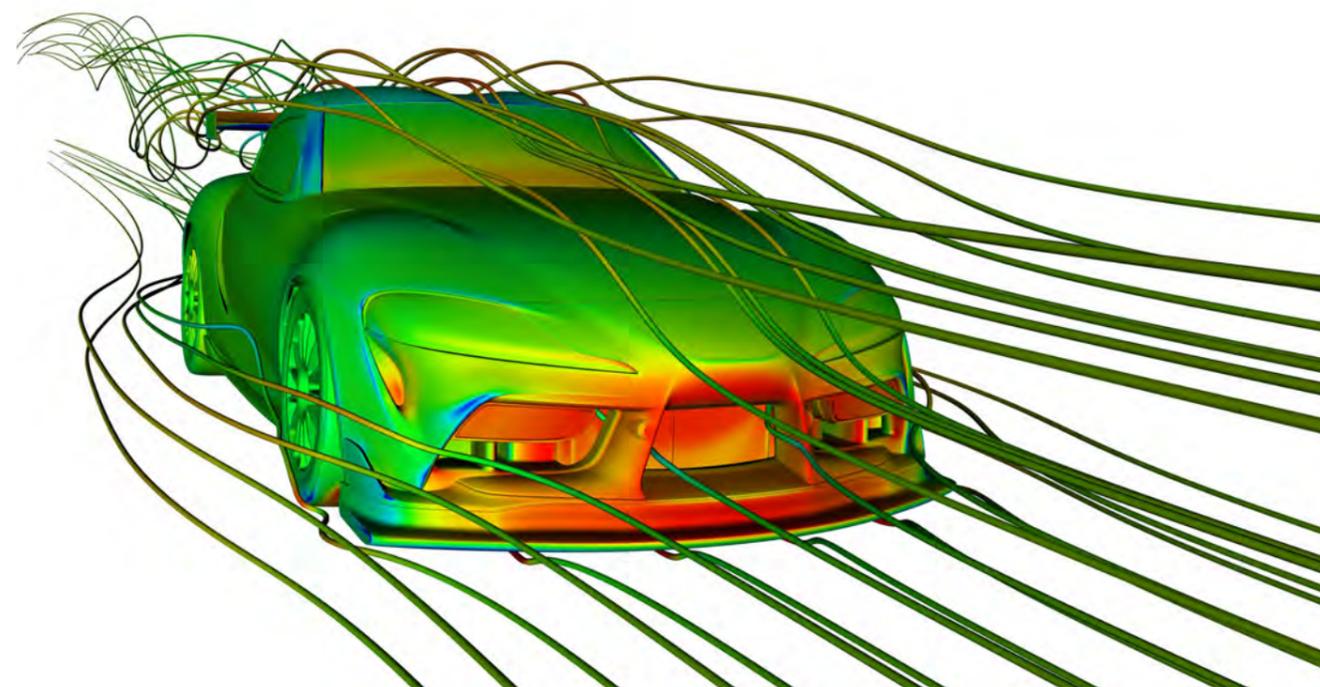
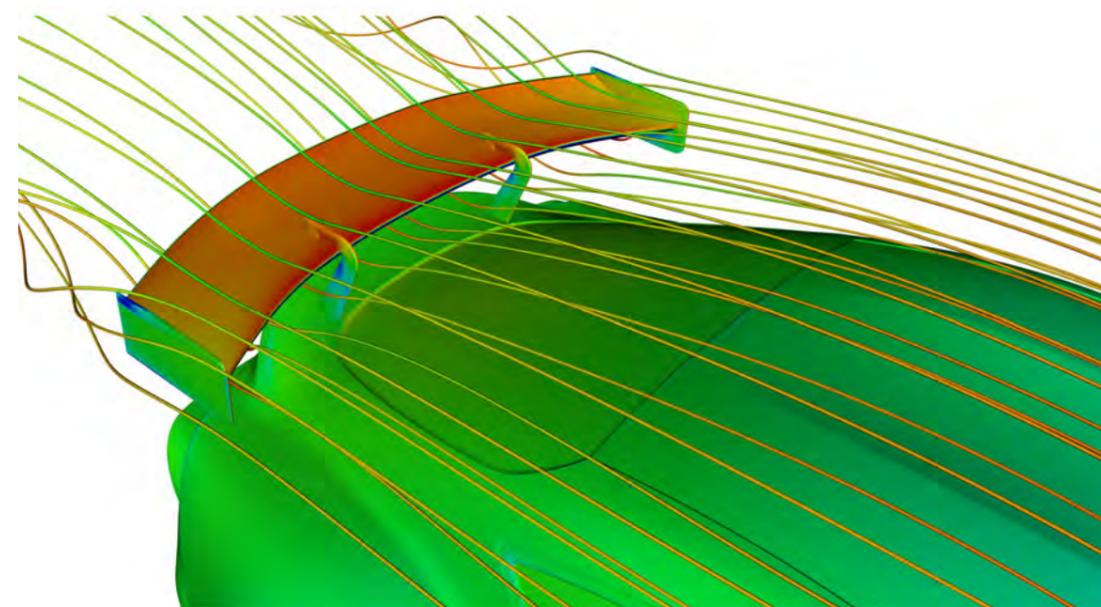
analytical charts and illustrations exactly matching your requirements.

Also in the virtual domain, TGR-E's chassis calculation experts will deliver a full structural calculation service to optimise parts for efficiency and weight reduction.

That enables our experts to run multi-body simulations with rigid and flexible models, with particular attention paid to modelling details and ensuring a clear correlation between simulation results and actual measurements.

In addition to standard chassis calculation procedures, TGR-E also offers a specialised carbon composite service, building on our experience in top-level motorsport.

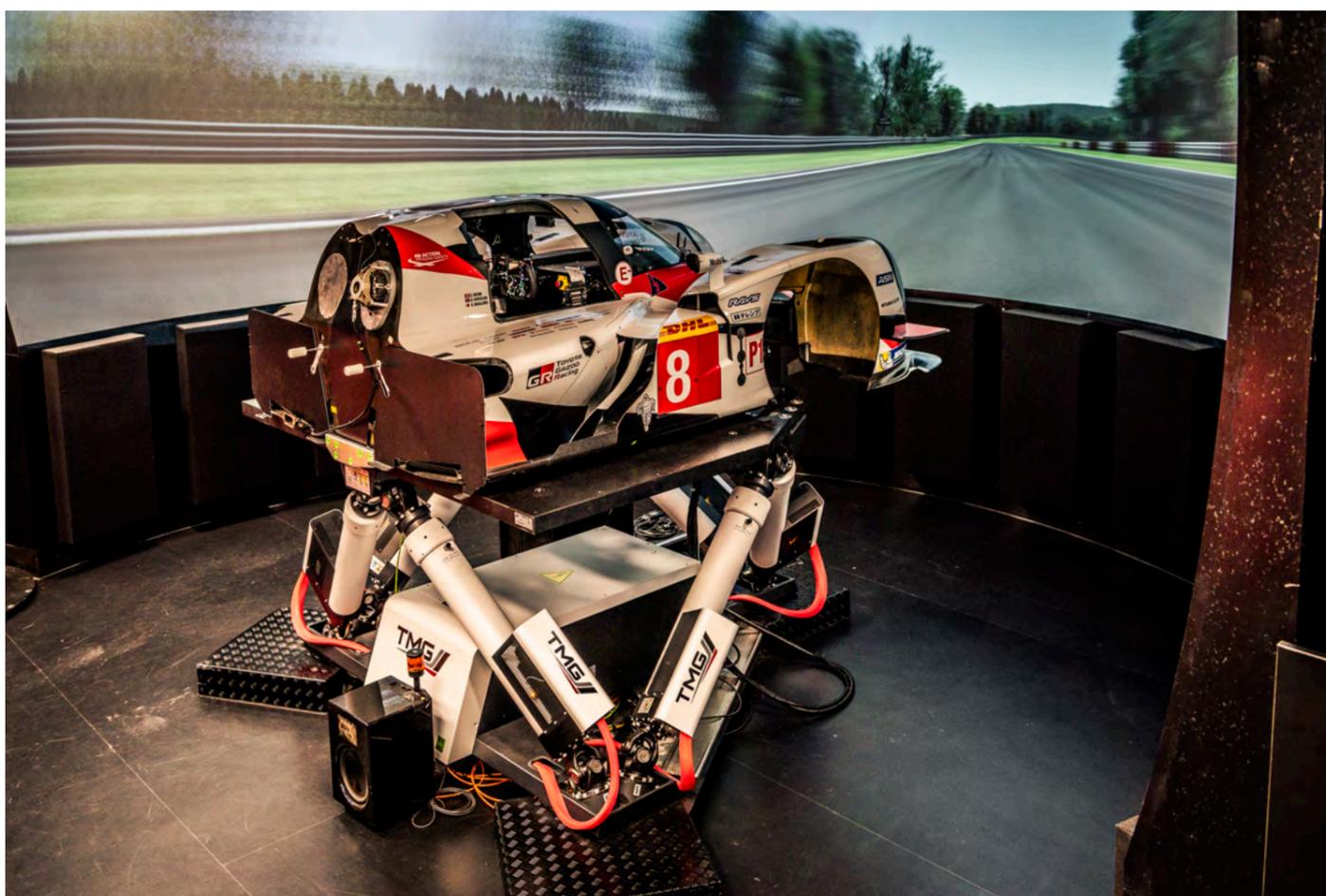
By establishing the optimum carbon fibre lay-up situation, you can reduce weight without endangering your ideal stiffness levels while dedicated composite design software ensures complete production accuracy and repeatability.





SIMULATION AND EVALUATION

TAKE ADVANTAGE OF THIS HIGHLY-ACCURATE VIRTUAL **DRIVING SIMULATOR** FOR DRIVER-IN-THE-LOOP ENGINEERING DEVELOPMENT OR FOR DRIVER ACCLIMATISATION PROGRAMMES.



The simulator is a dedicated engineering tool, featuring the latest technology to accurately reproduce the driving experience in a virtual environment.

The simulator is a flexible tool, adaptable for open or closed cockpit cars and with a fully parameterisable dynamic vehicle model.

With extremely detailed models of a variety of circuits as well as various vehicles, our simulator is a next-generation tool for car development where completely consistent and repeatable track conditions promote reliable evaluation that is directly relevant to your development programme.

In addition to its engineering function, the simulator is also a valuable tool for driver development. Programmes are available to familiarise drivers with different cars or circuits in a safe and predictable environment.

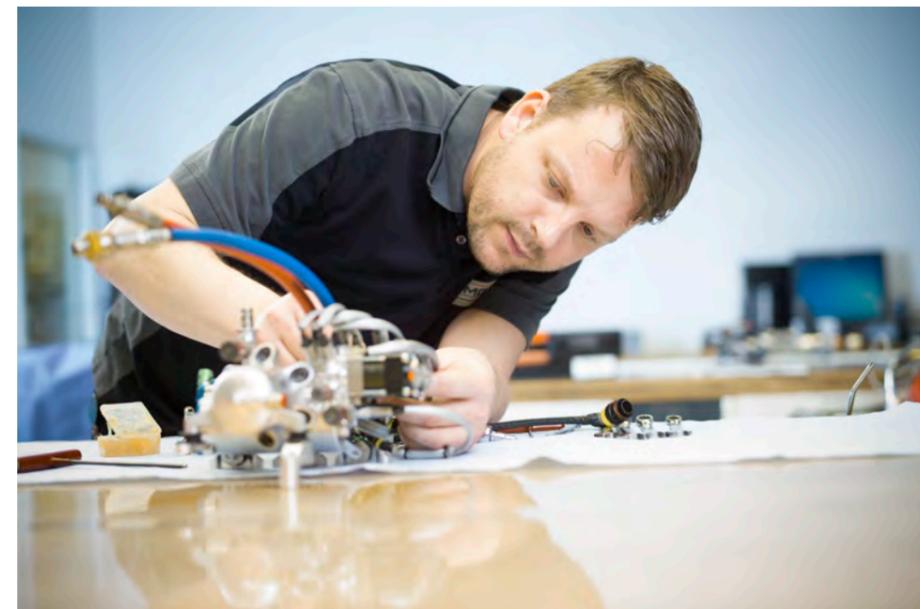
A six-degrees-of-freedom electric motion platform simulates driving sensations and an electric feedback motor creates realistic steering torque while our vehicle model translates wind tunnel kinematic data to simulate the effect of aerodynamic or mechanical changes.

Realistic conditions also offer a valuable opportunity for drivers and engineers to develop efficient communication and working practices in a controlled and flexible environment away from track pressures.



SPACE AND KNOWLEDGE

TGR-E'S CHASSIS WORKSHOP CAN MANAGE EVERYTHING FROM CONVERSION PROJECTS TO PROTOTYPE OR RACING CAR BUILDS, SUPPORTED BY TOP-LEVEL EXPERTS.



Large, clean-environment chassis workshop facilities, featuring five independent work bays, combine with fully-fitted clean rooms for hydraulic and gearbox preparation to provide the ideal environment for precision work.

Our history as a constructor of rally and prototype racing cars, as well as our long-standing road car tuning business, has created a team of highly-skilled technicians, who on average have long experience at the cutting edge of automotive technology.

The chassis workshop plays an integral part in our full-car development process as the place where innovation is turned into reality, after comprehensive design, development and production elsewhere in TGR-E.

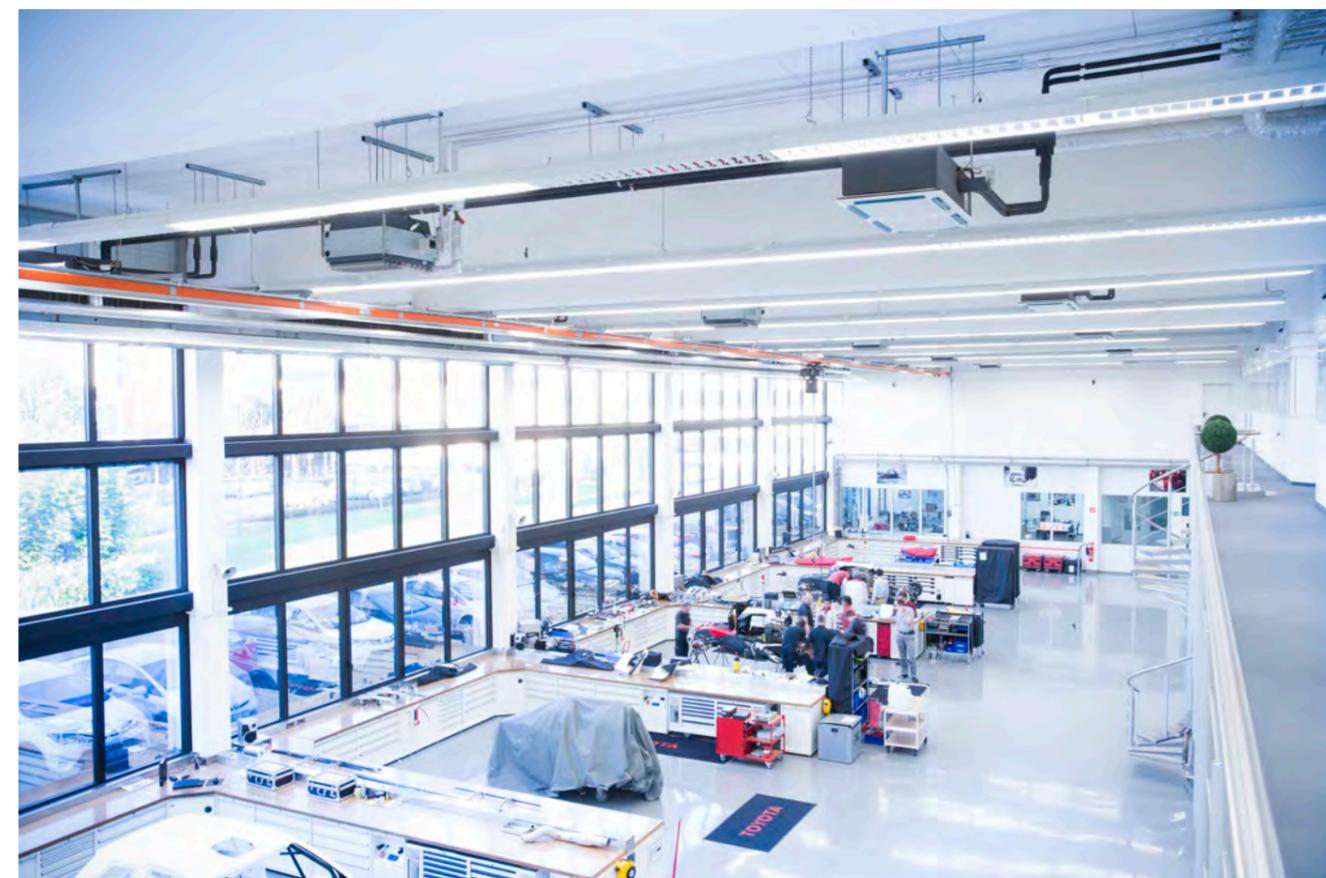
By integrating car build into the development process, which all takes place under one roof, we can ensure efficiency and ease of handling for the best possible results when your car hits the road or race track.

Our 760m² workshop and 600m² of separate working space were built from new in 2000 and conform to the highest standards of cleanliness and preparation while private bays can be screened off to guarantee confidentiality.

Facilities include lifting machinery, a flat bed for validation and direct HGV access.

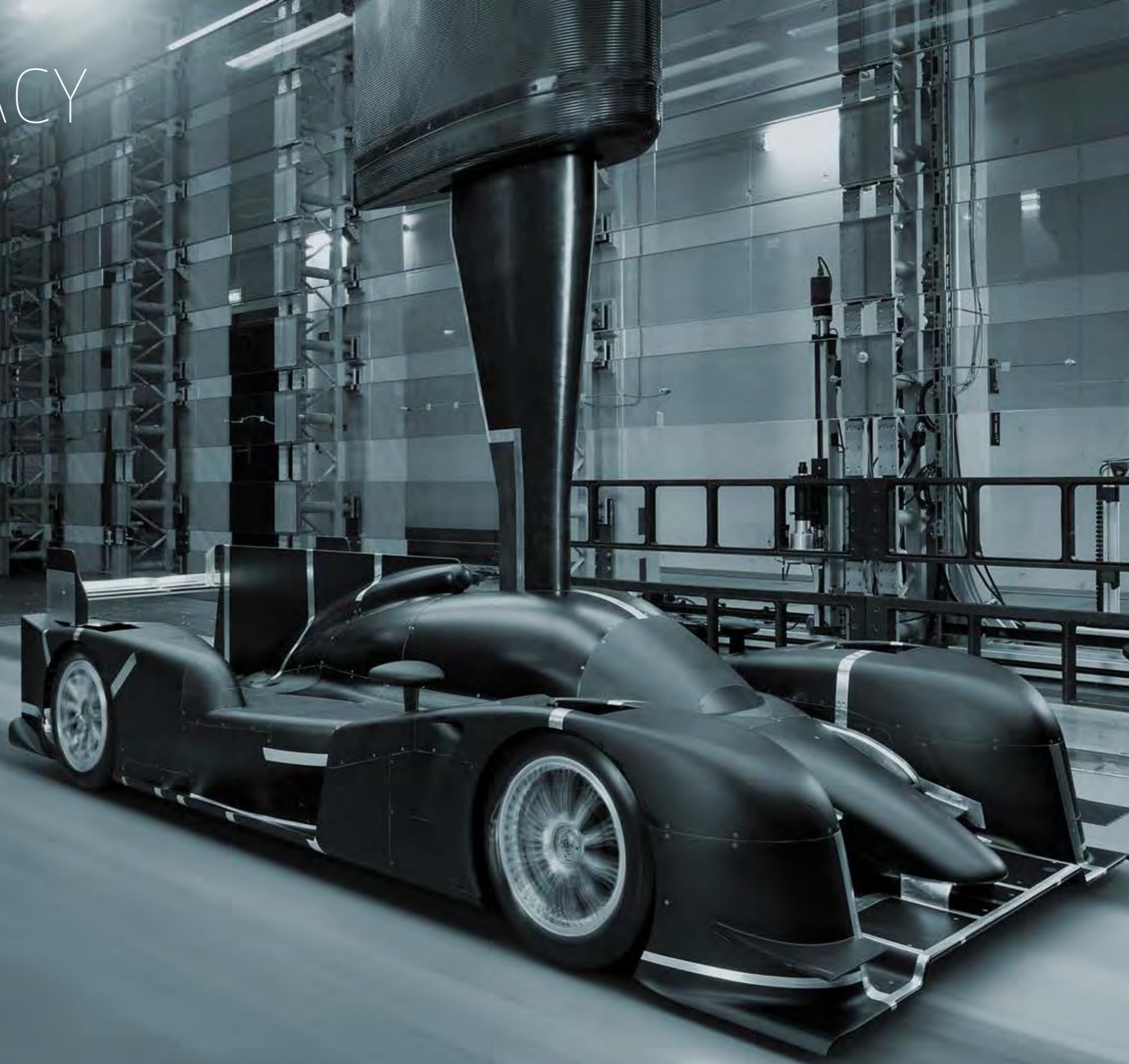
A dedicated team of technicians bring knowledge from various road car and motorsport disciplines to deliver the experience necessary to get the most out of any project.

Our facilities and personnel are perfect for feasibility studies to transform prototype projects into designs suitable for repeat production or road-to-racing conversions.



RESEARCH & DEVELOPMENT

ACCURACY



 TGR-E has an unparalleled range of R&D facilities covering everything from full-car testing to individual component analysis, all delivering incredibly detailed and accurate results.



THE ULTIMATE AERO EXPERIMENT

OUR TWO **WIND TUNNELS** ARE BASED ON CLASS LEADING TECHNOLOGY AND OFFER UNIQUE INTERACTION WITH TGR-E'S OTHER SERVICES FOR SPEED, ACCURACY AND MAXIMUM EFFECT.

Both our wind tunnels (WT1 and WT2) use a continuous steel belt rolling road with a maximum speed of 70m/s. Both wind tunnels are capable of up to 60% model testing whilst WT1 is also equipped for full-size cars.

Accuracy is the focus of TGR-E's wind tunnel services and our highly-advanced models include up to 512 pressure measurement channels, accurate to 7Pa, and laser technology to ensure correct positioning to 0.05mm accuracy. Even tyre deformation and exhaust gases can be simulated.

Both tunnels also benefit from particle image velocimetry (PIV) analysis to visualise flow structures in X, Y and Z planes within the wind tunnel.

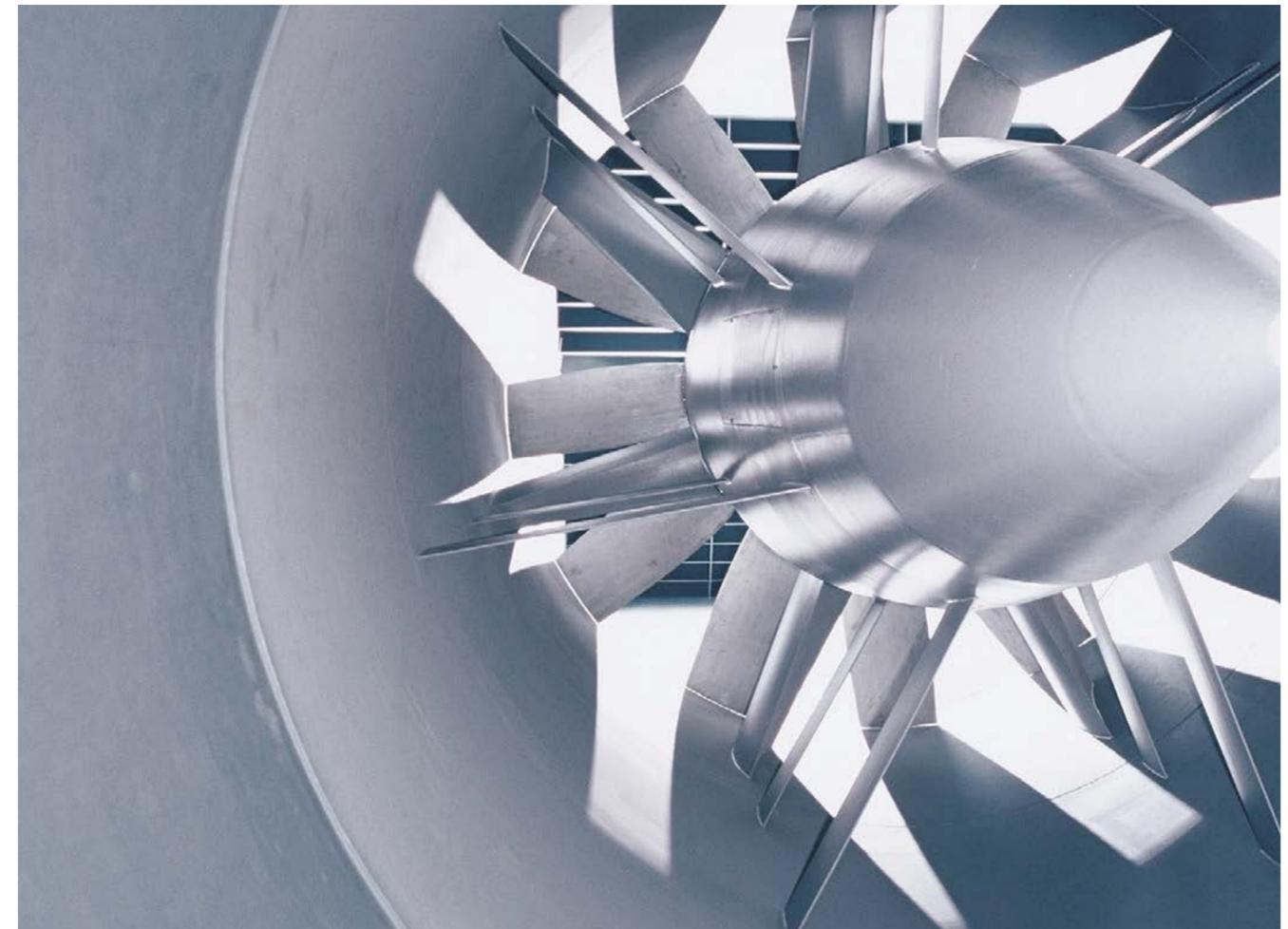
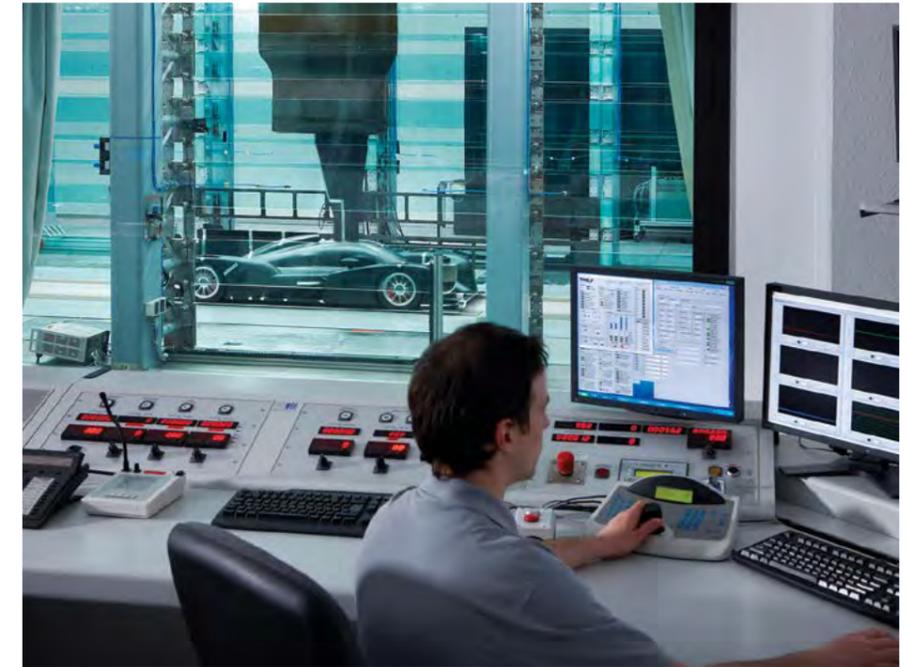
Our 'wheels on' approach offers representative suspension kinematics, active suspension pre-load with integrated pushrods and automatic steering.

At TGR-E we are dedicated to efficiency and true-to-life accuracy, so High Speed Data Acquisition (HSDA) and Continuous Motion Systems (CMS) are available on both tunnels.

In CMS mode, a user-defined programme of ride height, yaw, roll, steer and individual pre-load changes provides continuous motion on a predefined trajectory while the HSDA system is continuously acquiring data at high frequency.

This allows realistic road or track analysis, reducing tunnel time by as much as 70% and increasing the amount of useful data from each individual test compared to standard motion and acquisition systems.

A secure exclusive data analysis tool enables fast and reliable interpretation of results for efficient development. Our system synergies allow wind tunnel data to be streamed to the CFD and driving simulator departments.





A UNIQUE TESTING FACILITY

WITH A HUGE CHOICE OF TEST RIGS PERMITTING OVER 200 DIFFERENT TESTS, WE DEVELOP INDIVIDUAL COMPONENT TESTING SOLUTIONS.

The purpose-built 2,600m² advanced component testing area within TGR-E offers a comprehensive range of in-house calibration, customised component rigs, single axis test rigs, geometric measurement, centre of gravity and inertia verification, vibration testing and much more.

As well as complete-vehicle testing solutions, TGR-E also offers multiple examples of various single component rigs, allowing simultaneous testing to streamline development.

With rare commercially-available items such as a transmission test system, seven-post rig, a four-corner full-car road simulator, a transmission lubrication test system and rotary damper rigs, TGR-E has many options.

Every square metre of our extensive advanced component testing facility is accessible by overhead crane while a modular lay-out and multiple access points allow for complete confidentiality, no matter which services you require.

But it is not simply the choice of machines and processes which sets TGR-E out; our highly-skilled technicians come from a variety of industrial sectors and are adaptable to meet whatever challenge they face.

TRANSMISSION TEST SYSTEMS

TGR-E offers two rare and powerful testing rigs designed specifically for transmission durability, reliability and performance investigations.

The transmission test system is a high-dynamic and high-performance rig which permits real-time simulation of road or track conditions. Three electric motors drive the gearbox for dynamic response to replicate engine stresses. Two hydraulic rear axle road simulators apply suspension loads.

The system is perfect for development of road-ready clutch, launch and seamless gear shift solutions while inner and outer suspension

(uprights and hubs) can be analysed for performance and reliability.

Our transmission lubrication test system provides a comprehensive analysis of internal lubricant flow.

The system fixtures include a stationary rigid base on which are mounted three servo-electric motors, drive gears and moveable fixtures for pitch and roll to simulate the force vector for acceleration, deceleration and centrifugal forces.

This allows a transmission to be mounted and exposed to accurate pitch and roll motions while a drive motor delivers rotational input, recreating the drive normally produced by the engine.

By fully understanding lubricant flow in road/track conditions, lubrication of all internal gearbox components can be optimised for performance and total reliability. The system is also perfect for component tests to optimise items such as spray bars or oil pumps.





FULL-CAR ROAD SIMULATOR

The MTS 329 6DOF full-car road simulator creates a real-time simulation including a replay of all forces and moments.

Its six degrees of freedom at vehicle spindle gives control over vertical, lateral and longitudinal translation, brake/drive torque, camber moment and steer moment while four additional actuators can simulate downforce.

This comprehensive test solution simulates multi-axial inputs to a vehicle to replicate its true stress state at any given moment and includes $\pm 44^\circ$ steering simulation and heat application for unparalleled realism.

The full-car road simulator is the ultimate complete car and component test rig, for front and rear axle fatigue testing, full car stiffness tests and analysis of suspension sub systems.

SEVEN-POST RIG

Our seven-post rig adapts to most vehicles and is a valuable development and proving tool for original equipment manufacturers and high-performance car developers.

Our baseline configuration, featuring one frontal downforce actuator and two at the rear, is ideal for optimising the vertical dynamics of cars generating large amounts of downforce. For vehicles without significant downforce our four-post configuration, with no downforce actuators, is the best solution.

Easily establish the ratio between vertical force and pushrod force or check your ride height control systems.

Accurate stiffness measurements, friction investigations and pushrod-to-vertical-load ratio checks can be achieved using static body configuration, where a chassis is clamped securely to the floor while wheels are moved independently by the corner posts.

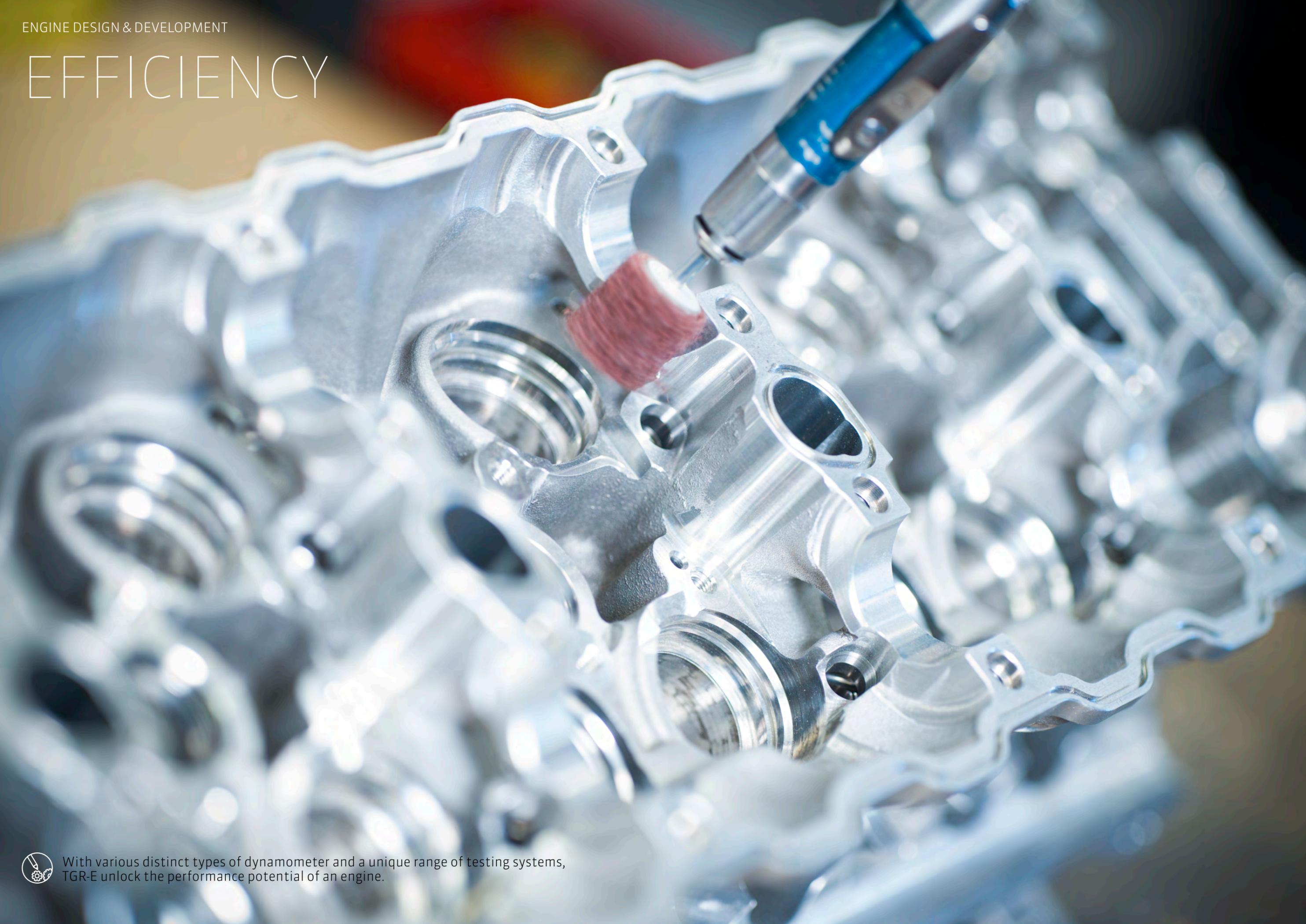
The versatile and robust seven-post rig also carries out proof testing of dampers, torsion bars, springs and wishbones, as well as complete car suspension friction measurements and inerter mass optimisation. For road vehicles also a Four-post mode is available (i.e. comfort rating).

COMPONENT TESTING

For an overview of the additional test facilities which exemplify our commitment to flexibility, performance and accuracy, check out the summary below.

- Multiple suspension component rigs
- Steering system test rigs
- Static brake test rig
- Component testing machines, analysing force, torque and temperature
- Centre of gravity rig, also for accurate three-directional inertia tests
- High-performance shaker with climatic conditions for fatigue testing
- Load frames for damper, material and suspension testing (50, 100 & 500 kN)
- High-frequency material test rig
- Uni-axial damper test system including rotary damper capability
- Stress test rig for carbon composite parts
- Driveshaft test rig to pre-stress or rate driveshafts
- Three-dimensional coordinate measurement system
- Geometric optical measurement, with post processing tools such as for complete car stiffness maps
- Scanning of surfaces, such as static tyre deformations under load
- In-house calibration for force, torque, pressure, displacement, angle, acceleration, electrical dimensions and temperature
- On-site machine shop for simple adaptations and jig modifications

EFFICIENCY





THE POWER BEHIND YOUR PROJECT

THE FLEXIBLE APPROACH AND COMPREHENSIVE RANGE OF SOLUTIONS IN **ENGINE DESIGN** CAN BE TAILORED EXACTLY TO YOUR PROJECT.

Bring the benefit of experience to engine development by utilising expert engineers, who have worked in a variety of different sectors within the automotive industry.

With the support of our engine calculation department, utilising the power of computational fluid dynamics (CFD) and the finite element method (FEM), you can achieve marked improvements.

Our integrated development cycle focuses on more than simply power and efficiency; drivability, dynamic response and fuel economy as well as gear shift refinement are specialities.

TGR-E's engine design department looks at every detail of your project, including materials, coatings, surface textures, fuel spray velocity, calibration, emissions and much more.

Heat and friction analysis is carried out to the highest possible standards, with high-

performance solutions developed quickly and reliably thanks to a culture of rapid problem solving.

All developments can be analysed thoroughly in our extensive engine and comprehensive testing suite, where detailed processes verify a complete range of specific performance parameters.

Utilising bespoke testing systems, we are able to analyse engine behaviour in precise detail, allowing continuous improvement and refinement.

Our materials department can assist the process through advanced material development while microscopic analysis accurately determines the cause of any failure, allowing immediate remedial work.

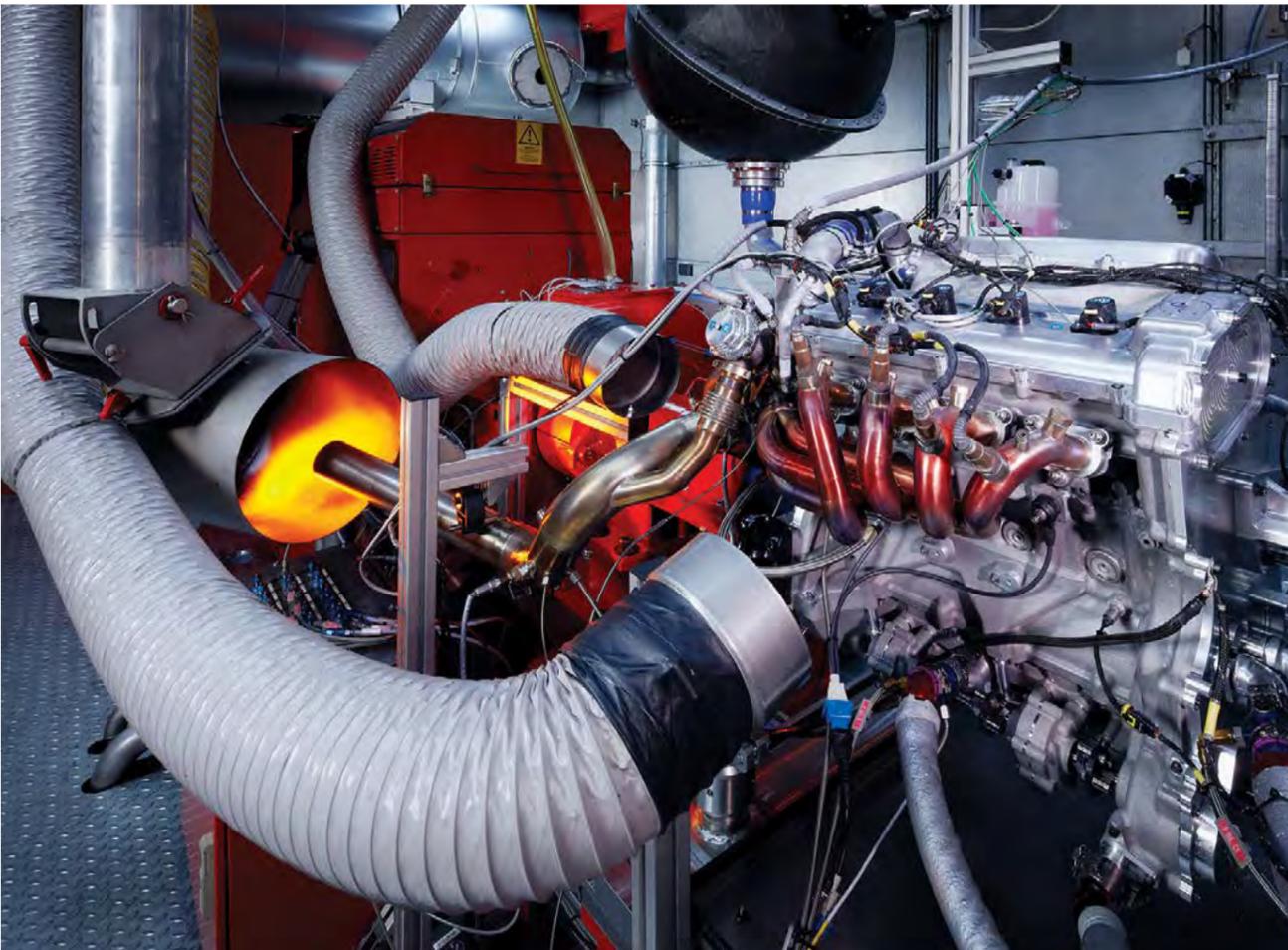
Completing our comprehensive engine design and development portfolio, the 1,100m² engine workshop features 21 assembly and five disassembly workbenches, manned by highly-skilled technicians.





UNDERSTANDING ENGINE PERFORMANCE

OUR SUITE OF ENGINE DYNAMOMETERS HAS A PROGRAMME FOR EVERY PROJECT, FROM ROAD CAR TO HIGH-PERFORMANCE AND HYBRID ENGINE ANALYSIS.



Our distinct varieties of dynamometer can meet all your performance testing needs, from high-power internal combustion engines to smaller electric or hybrid units, so TGR-E has a testing solution for most projects.

The TGR-E experts have experience of various sectors within the engine development and analysis industry while modified software gives greater flexibility.

Our complex car model allows virtual simulation and hardware-in-the-loop system is customisable to suit virtually any vehicle, ensuring entirely repeatable tests linked directly to your specific requirements.

With various dynos available, all accurate to less than 1%, TGR-E has the capacity and flexibility to meet the engine or motor analysis requirements of most industries.

We have the capability to test hybrid or electric motor systems, with

single-component and full powertrain test benches dedicated to hybrid development.

The extremely accurate single-cylinder dyno is designed for minute analysis of single cylinders from high-performance engines or complete small capacity engines of around 100PS. With no neighbouring cylinders, there is less outside influence on results while a greater variety of tests can be carried out.

Our multi-function high-dynamic dyno accurately simulates road or track driving conditions based on a defined plan, with up to 22,000rpm engine speed, 3,000rpm wheel speed and 800kW engine power. Among its various uses, the dynamic dyno is also ideal for exhaust reliability studies and launch development.

The standard dynos monitor behaviour at constant speed for endurance and performance analysis as well as engine calibration. It is the perfect way to confirm engine characteristics at constant speeds.

An additional 320km/h, two-axle rolling road dyno allows in situ testing of a complete car, with 550kW power per axle and a maximum axle load of 2,400kg. Suitable for manual and automatic transmissions, this specialist test rig allows evaluation of drivability, reliability and fuel consumption.

- Endurance testing
- Playback of specific scenarios
- Powertrain development
- Gear shift control development
- Drivability tuning
- Fast in-cylinder sampling
- Exhaust gas analysis
- Fuel efficiency tuning
- Calibration and mapping
- Lubricant endurance testing
- ECU development
- Pressure indication
- Heat and friction analysis



ANALYSIS IN DETAIL

UNIQUE ENGINE COMPONENT TESTING RIGS PUT EVERY ELEMENT OF YOUR ENGINE AND COMPONENTS TO THE TEST, SO CHALLENGE US TO DELIVER THE ANALYSIS YOU NEED.

Many of our specialist test rigs have been developed in-house and can be adapted exactly to your requirements for in-depth analysis of fuel systems, radiator core performance, pneumatic and steel valve spring behaviour or clutch and launch systems.

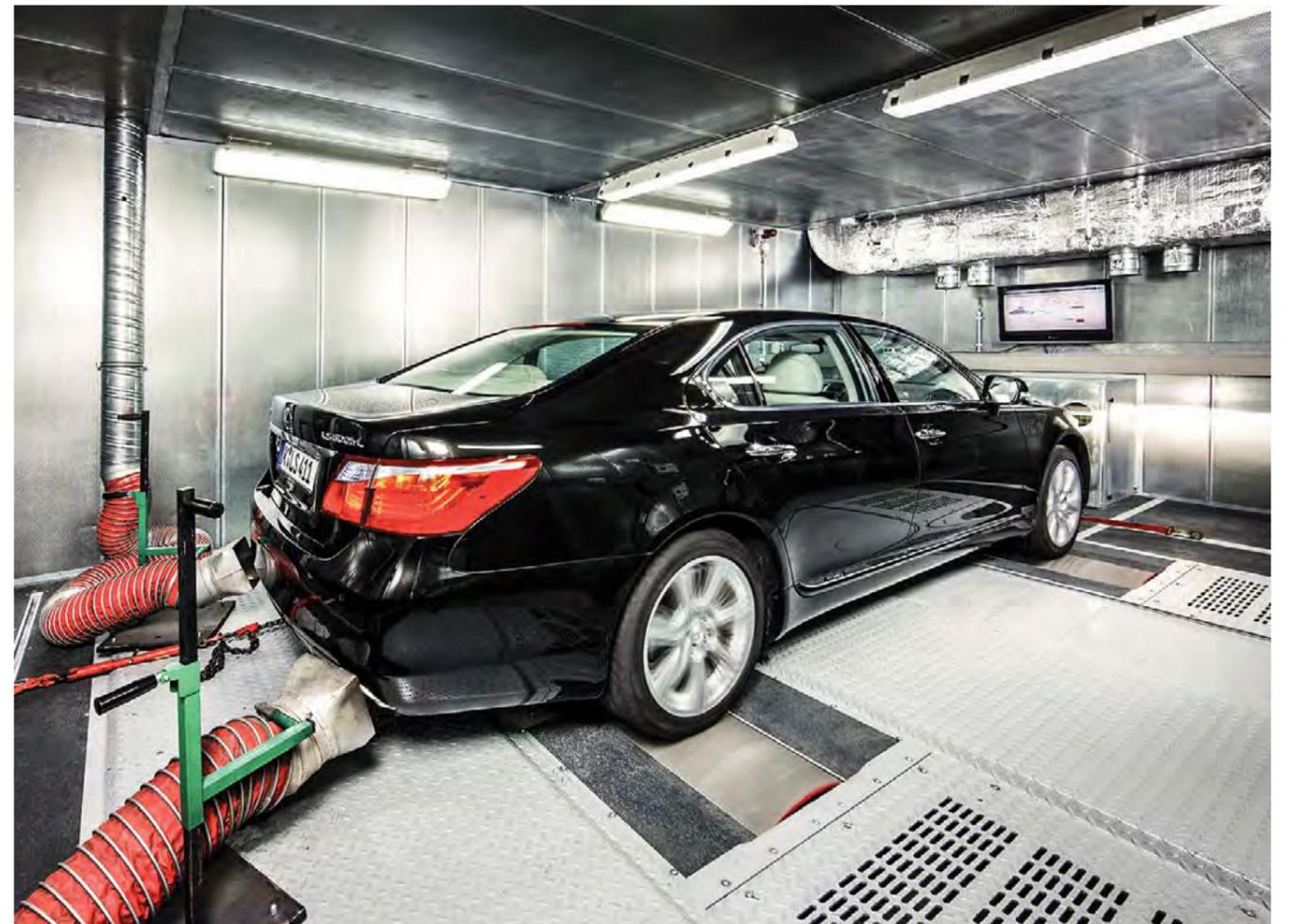
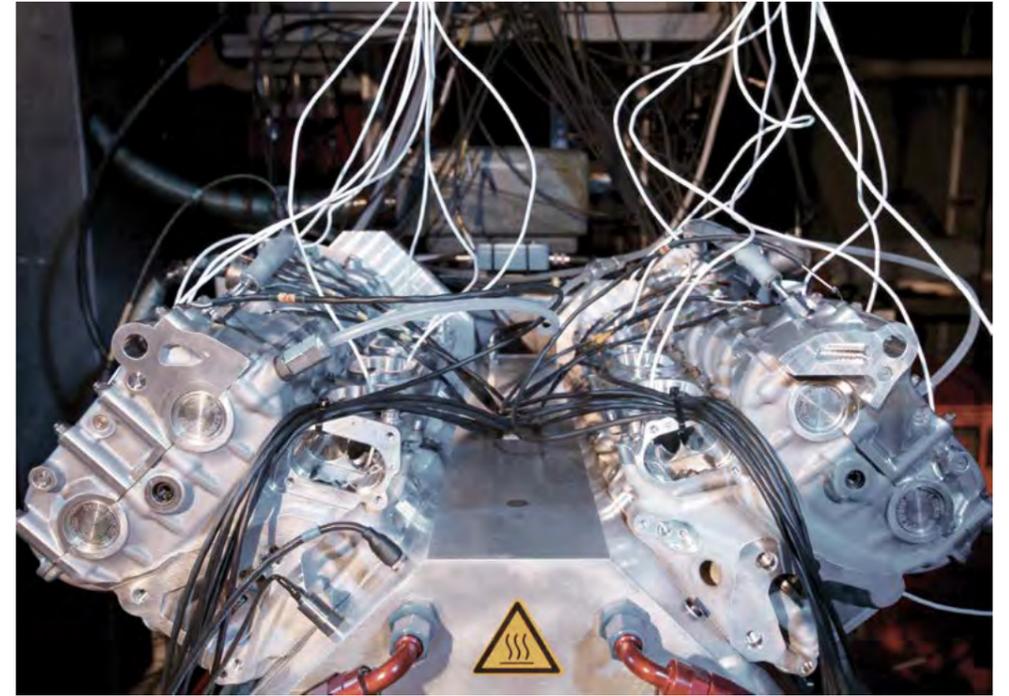
Our cam rig for air and valve spring measurement can run up to 22,000rpm engine speed with an 110Kw electric motor. A 70-channel measurement system, six-channel laser system and high-speed camera provide full valve motion analysis.

The adjustable radiator wind tunnel runs at realistic air speeds up to a maximum of 12m/s for lifelike analysis of radiator core performance.

A unique fuel system testing facility incorporates the most comprehensive analyses available, including a fuel pump test rig, fuel rail calibration rig and single injector test and development rig.

Heat rejection and friction analysis is a particular speciality while the latest technology is utilised to provide incredibly detailed data on individual components.

High-speed cameras and lasers deliver incredible accuracy, as does the military-grade thermal camera, which requires a specific permit from the authorities.



IMAGINATION



 To break the mould and set new standards for the industry requires imagination and pioneering spirit; exactly the qualities which make our EV Technology Development Centre a sector leader.



PIONEERING ELECTRIC VEHICLE DEVELOPMENT

TGR-E HAS PROVEN ITS **EV TECHNOLOGY** IN THE TOUGHEST ENVIRONMENTS, SETTING NEW STANDARDS USING OUR IN-HOUSE DEVELOPED ELECTRIC POWERTRAIN.

EV development began in 2007 for Formula 1 projects and since that time, through the use of cutting-edge technology, TGR-E has pioneered EV technology for motorsport and road vehicles.

Thanks to electric records at world-renowned motorsport venues such as the Nürburgring Nordschleife and Pikes Peak International Hill Climb, our EV technology established itself as the performance leader in this sector.

TGR-E's key competences cover the whole spectrum of EV technology, ranging from complete electric powertrain design and integration to individual components such as battery management, vehicle control and energy management systems.

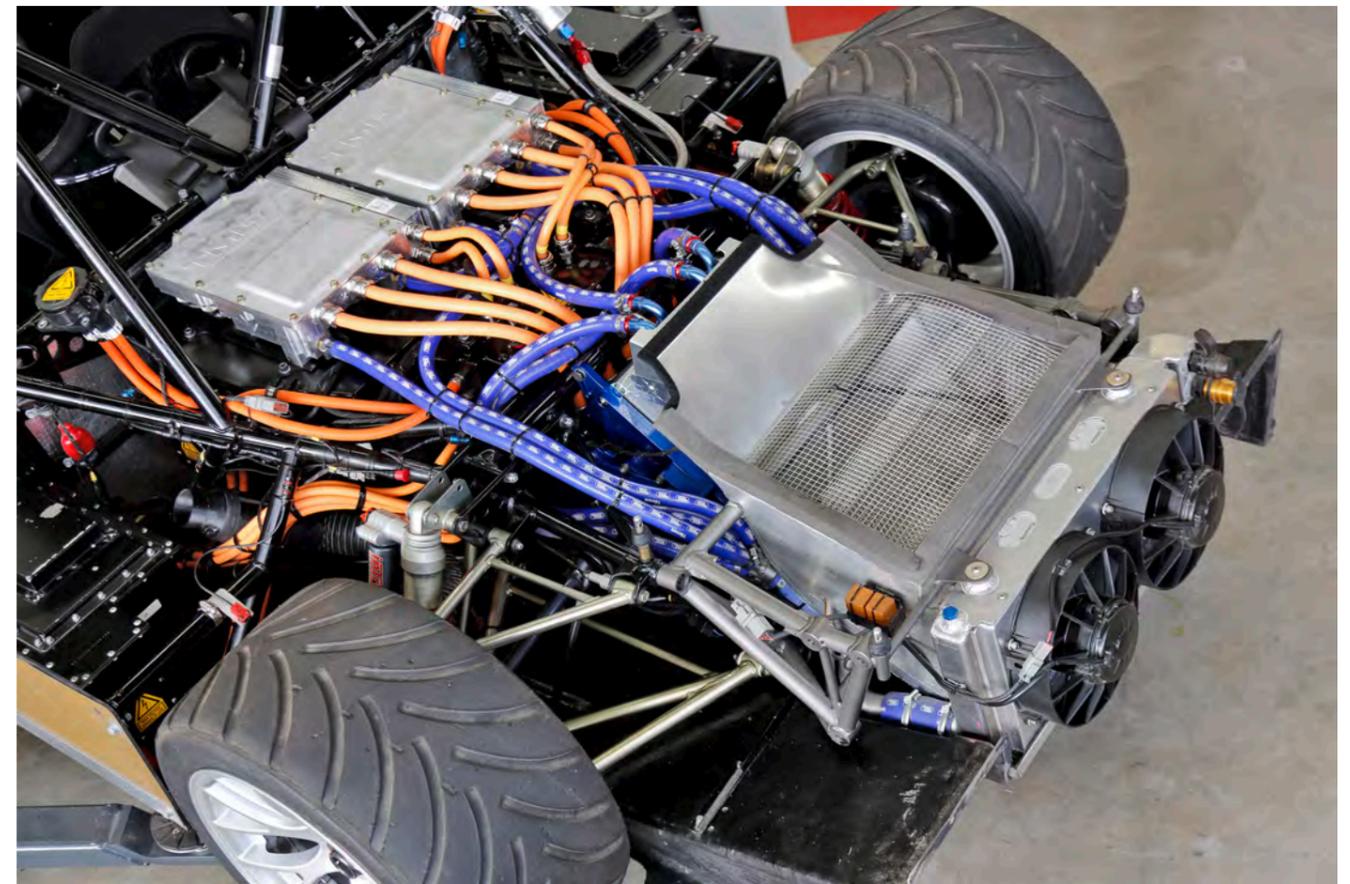
Strong relationships with class-leading partners allow us to offer proprietary component development for high-performance batteries and motor/inverter technology.

In addition to development of the powertrain itself, TGR-E also innovates in the field of infrastructure integration and innovative charging technology plus the technologies required to utilise renewable energy for mobility and transportation.

This holistic approach, which also encompasses vehicle-to-x communication and energy transfer, ensures a complete solution for road or track EV developments.

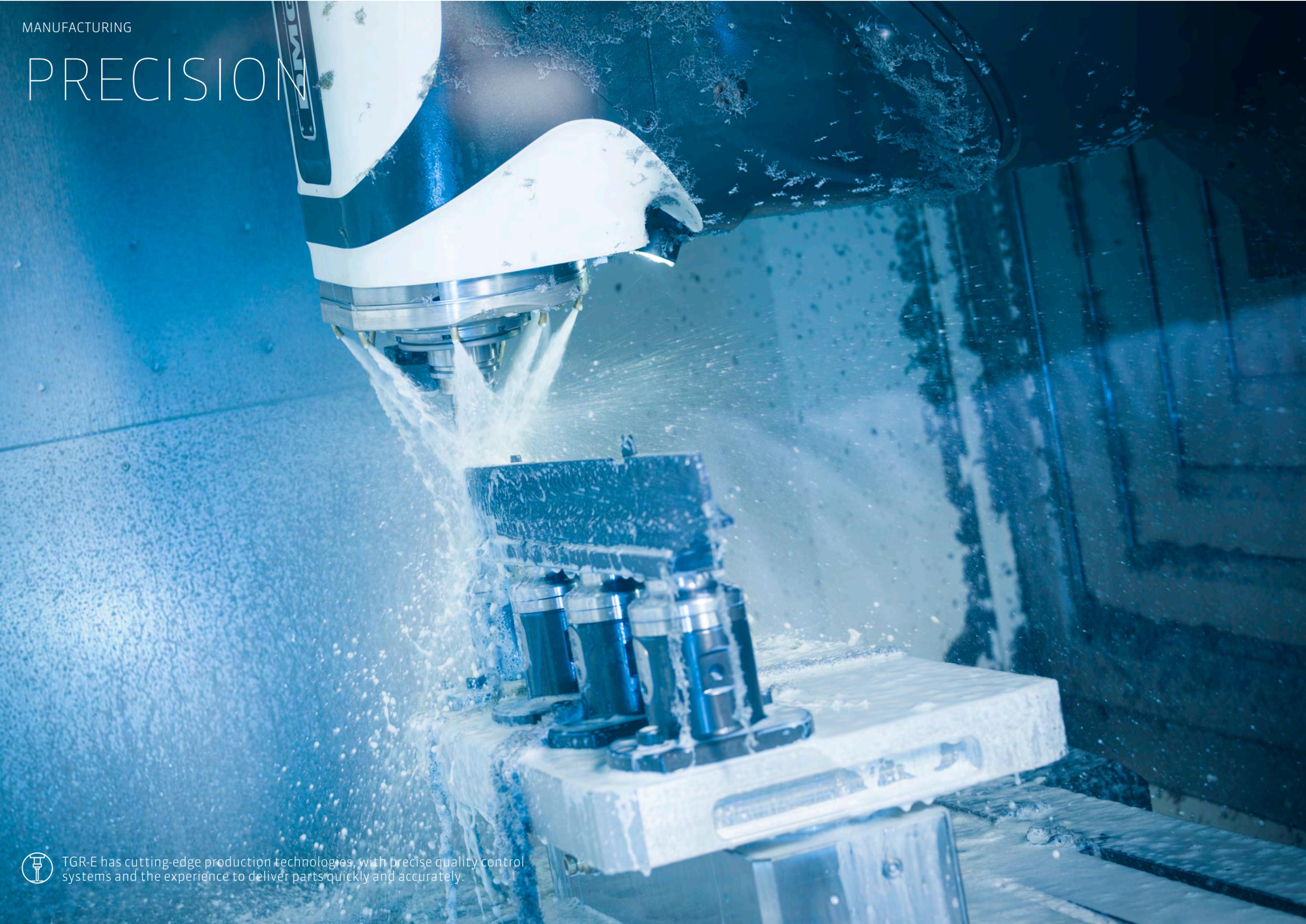
Our EV Technology Development Centre has a team of experienced professionals and also provides the latest hardware in a constantly-evolving field.

As a European hub for EV technology and beyond, TGR-E is the partner of choice for TOYOTA companies and third parties, thanks to its core aptitudes and unique vision.



MANUFACTURING

PRECISION



 TGR-E has cutting-edge production technologies, with precise quality control systems and the experience to deliver parts quickly and accurately.



SPEED IS OF THE ESSENCE

WITH A LARGE ADDITIVE MANUFACTURING CAPACITY AND PARTNERSHIPS WITH KEY SUPPLIERS, TGR-E IS AT THE CUTTING EDGE OF TECHNOLOGY.



TGR-E counts on a range of the latest machines and materials to deliver a fast and efficient prototyping solution.

This flexible and adaptable technique allows even the most complex objects to be produced as single structures whether for use as finished parts or wind tunnel models, using the latest materials.

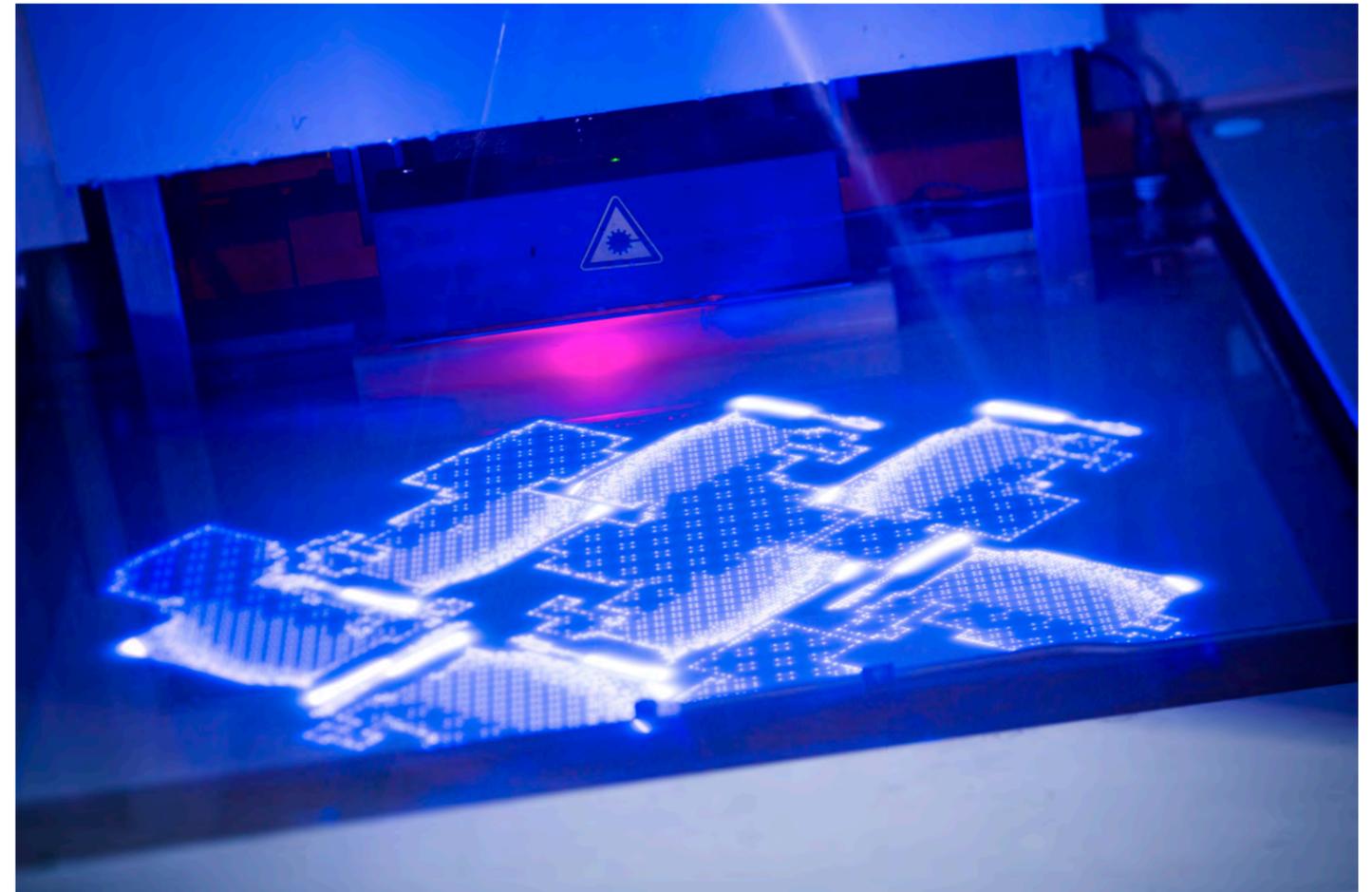
Our additive manufacturing systems have been refined in the high-pressure world of motorsport, where as many as 2,000 unique parts a month were required, but our skilled technicians come from a variety of backgrounds and have the knowledge to take on any project.

Using their expertise and TGR-E's state-of-the-art technology, the additive manufacturing department can produce highly-detailed

items in small numbers of prototypes or larger production quantities.

There is no faster or more economical way to accurately produce precision items to exact specifications, but the real advantage of this technology is its flexibility.

No matter where you are in the world, production can begin on an item within just a few hours - simply deliver a suitably-detailed 3D CAD model or STL file and we will quickly turn your innovation into reality.





LIGHTWEIGHT BUT HIGH VALUE

OUR VERSATILE **COMPOSITES** DEPARTMENT COMBINES EXPERIENCE AND HIGH-QUALITY HARDWARE TO CREATE BESPOKE SOLUTIONS PRECISELY TO YOUR REQUIREMENTS.

One large autoclave (with 420 x 160cm curing platforms) provides the capacity to prepare anything from small parts right up to items the size of a complete car.

To meet the extreme demands of prototype development, we have refined the carbon production process for high structural integrity and tight tolerances and this technology is now available to enhance projects of all sizes from all sectors.

We offer a full choice of materials to suit the precise needs of your project, from Kevlar to glass, carbon or hybrid fibres, with a filtered, clear-air, positive-pressure Clean room area eliminating the risk of contamination.

Safety critical items can be produced in complete confidence thanks to our thorough on-site testing procedures and high-standard quality control systems, while long experience of prototype development has enhanced our problem-solving capacity.

Our advanced pre-impregnated (pre-preg) process, utilising Kevlar, glass, carbon or hybrid fibres, is the optimal choice when you need maximum strength combined with minimum weight.

To complement this top-quality composite service, TGR-E also benefits from pattern, tool and final product machining which is supported by any programming requirements.

TGR-E's aim is to provide a range of options to meet a project's precise requirements, so for a cost-effective yet ultra-reliable product, we also offer a wet carbon fibre lay-up service.





PRECISION MILLING AND TURNING

OUR CNC AND FABRICATION DEPARTMENTS HAVE THE IDEAL CAPACITY AND EXPERTISE FOR DETAILED MILLING WORK AND TO CATER FOR HIGH-PERFORMANCE FABRICATION NEEDS.

The CNC department has a varied selection of milling and turning machines bringing speed, precision and efficiency to a variety of projects.

From incredibly accurate units capable of machining over an area of up to 1m² to an accuracy of 4 microns, to large machines for heavy-duty tasks, TGR-E utilises a variety of solutions.

Our 3,200m² CNC area has the flexibility to meet requirements big or small and specialises in extremely complex high-performance items, with all parts meeting the strictest quality and reliability checks.

Automated machinery gives us the option of uninterrupted full-capacity production around the clock seven days a week while full connectivity means one machine can control all others to bring efficiency and reliability.

Quality control is a matter of great pride, nowhere more so than in the CNC department where the highest standards are used to ensure all approved parts meet our clients' expectations.

Three-dimensional measurement machines examine each item down to a single micron, leaving nothing to chance for performance or safety critical parts.

FABRICATING SUCCESS

From road cars to World Rally cars and motorsport prototypes, our fabrication specialists have a wealth of experience in completing demanding and bespoke projects. TGR-E's skilled fabricators are familiar with a variety of materials, including special materials such as Inconel. In addition, a stringent quality control procedure, combined with experience gained at the top level of motorsport, ensures all projects are completed to the highest standards.

Facilities includes large angle-forming presses, a welding dome with an Argon environment to reduce the risk of oxidisation and tube end forming machines.



BY PLANE, TRAIN OR AUTOMOBILE: TGR-E IS AT THE HEART OF EUROPE

TOYOTA GAZOO Racing Europe is just a short journey away, at the heart of Europe.

Cologne lies at a crossroads in Europe, with three major highways passing through the city and connecting to the main routes in Belgium, France, Holland and beyond to bring cities like Brussels (200km), Amsterdam (270km), Paris (500km) and Zurich (580km) within easy reach.

Even a journey across, or under, the Channel from Great Britain to TGR-E is straightforward, with regular ferry or Eurotunnel crossings from Calais just 400km away.

Cologne Bonn airport, the sixth largest passenger hub in Germany and its second biggest air freight terminal, is less than 25km from TGR-E while Düsseldorf at 65km and Frankfurt at 200km are also within easy reach.

For those who prefer the train, modern high-speed rail links connect Cologne to Brussels, Paris and Frankfurt faster than ever before while connections to most major European stations make a stop in the city.



WHAT MORE CAN WE SAY? CONTACT US FOR MORE INFORMATION

With so many services on offer, a brochure can only give an overview. So for a detailed discussion on how to extract the full potential of your project or product simply call or email for a no-obligation consultation to understand exactly what we can offer.

As a multi-national company we have representatives speaking all major European languages and several more besides, so get in touch by phone on +49 2234 1823 2420, email contact@tgr-europe.com or check out www.tgr-europe.com to find out more.



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