



GKN Driveline



Ideas in Motion ➤

About GKN Driveline

GKN Driveline is the leading automotive driveline technology and systems engineer. With a comprehensive global footprint, we design, develop, manufacture and integrate an extensive range of driveline technologies for over 90 % of the world's car manufacturers.

A market leader in CV Joint Systems, all-wheel drive and electric mobility, our technologies feature in everything from the smallest ultra low-cost car to the most sophisticated and dynamic premium vehicle. Our capabilities span two-wheel drive, all-wheel drive, hybrid or pure electric vehicle architectures.



Why GKN Driveline?

Market leading technologies

We are the forefront of driveline trends and technology, influencing future vehicle architectures harnessing conventional, hybrid and electrical power. Our unmatched driveline expertise is delivering tomorrow's sustainable, grand-aligned driving experiences.

GKN Driveline Niche Customers, Motor-sport and Aftermarket (NMA)

GKN NMA takes care of the global aftermarket for GKN Driveline. In the replacement parts market, optimising the supply chain to comply with customer needs is the number-one priority, with low volumes and a broad product portfolio the order of the day. Part of this is ensuring we process products in a manner that conserves resources, which is an increasingly important factor and one that contributes to protecting our environment.

Very low volumes, state-of-the-art technology and individual solutions. While this may represent a squaring of the circle for most industrial companies, it's part of everyday business for GKN NMA. Optimised processes, the latest production technologies and access to the full breadth of GKN's expertise facilitate flexible solutions for tailor-made drive shafts, joints and all-wheel-drive systems. Low-volume manufacturers, OEMs for specialist applications in small production runs and motorsport customers all have a perfect partner in GKN NMA.



World class CV Joint and All Wheel Drive specialist

Broad portfolio

GKN Driveline's comprehensive range of CV Joint technologies is the broadest in the industry. Families of core technologies that deliver on cost and quality: GKN is the only CV Joint System supplier with solutions to meet all vehicle architectures.

Strong partnership

Successful CV Joint System development is partnership. GKN Driveline's System integration expertise enables the company to solve technical challenges in a programme to help take performance, weight, packaging and refinement to the next level. From advanced CV Joint Systems for premium vehicles to best-cost solutions for emerging markets, working with GKN ensures the driveline helps differentiate the vehicle.

Customized System-Integration

Our advanced all-wheel drive system deliver on a completely different level, intelligently directing power to the wheels at the right time. As the pioneers in compact, lightweight all-wheel drive active connect systems, GKN helps automakers stay ahead of evolving market demands and new fuel efficiency requirements. From halo programmes to mainstream models, GKN delivers all-wheel drive performance that impresses every level.

Unequalled in quality and breadth – replacement parts from GKN Driveline

It's this OE expertise that makes the replacement parts offered by GKN Driveline so unique. To create the perfect powertrain, the multiple component parts must be carefully matched and fine-tuned during the vehicle development process. Which is why it's so important to use OE-quality parts when carrying out repairs – it's the only way to reinstate the vehicle to its original performance.

GKN Driveline thus offers a broad range of powertrain products for the replacement parts market that includes sideshafts and driveshafts as well as their components. All products, be they for rear-wheel, front-wheel, all-wheel drive and hybrid-systems, are delivered to a level of quality that can only be offered by a major OE supplier – and this state-of-the-art portfolio includes the newest e-drive technology as well.



Green Manufacturing: What's as good as a GKN driveshaft?

A remanufactured GKN driveshaft!

Protecting the environment is about much more than protecting the climate. Every new driveline component developed by GKN consumes less energy than its predecessor. Reductions in friction and weight are making a major contribution to climate protection – today and in future. However, remanufacturing used driveline components not only protects the climate, it also directly conserves resources.

Remanufactured GKN driveshafts are in no way inferior to brand-new replacement parts as they are subject to exactly the same strict OE standards.

However, every year, the GKN remanufacturing process saves the environment:

- 1,600 tonnes of steel in production and scrap (80 % re-use rate)
- 15 tonnes of lubrication grease: Grease saved during OE production is used for remanufacturing (equates to almost 20 % of the total amount)
- Production of more than 600,000 driveshafts in two ISO-certified GKN locations

Because the process is highly efficient, it delivers attractive value for money and guarantees the high quality expected from GKN – with absolutely no downsides for either workshop or driver.



gREenMANUFACTURING™
by GKN

Additive Manufacturing: economical, fast and tool-free

GKN Powder Metallurgy produces metal powder for additive manufacturing and 3D-printed metal parts for prototyping, small to medium volume production and the aftermarket.

Additive manufacturing facilitates a whole new approach to component development and manufacturing. Powder bed technology offers ideal prerequisites for manufacturing complex components in low volumes with virtually no shape restrictions, optimised topology, integrated functionality and at reduced cost.

Looking to the future, the development of binder jetting technology presents GKN with the opportunity to increase the efficiency of additive manufacturing and thus make production runs of up to 10,000 parts economically feasible. The rapid availability of the part means metal 3D printing is the ideal production process for substantially reducing aftermarket inventories, thus saving time and money.

Rapid prototyping reduces the cost of innovation

The production time and limited design flexibility associated with conventionally manufactured prototypes is no longer in step with fast-growing market needs. Efficient prototype production with additive manufacturing can reduce development cycles and time-to-market to the necessary minimum.

Errors in the final product with subsequent high cost implications can likewise be reduced to a minimum. Accelerated prototype development facilitates meaningful functional testing, whereby weaknesses in product design can be identified and resolved at an early stage.

3D-printed copper inductors for reproducible hardness results in production

The service life and quality of manually produced inductors are insufficient to meet growing industrial demands. Additive manufacturing facilitates robust production of highly complex geometries in a single piece – without solder joints.

3D-printed inductors are notable for:
Reproducible hardness results, 3-4 times more service life, shorter setup time for the hardening equipment and better equipment utilisation.



<https://instametal.gkn.com/en/>

The GKN Motorsport DNA



Tradition, Production Expertise and Absolute Reliability

As the motorsport division of the world's leading supplier of driveline technology, we have only one goal when we work with racing teams – we want to win! Whether it's the Dakar Rally or Le Mans, the vast majority of winners and record holders rely on our experience, our production expertise and our creative ideas. GKN's motorsport heritage dates back to the 50s. And ever since then, we have been doing everything in our power to make the world's best racing teams even more successful.



> 1950 – A partnership is born

In 1950, Ian Appleyard won the prestigious Alpine Rally in the Jaguar XK 120, featuring GKN drivetrain components, with his wife as his navigator.



> 1967 – Iconic cars

The iconic Ford GT 40 Mk. IV won the 24 hours of Le Mans race in 1967, using GKN driveshafts for their high performance and durability in this demanding endurance race. Half a century later, the new 2017 Ford GT super car once again uses GKN driveshafts.



> 1972 – Capturing a world record

In 1972, GKN built a development car as a test bed for high-performance automotive components. The 600 bhp GKN FFF100 broke the 0-100-0 mph world record for a road legal car with a time of 11.5 seconds, a full 8 seconds faster than the previous record!



> 1983 – Breaking the land speed record

Richard Noble broke the land speed record in 1983 with a jet-propelled car known as Thrust 2, sponsored by GKN.



> 1988/1990 – A cut above

Forty years after the classic XK 120's success in the alpine rally, GKN supplied the 1988 and 1990 Le Mans winning XJR-9 and XJR-12 silk cut race cars with aluminium sideshafts.



> 1995 – Pushing the limits: World Rally Championship

Colin McRae, one of the greatest rally drivers of all time, won the drivers World Rally Championship in the final intense race of the season in the Subaru Impreza 555, which contained GKN sideshafts, propshafts and driveline joints.



> 2004 – Succeeding in extreme environments

Stephane Peterhansel won the event in a Mitsubishi Pajero, in 2004 and 2005. The GKN sideshaft specification proved to have the durability to maintain performance at the extreme end of speed and articulation over thousands of miles of off-road sand, mud and rock.



> 2012 – New beginnings: early electric motorsport success

GKN marked its first major success in the world of electric motorsport at the Pikes Peak International Hill Climb in 2012, where the TMG P002 racer won the EV class, powered by two GKN EVO axial flux eMotors.



> 2014 – eDrive technology powers

Le Mans victory GKN's electric flywheel was at the heart of the Le Mans 2014 winning Audi R18 e-tron Quattro, providing a highly efficient and durable kinetic energy recovery system.



> 2015 – Sustained success in endurance racing

The top 13 teams entered in the Dakar Rally in 2015 used GKN driveshaft and propshaft solutions, along with 70 % of all entrants.



2017 – The future: GKN in Formula E

GKN is now once again taking to the track as an Official Partner of Panasonic Jaguar Racing in Formula E – the next generation of motorsport.





Extensive global footprint

With 49 manufacturing sites across 23 countries, GKN Driveline is where our customers need us to be. Our manufacturing footprint is complemented by a global Research and Development network, with Technology centers in the US, Germany, Japan and China working to develop the next generation of driveline technologies. In addition, Wintertest facilities in Europe, the US and China, and a Proving Ground in Japan, provide the perfect environments to test our systems to the full.

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