

News Release

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GKN DRIVELINE - HYBRID & EV TECHNOLOGY @ CHALLENGE BIBENDUM 2011

Berlin 18 May 2011: At the 11th Michelin Challenge Bibendum in Berlin, GKN Driveline and some of its vehicle manufacturer customers will be demonstrating the company's advanced technology to help sustainable mobility into the future.

“The imperative to reduce and eventually to replace the car's dependency on fossil fuel is at a very exciting stage” comments GKN Driveline's global engineering director, **Rob Rickell**. “Manufacturers of cars, components and energy sources are stretched to find solutions to the need for sustainable and reduced emissions mobility. We are proud to be providing realistic driveline solutions at this pivotal time in the history of the motor car.”

In welcoming visitors to Challenge Bibendum 2011, **Angela Merkel**, Chancellor of the Federal Republic of Germany, comments “Originally faster and faster, then safer and safer and now cleaner and cleaner – this is the evolutionary path of production in the mobility sector.”

For GKN Driveline, the Tier 1 systems and solutions supplier to the global motor industry, the challenge has been to engineer components to help vehicle manufacturers to reduce both emissions and energy consumption while offering attractive benefits to millions of customers.

Among the leaner, greener products GKN Driveline has been working on a range of eDrive products from electric axles (eAxles) to eTransmissions and electromagnetic disconnect systems.



Vehicle Manufacturer Interest is High

GKN Driveline is currently working on more than 30 separate electric and hybrid projects, and the company has confirmed orders from hybrid and electric vehicle producers in Europe, Asia and North America.

The first to reach the market in Europe is the Peugeot 3008 HYbrid4. The world's first hybrid diesel which goes on sale this year, is the first of a number of hybrids from the PSA stable equipped with GKN Driveline components – the Peugeot 508 HYbrid4 and the Citroën DS5 HYbrid4 are soon to follow.

On display at Berlin is the electric Citroen C3 Picasso which features GKN Driveline's Family 2 eTransmission with Park Lock, and the Micro LCV which features GKN Driveline's Family 1 eTransmission.

Jim Voeffray, GKN Driveline's global sales and marketing director, notes that over the past 10 years GKN Driveline has supplied more than 250,000 electric rear-drive axles to Nissan and Mazda in Japan, giving the company unmatched experience in this rapidly growing market segment.


"Technology that can turn any front-wheel-drive vehicle platform into an all-wheel-drive hybrid with the potential to improve fuel economy by up to 35 percent, is attracting keen interest." **Jim Voeffray** adds. "What counts for our customers is our ability to complete development projects quickly and at a relatively low cost,"

eAxle Strengths

GKN Driveline, which supplies more than 40 percent of the world's standard front- and rear-wheel sids shafts, relies on two competitive strengths for its growing electric axle business:

- For hybrids, the company has a patented disconnect system that turns its eAxle off in less than 80 milliseconds to improve efficiency when the axle is not needed, then turns it back on in about 100 milliseconds when torque is required.
- For electric vehicles, GKN Driveline has developed three families of ready-made eTransmissions that can be inexpensively tuned to meet different vehicle requirements.





The Peugeot 3008 HYbrid4 – a crossover with a 120 kW diesel engine to drive the vehicle’s front wheels and a 27 kW electric motor for its rear axle – can travel short distances on electric power alone. It also can operate in four-wheel-drive for maximum performance and road grip and can run on the highway for hours with an efficient 2.0-litre diesel equipped with a particulate filter. Despite a rating of 210 available horsepower, Peugeot says fuel consumption for its hybrid is 35 percent less than for vehicles of comparable size and performance.

GKN Driveline’s eTransmission business for pure electric vehicles began with a modular approach, as engineers created three standard families of eTransmissions to drive front and/or rear axles on small city cars, standard mid-range cars, large premium sedans, SUVs and sportscars. Within each transmission family, GKN Driveline only needs to change two gears inside a common gearbox to adapt to different motor speeds, power levels and wheel speeds.

Standard products can be customised to meet individual vehicle manufacturer requirements, helping to reduce significantly development time and therefore cost. The company can provide prototypes in three months and be in series production in less than 18 months.

GKN Driveline’s global footprint and ability to meet aggressive production schedules helps automakers reduce product development costs and introduce new products ahead of competitors. Its eTransmissions are compact, lightweight and 96-percent efficient, offering the final consumer vehicles with greater range at lower cost.

Jim Voeffray adds: “Our global engineering and manufacturing footprint is a competitive advantage and our relationships with various electric-motor manufacturers means that we can quickly offer a fully tested and powered module to automakers looking for turn-key solutions.”



GKN Driveline's product segments include:

CVJ Systems

- GKN Driveline's constant velocity joint systems provide space, weight and fuel savings with greater all round efficiency.
- GKN Driveline supplies the most extensive range of CVJ systems – used in the smallest ultra-low cost car through to the most sophisticated premium vehicle.

AWD Systems

- GKN Driveline has full all-wheel drive systems capability.
- GKN Driveline's all-wheel drive couplings improve vehicle handling, stability and traction by intelligently distributing power, and disconnecting technology can supplement low drag and inertia for ultimate efficiency.

Trans Axle Solutions

- GKN Driveline produces highly durable open differentials and has the most extensive range of limited slip differentials (LSD), from the smallest super LSD to the largest electronically controlled axle locker.
- For the ultimate capability, GKN Driveline's torque vectoring solutions provide the answer.

eDrive Systems

- GKN Driveline's pioneering electric drive technology is used in 250,000 vehicles today.
- GKN Driveline's eDrives are designed for the new generation of fuel efficient, low emission electric and hybrid vehicles.



About GKN Driveline

GKN Driveline is the world's leading supplier of automotive driveline components and systems. As a global company serving the world's leading vehicle manufacturers, GKN Driveline develops, builds and supplies an extensive range of automotive driveline components – for use in the smallest ultra low-cost car to the most sophisticated premium vehicle demanding the most complex driving dynamics.

GKN Driveline is a leading global producer of CVJ Systems, AWD Systems, TransAxle Solutions and eDrive System.

www.gkndriveline.com

About GKN plc

GKN plc is a global engineering business serving mainly the automotive, aerospace and land systems markets. It has operations in more than 30 countries, around 40,000 employees in subsidiaries and joint ventures and had sales of £5.4 billion in the year to 31 December 2010. GKN plc is listed on the London Stock Exchange (LSE: GKN).

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