Media Release

Oerlikon Graziano presents a paper entitled “Modular P2-P3 Dedicated Hybrid Transmission for 48V and HV applications” at CTI Symposium and Transmission Expo, Berlin, Germany (5th-8th Dec 2016)

New modular front-wheel drive hybrid transmission at CTI Berlin

Rivoli (Torino, Italy) 5th December 2016 – Oerlikon Drive Systems Segment’s transmission specialist brand, Oerlikon Graziano offers a novel dedicated hybrid transmission concept, which promises a step forward on the path to electrification, with a compact and elegant package and full hybrid capabilities. This innovative technology will be presented at the 2016 CTI Symposium and Transmission Expo, Berlin, Germany, from 5th-8th December. Oerlikon Graziano will display the wider transmission capability at the stand, including 4SED, 2SED, AVTR, and PTU (power take unit).

Based on existing OGeco transmission architecture, the new patented FWD technology concept can reduce component costs, offer a 40% improvement in acceleration and reduce CO₂ emissions by 25% when compared to traditional technologies. It also enables full hybrid functionalities, such as load point shifting, eBoost, KERS, regeneration, hybrid drive and full electric drive.

“As legislature pressures on pollutants emissions push OEMs towards electrification, many hybrid systems add weight and cost for low volume production, still needing to maintain driving enjoyment”, says Gunnar Stein, Chief Technical Officer of Drive Systems Segment Oerlikon Graziano.

There is the question that there is a danger of standard solutions not suiting individual OEMs customer applications and hybrid architectures. Stein continues, “Oerlikon Graziano has a history of developing dedicated solutions optimised for customer specifications. We aim to work with OEMs at early planning stages to take full advantage of the packaging benefits.”

Oerlikon Graziano has applied value engineering and continuous improvement to the OGeco transmission presented at 2012's CTI Symposium and Transmission Expo resulting in a patented DHT design concept. Stein adds: “The innovative OGeco design enables a reduction of component costs, plus performance advantages, that are predicted to set the benchmark for dedicated hybrid transmissions towards electrification.”

The P2-P3 dedicated hybrid transmission is modular, based on a two-shaft single-clutch concept. Thanks to a link between two main gears of the gearbox and the direct gearing between the electric machine and linked gear system, free-mounted on the primary shaft, there is a very efficient electric path of the transmission. This also offers two different gear ratios between the electric machine and the secondary shaft. The architecture is simple using standard components. Across a wider range of vehicle speeds it offers a fuller performance curve of wheel torque. The innovative system offers the advantages of both gasoline and electrical systems, for example: powershifting-P3, recuperation-P3, cranking-P2, KERS, and standstill charging-P2.

The presentation will talk about progress to date, and the next steps towards implementation and wider adoption of this innovative technology.
Over 15 years of running, the 2016 CTI Symposium and Transmission Expo, has become a key international specialist event on automotive transmissions and drives for passenger cars and commercial vehicles. Last year participants numbered 2,200 from 23 countries including Europe, America and Asia, with over 35% being from non-German speaking countries.

Visit us at Booth C09 at the Estrel Convention Center (ECC), Berlin CTI.

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About Oerlikon
Oerlikon (SIX: OERL) is a leading global technology Group, with a clear strategy of becoming a global powerhouse in surface solutions, advanced materials and materials processing. The Group is committed to investing in value-bringing technologies that provide customers with lighter, more durable materials that are able to increase performance, improve efficiency and reduce the use of scarce resources. A Swiss company with over 100 years of tradition, Oerlikon has a global footprint of over 13 500 employees at more than 170 locations in 37 countries and sales of CHF 2.7 billion in 2015. The company invested CHF 103 million in R&D in 2015 and has over 1 350 specialists developing innovative and customer-oriented products and services.

About Oerlikon’s Drive Systems Segment
Oerlikon’s Drive Systems Segment, a part of the Swiss-based Oerlikon Group (SIX: OERL), is a leading supplier of high-precision gear, drive and shifting solutions. Under the market-leading brands of Oerlikon Graziano and Oerlikon Fairfield, the Segment provides high-tech drive products and systems for a wide range of applications, from sports cars, hybrid and electric vehicles to machinery and equipment for the agriculture, construction, mobility (on-/off-highway, city buses), energy and mining sectors. Known for its excellent manufacturing, engineering and innovative expertise, the Segment has the know-how and capabilities to lead the full deployment of a development program from conceptual and simulation phases to mass production of complete mechatronic driveline systems as well as single gearing components. In 2015, the Segment generated sales of CHF 648 million and has a team of 4800 employees, operating its own production facilities in China, India, EMEAR and the Americas and serving customers worldwide.
Photographs: Pictures are available electronically from public.relations@oerlikon.com

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