From black box to customer dashboard: Leoni’s key technology LEONiQ makes cable solutions intelligent

100 times cheaper and 100 times smaller than comparable technologies – Presentation on Microsoft’s booth at Hannover Messe trade fair

Nuremberg, 5 April 2018 – Leoni, a global provider of energy and data management solutions in the automotive sector and other industries, has developed an intelligent cable technology that makes energy and data flows more efficient, secure and available. “LEONiQ” can record and evaluate such differing parameters as temperature and mechanical wear along almost any given cable system. This key technology facilitates drawing conclusions concerning the condition of the overall cable system as well as controlling and monitoring it. For the first time, therefore, it is not just the connected becoming intelligent, but also connectivity itself. Size and price set new standards. Leoni will be presenting to the public for the first time on Microsoft’s booth at the Hanover Messe trade fair how the technology works and what benefits it brings to users and cooperation partners.

„The megatrends of energy distribution and data management are the field in which Leoni has been established and operating for decades as a well-known manufacturer. The Company is now transforming from an experienced cable producer to be a technology partner to its customers – while making use of the opportunities of the digital age for the benefit of its customers and partners,” states Bruno Fankhauser, member of Leoni AG’s Board of Directors with responsibility for the Wire & Cable Solutions division. The objective is to offer intelligent, customised and trail-blazing solutions. LEONiQ makes a crucial contribution in this respect, comprising three main elements:

1. Simulation for energy and data transmission: As early as the initial development phase, LEONiQ uses digital functional simulation of cable solutions to design them best for the respective application.
2. Sensor-integrated, intelligent connectivity solutions: The technology enables a new kind of monitoring function to be integrated in system-critical applications with sensor and electronic elements along the cable system. It continuously reads such different parameters as temperature, impermeability, mechanical stress and GPS position.
3. Data analysis and smart services: Algorithms in the cloud analyse the data, which the user can view on a dashboard; if need be, almost in real time. This process allows for a range of data-based smart services including early warning systems, active system control and pinpoint recommendations for action.

There is consequently complete transparency across all cable systems equipped with LEONiQ – no matter where in the world, no matter in which application. The recorded data is also fed into the functional simulation models. Thanks to this control loop, Leoni is able to steadily optimise all intelligent cable solutions in what is a kind of learning system.

New options for the user

This Leoni-developed technology combines the advantages of other, sometimes very costly measuring methods inside a very small space while simultaneously providing access via the cloud at any time: LEONiQ is about 100 times cheaper and 100 times smaller than comparable technologies and makes the use of intelligence in cables economically feasible for the first time. That gives the user considerable added value, which is based on the cable system’s true usage data as well as its evaluation and interpretation. This, in turn, facilitates such applications as predictive maintenance, pay-per-use models and overall system monitoring and control.

Application example: Charging electric cars becoming safer and more efficient

Leoni can add intelligence to virtually any cable. The infrastructure for charging electric and plug-in hybrid vehicles is one example for use of the LEONiQ key technology. Here it can contribute to monitoring and optimising high-voltage charging cycles. For instance, based on sensor data from the charging station and the vehicle battery combined with the cable’s temperature, every charge can thus be run at the maximum possible power at all times. The vehicle is consequently more safely and quickly charged, and a fault is thoroughly identified before it becomes an actual problem – benefiting the user and the charging station operator.

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☞ *Related illustration material can be downloaded next to this release at* [*www.leoni.com/en/press/releases/details/from-black-box-to-customer-dashboard-leonis-key-technology-leoniq-makes-cable-solutions-intelligen/*](http://www.leoni.com/en/press/releases/details/from-black-box-to-customer-dashboard-leonis-key-technology-leoniq-makes-cable-solutions-intelligen/)

About the Leoni Group

Leoni is a global provider of products, solutions and services for energy and data management in the automotive sector and other industries. The value chain encompasses wires, optical fibers, standardised cables, special cables and assembled systems as well as intelligent products and smart services. As an innovation partner and solutions provider, Leoni supports its customers with pronounced development and systems expertise. The group of companies, which is listed on the German MDAX, employs more than 86,000 people in 31 countries and generated consolidated sales of EUR 4.9 billion in 2017.

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