Leoni makes savings in production possible for the first time thanks to intelligent cables for robots and drag chains

* Detecting wear early and avoiding unexpected downtime
* Predictive maintenance with big-data analyses thanks to LEONiQ
* Intelligent solutions to be launched at the SPS IPC Drives trade fair

Nuremberg, 26 November 2018 – Leoni, a global provider of energy and data management solutions in the automotive sector and other industries, will present intelligent solutions for robot dresspacks and drag chains for the first time at the SPS IPC Drives trade fair from 27 to 29 November in Hall 2, Booth 230. They make it possible to avoid unplanned plant downtime and thereby to reduce maintenance costs, thus making the production more efficient.

Dresspack systems and drag chains supply robots and production plant with power and provide the connection between the control system and the sensors. Under everyday production conditions, they are exposed to very high stresses and can lead to costly, unplanned production stoppages when, for example, data and power cables on robots and in drag chains fail due to wear and tear. Leoni therefore develops intelligent cable systems that actively monitor their condition, analyse and report it. The clear objective is to avoid production stoppages and to raise production equipment uptime.

Reliable power supply to industrial robots

Industrial robot dresspacks consist of cables and hoses that are fitted along the robots. Their most important job is to supply the tools connected to the robot with data and power. Given the varied, constantly recurring movement sequences, the dresspacks and the components they contain are exposed to major stresses.

Detecting wear limits in good time

Leoni will, for the first time, be showcasing robot dresspack systems at the fair that are equipped with its key technology LEONiQ, which was developed in house. It checks a given conductor in the cable with a signal at certain intervals. Based on changes in this signal, such parameters as temperature, fluid penetration and mechanical stress can be monitored along the entire cable, enabling critical spots to be precisely localized and marked. This information is analysed by means of cloud services and sent to dashboards. Production equipment operators can thereby not only identify at an early stage which dresspack is reaching its wear limit, but also detect the affected cable and the respective location. It furthermore enables required maintenance work to be planned in good time.

Data and power cables in drag chains

This concept is also of great benefit in other parts of a fully-automated factory. In the case, for instance, of drag chains in which the data and power cables for machine tools, gantry cranes or complex production equipment are guided and exposed to very high stresses. Alongside such mechanical loads, they must also be resistant to oils and other aggressive fluids as well as exceptionally high temperatures. The rapid movement sequences and restrictive space parameters furthermore require compact cable routing. The demands with respect to electromagnetic shielding are constantly rising because of these space requirements, which is where the layout and monitoring of the shield is of particular importance.

Predictive maintenance with big-data analyses

Given such conditions, monitoring of the cable system’s health, for which the key technology LEONiQ provides, is also beneficial in drag chains. This is because the stresses that impact on the cables cannot be predicted in a generalised way. In the solution that Leoni is now presenting at SPS IPC Drives, the cable’s condition is analysed and monitored via the cloud. The condition is displayed on a dashboard where conspicuous spots are identified by colour coding. The next step involves further refining of the individual data analyses and the data models being enhanced or extended, as the case may be by reference data from the respective application. This will in future make it possible to predict wear and need for maintenance work, reducing the risk of unplanned production stoppages due to cable damage to a minimum.

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☞ *Related illustration material can be downloaded next to this release at* [*https://www.leoni.com/en/press/releases/details/leoni-makes-savings-in-production-possible-for-the-first-time-thanks-to-intelligent-cables/*](https://www.leoni.com/en/press/releases/details/leoni-makes-savings-in-production-possible-for-the-first-time-thanks-to-intelligent-cables/)

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 market-listed group of companies employs more than 90,000 people in 31 countries and generated consolidated sales of EUR 4.9 billion in 2017.

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