IAA 2017: Leoni introduces automated production in the area of wiring systems for autonomous driving

Increasing safety requirements for electrical components – Modular fully automatic system planned for 2020 – Collaboration between human beings and robots

Nuremberg, 18 August 2017 – The digitalization trend has made autonomous driving possible while also boosting the development and production of wiring systems. Leoni already uses networked machines at its production plants, draws on virtual reality to improve efficiency and deploys collaborative robots to manufacture cable harnesses. At the IAA (Stand D40, Hall 4.1.), Europe's leading supplier of cables and cable systems for the automotive sector and other industries will be presenting its future-oriented solutions for increased automation and robot support in the manufacture of wiring systems.

Leoni started fully automatic production of partial cable harnesses as long ago as 2014. Here, machines are used to cut lines, attach contact parts and insert them in the housings provided. Power distributors such as fuse and relay boxes are also produced automatically: since 2015 Leoni has operated fully automated production of solid power distribution lines (busbars) to replace conventional under-floor battery cables. Flexible battery wires are also produced fully automatically and in series by Leoni.

Leoni is now planning to introduce a fully automated assembly of smaller cable harnesses by 2020: the production cell is designed to so-called HaD cable harnesses – specifically to meet the demands of autonomous driving.

More rigorous requirements of data cables and cable harnesses

Autonomous driving cars will accelerate the trend towards more safety and assistance systems. Connectivity between individual vehicles is also growing, as well as between cars and their environment. And the increasing data transmission volume in future vehicles is making higher demands of cable assembly, too: data protocols and special cables are very complex to produce manually, so automatic manufacture of data cables will become the standard. Coax and mini-coax connections might account for a large proportion of these. Here again, Leoni already operates fully automated production facilities and assembles Fakra cables.

The safety requirements of individual products are becoming more rigorous, too: in addition to low failure rates, automobile manufacturers now expect more process monitoring to document not just crimping performance but also other process parameters such as configuration performance. Based on the current state of technology, this is only possible by using automated production.

Electromobility as a driving force behind automated production

Automation is gaining ground in the field of electromobility, too: up until now, product development for electromobility was geared more towards smaller volumes, so automatic production was unthinkable. But component manufacturers are now starting to adopt a new approach in this area: Leoni already develops solutions which are optimised both for the component design & function and for assembly. The first machine solutions are ready for use.

Putting cobots to the test: man and robot working hand in Hand

Leoni is currently running trials with collaborative robots: their use is being tested in the area of cable preparation, for example. Initial observations suggest that collaboration with robots makes life easier for employees in production while at the same time increasing efficiency.

Another aspect of automation is the material transport between processing stations with automated guided vehicles: a robot is responsible to carry all material including finished goods in a high bay storage facility. They are subsequently removed in the sequence ordered by the customer. Here, Shanghai, China is the first plant where it is applied in series production.

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☞ *For relevant illustration material, go directly to this press release at* [*https://www.leoni.com/en/press/releases/details/iaa-2017-leoni-introduces-automated-production-in-the-area-of-wiring-systems-for-autonomous-driving/*](https://www.leoni.com/en/press/releases/details/iaa-2017-leoni-introduces-automated-production-in-the-area-of-wiring-systems-for-autonomous-driving/)

About the Leoni Group

Leoni is a global supplier of wires, optical fibers, cables and cable systems as well as related services for the automotive sector and further industries. Leoni develops and produces technically sophisticated products from single-core automotive cables through to complete wiring systems. Leoni’s product range also comprises wires and strands, standardised cables, special cables and cable system assemblies for various industrial markets. The group of companies, listed on the German MDAX, have more than 82,000 employees in 31 countries and generated consolidated sales of EUR 4.4 billion in 2016. LEONI is celebrating its 100th anniversary in 2017.

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