# Sensor intelligence in the factory of the future

SICK at Hannover Messe 2018

**Waldkirch / Hanover, February 6, 2018 – The Internet of Things is making information constantly accessible to everyone. Meanwhile, customers are placing increased demands on speed and flexibility. That is why production and logistics processes have now also had to become as flexible as possible – while at the same time delivering improved productivity. They achieve this by using intelligent, flexible sensor technology that enables quick and economical production even when batch size 1 is required. Intelligent sensors also provide added value in key areas by making it possible to optimize a system while it is up and running, without the need to interrupt production.**

The younger generation – who are now used to having constant access to data from different media – want this access wherever they are. This presents a challenge for the companies of the future. Young people are used to configuring their world the way they want it: When they find something they like, they want it customized to suit their needs and they want it straight away. Waiting for things that you have found online is no longer acceptable, with one-hour delivery services becoming more and more common. These new behavior patterns will naturally come to be applied to industrial business practices as well in the future. This will create both opportunities and obligations when it comes to preparing industry for the future as defined by Industry 4.0.

**Intelligent sensor technology is essential for Industry 4.0**

The fourth industrial revolution requires a visionary approach as fundamental changes are in the pipeline. Intelligent sensors with the ability to see will be able to collect large volumes of data and will function as more than just simple switches for controlling industrial production processes. If the data collected by the sensor can be used to take specific measures to prevent poor-quality parts from being produced, this will bring about a huge increase in the potential added value and benefits of the solution. This will allow the availability of industrial production processes to be taken onto a completely new level.

Automation architecture will also undergo changes during the course of Industry 4.0. The existing levels of automation will be replaced by a number of different business models. Software will be installed not only on computers but also directly on sensors. In addition, sensors will acquire computing capacity and will be programmed individually. Each sensor and machine will be able to communicate at all times with all devices in the factory, as well as those in remote locations. The aim is to improve transparency, productivity, and profitability. Communication takes place at the local level (edge) or via the cloud.

**Transparency for every process**

As they move towards Industry 4.0, companies are facing the challenge of networking machines and overarching IT systems in production processes. The aim of this process is to gain an overview of all production and logistics processes along the entire supply chain, right through to order fulfillment and delivery to the customer.

The seamless networking of individual production steps makes products traceable throughout complex production and logistics processes. Track and trace solutions provide exceptionally precise information about a product's location and condition. This optimizes production and delivery networks as a whole. Intelligent sensor solutions generate data and information which enable complete detection, identification, and tracing in the networked process chain.

Today's intelligent sensor solutions, however, are not just about recording reality accurately, but also about processing the information in the sensor. For example, thanks to a flexible output format, the data output can be adjusted exactly to suit requirements by setting and linking the logical conditions. This reduces the level of programming effort in the control unit.

**Flexible production**

Low quantities and individualized mass products are the key words of Industry 4.0. To make this a reality, a machine or plant must be able to handle variable product infeeds and adapt to different formats. Only then can goods be produced individually to suit customer needs right down to batch size 1, or adapted to suit fluctuations in demand as flexibly and efficiently as possible.

In practice, the ability to transform existing plants and systems so that they are fit for this new world is a considerable challenge. This is why, at SICK, we place great emphasis on ensuring that our concepts are backwards compatible. As a result, the products can be integrated into existing machines or even connected to higher-quality data systems.

**Driving your industry 4ward**

In today’s age of digitization, we are witnessing a fourth industrial revolution. Industry 4.0 allows the physical and virtual worlds in production and logistics to merge to form cyber-physical systems (CPS), in which machines can communicate with one another. The concept of “Industry 4.0” is widely understood to represent networking in the industrial sector: the full digitization of production and logistics – right down to machines that control themselves and optimize their own work steps.

SICK offers solutions today that can overcome the challenges of tomorrow, with intelligent sensors that collect data, evaluate it in real time, adapt to their environment, and communicate in the network, enabling a new level of flexibility. Networked intelligence for efficient processes and reliable cooperation of humans and machines.

**Hall 9, Stand F18**

SICK is one of the world’s leading producers of sensors and sensor solutions for industrial applications. The company, which was founded in 1946 by Dr. Erwin Sick and has its headquarters in Waldkirch im Breisgau near Freiburg in Germany, is among the technology market leaders. With more than 50 subsidiaries and equity investments as well as many agencies, SICK has a presence all over the world. In the 2016 fiscal year, SICK had more than 8,000 employees worldwide and a group revenue of just under EUR 1.4 billion.
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