**SICK shows first deep learning application**

**Waldkirch, 22 January 2019 – At the Hanover Fair from 1 to 4 April 2019, SICK will present its first application based on deep learning algorithms. The solution permits previously unimagined applications and drives forward Industry 4.0.**

Due to the increasingly dynamic market forces, the pace of product development is also becoming ever faster. New developments are brought to market readiness in monthly instead of yearly cycles. Existing concepts are therefore hardly able to provide an answer to this. Flexibility is essential. Also for production locations, which can be adapted for individual tasks. Sensor technology plays a key part here in the industrial environment. Suitable sensors are available for a large number of standardized applications, but there is an increasing demand here also for customized products in response to the growing need for individual solutions.

“Up until just a few years ago, manufacturers tried to develop sensors to meet every requirement. Today, the increasingly individual tasks are solved by new sensor software concepts. SICK has already created a platform in this field with the SICK AppSpace eco-system that permits realization of flexible solutions for automation applications,” explains Bernhard Müller, Senior Vice President Industry 4.0 at SICK. The sensor manufacturer is now going one step further in the direction of Industry 4.0 and is presenting its first sensor solution that operates on the basis of deep learning algorithms.

**Customized functionality possible**

SICK uses the new deep learning technology itself in the industrial environment to specialize the functionality of its sensors. Here, the sensor learns to process information and thus receives new functions. In addition, new processes are possible on the basis of adapted sensors. The sensor supplies, processes and analyzes data using self-learning algorithms.

In one sensor solution, for example, sensors are trained with a large number of images to give an answer to a specific question. On the basis of this training, the sensor can then independently assign new unknown images to a result. “We are currently working with deep learning on a pilot project in the lumber industry, for example. The basis of our solution is a camera with deep learning functionality,” explains Müller.

**Sensible use of resources and high quality**

In order to ensure optimum use of the raw lumber material, sawmills must know about the conditions in the logs. Where are the age rings, where is the core? This is necessary to ensure good processing of the lumber. “In order to find out how the lumber can be used best, we taught the camera this by means of deep learning. This task could previously be performed only by humans,” adds Müller.

This technology makes it possible to realize new, previously inconceivable applications that make processes more efficient and more productive. “In our pilot project, we were able to increase the material utilization, improve the quality of the products and avoid wasting resources,” continues Müller. And sustainable use is possible not just with materials. Employees also no longer have to perform monotonous activities and are free for more complex tasks.

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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 an agency all over the world. In the 2017 fiscal year, SICK had more than 8,809 employees worldwide and a group revenue of just under EUR 1.5 billion.

Additional information about SICK is available on the Internet at http://www.sick.com.