# Turnkey solutions from SICK: vertical and bidirectional edge cloud integration

Use of sensor data shifts from the field level to the virtual space

Waldkirch, November 2018 – As the future unfolds, sensor data needs to be developed into reliable information available worldwide if automation is to be a success. That is why SICK is working tirelessly on vertical and bidirectional edge cloud integration. The company will present a really clear vision of what this could look like at the SPS IPC Drives trade fair held in Nuremberg from November 27 to 29, 2018 (hall 7A, booth 340).

The importance of sensors in automated production and logistics processes is growing in proportion to the amount and quality of information based on sensor data that they are able to provide. “But the visualization of such information from the field level, also known as the edge, is just one direction our approach to vertical integration is taking,” explains Detlef Deuil, Head of Product Management Vertical Integration Products in the Global Business Center Industrial Integration Space of SICK AG. “Going in the other communication direction too, the vertical integration of sensor data and information generates key added value, for example, when controlling or programming devices from the cloud.”

Thanks to SICK AppSpace, such top-down programmability is already a reality: this eco-system opens up new freedom for developing customized applications and user interfaces based on programmable sensors using a wide range of sensor technologies. “This extends from industrial image processing through opto-electronic sensors and RFID systems, to integration solutions which utilize several technologies at once,” explains Dr. Timo Mennle, Strategic Product Manager for SICK AppSpace in the Global Business Center Industrial Integration Space of SICK AG. “At PLC IPC DRIVES, we will be showcasing a model of a complete turnkey solution, in which various sensors generate data and a SIM4000 Sensor Integration Machine merges, interprets, and generates information from this data, then sends the information to the cloud. The [SICK Analytics](https://mosaicplus.sickcn.net/display/wsGBC05/Logistics%2BDiagnostic%2BAnalytics?src=contextnavpagetreemode) Solutions analysis application installed in the cloud processes this information and creates transparency across all relevant workflows. Visitors will also be able to see, for example, how a programmable camera can be used for a whole host of different tasks by downloading various apps from the SICK AppPool.”

**Full control of sensor functions via the cloud**

With SICK AppSpace, programmable cameras and sensors can be adapted to specific applications. The eco-system with SICK AppPool is a secure cloud service providing downloadable apps that customized applications can use to achieve maximum sensor functionality. At the same time, the SICK AppStudio software tool helps with application development, while the SICK AppManager deals with installing and managing apps in the edge devices. With all these products, SICK provides the complete tool chain for controlling sensor functions via the cloud.

**Customized application solutions through to individual user interface design**

Vertical, bidirectional integration using SICK AppSpace enables programmable cameras and sensors to be configured for specific applications – even right through to the free programming of new apps. Existing apps can be downloaded from the SICK AppPool via the SICK AppManager and installed directly on programmable SICK devices such as the SIM4000. This means individual apps can be replaced very easily – for instance, if the function of a programmable camera needs to be switched so instead of performing completeness checks, it reads codes or characters. Finally, the user interfaces of SICK AppSpace devices can be adapted to specific uses with the help of the graphical UI builder within the SICK AppStudio. Based on the powerful SICK SOPASair framework, a variety of web-based user interfaces can be set up using JavaScript and HTML5.

**SICK Analytics Solutions: ready to go straightaway for vertically integrated analysis applications**

From data to transparency, via information – SICK Analytics Solutions stands for solutions that are available out of the box and ready to use immediately in analyzing vertically integrated sensor data, such as Package Analytics or Logistics Diagnostic Analytics. Data and information can be imported from all TCP/IP-enabled sensors and processed both at the field level and in the cloud – the latter is supported by the SIM4000 Sensor Integration Machine, which connects data collection at the edge to the Analytics Solutions. It is possible here to adapt the dashboards to customers’ specific requirements.

With this approach to vertical, bidirectional integration, SICK is ushering in a paradigm shift in industrial automation. The location where sensor data is actually used is moving from the field level to the virtual space. The process of aggregating and intelligently interpreting this data as information will keep on generating all kinds of new added value. In this context, SICK AppSpace – based on programmable sensors using a wide range of sensor technologies – is opening up new freedom for developing customized applications that use this information efficiently, thus taking the idea of Industry 4.0 to the next level.

Photo: SICK\_analytics\_vertical\_integration\_0074977
Caption: SICK Analytics Solutions stands for solutions that are available out of the box and ready to use immediately in analyzing vertically integrated sensor data.

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 representative office all over the world. In the 2017 fiscal year, SICK had almost 9,000 employees worldwide and a group revenue of around EUR 1.5 billion.

Additional information about SICK is available on the Internet at http://www.sick.com or by phone on +49 (0) 7681 202 4183.