**smaRTLog: full transparency in the material flow at all times and everywhere**

Tag-based localization and evaluation in the Asset Analytics visualization and analysis platform

**Waldkirch, November 2021 – Transport processes in intralogistics are not only becoming more and more flexible and modular but also increasingly self organizing. To enable this to work and, for example, to optimize the inventory management or delivery quality, transparency regarding the current location of the industrial trucks, transport equipment, and goods is essential. This is particularly the case when goods are transported alternately on stationary material flow systems and mobile transport equipment. The smaRTLog digital service from SICK makes it possible to localize assets quickly and with centimeter-level accuracy, to record and make transparent the movement of goods, and to utilize the Asset Analytics visualization and analysis platform to optimize the process logistics.**

An important aspect of Industry 4.0 is to collect, evaluate and transform into information the data throughout the process and value-adding chains. System discontinuities that impair this transparency – i.e, which lead to delayed and incomplete information in the field and at the IT level – should therefore be avoided if possible. These kinds of system discontinuities can arise in intralogistics, for example, at sources where objects exit a fixed production or assembly line or a stationary conveyor to then be transported by mobile transport equipment such as lift trucks, manned forklift trucks or tugger trains to sinks. In contrast to fixed transport systems, no identification or localization takes place on the way through internal halls and corridors - for the control level, this is a “black hole” in which something could disappear, just like in space. Process efficiency suffers due to the lack of transparency at this point, which can lead to disappearance, delay, delivery to the wrong place or other errors. This is where the smaRTLog (smart Logistics through RealTime Localization) digital service from SICK can help.

**Timely and centimeter-accurate asset localization**

The technology upon which the transponder-based smaRTLog real time localization relies is the LOCU UWB system from SICK – a radio system for near-range communication in the frequency band of 3.1 to 10.6 GHz which has a very high transmission rate and a sensing range of about 20 to 50 meters. Every asset to which a LOCU tag has been applied can be detected, uniquely identified, and localized with a localization accuracy of less than one meter by the LOCU receiver antennas. This occurs in real time with up to 1,000 updates per second. The question of exactly where industrial trucks, transport equipment, and goods will be located at what time can be answered timely and accurately with LOCU.

**Combining and evaluation of localization data in Asset Analytics**

The data from LOCU and, if applicable, additional sensors, cameras and identification technologies alone do not create added value, but provide a basis for the Asset Analytics visualization and analysis platform from SICK. This platform displays position, status, and other sensor data in a clear manner in real time – however it also combines the data using suitable software algorithms and powerful middleware, interprets it, and prepares it. This enables Asset Analytics, for example, to display movement profiles, an analysis of transport and idle times, and to derive potential opportunities for optimizing the logistical process. Furthermore, a custom event management can be set up in this analysis tool. This would allow, for example, user-defined actions such as notification by SMS or email to be triggered automatically. An example of this is the localization of objects in pre-defined geo-zones such as receiving work stations or shipping lanes which are only allowed for certain assets or in which defined actions must take place - such as the booking in of parts in an ERP system via a middleware.

**Open for asset management services and cloud applications**

Besides its built-in visualization and analysis functionality, Asset Analytics also offers interfaces that allow both the raw data and pre-processed data to be utilized in the company-wide supply chain and asset management system as well as in cloud applications. Thanks to this connectivity, the localization data can also be used at the ERP and MES level in order to gain a better understanding of the material flows, for example to evaluate the running and transport times between sources and sinks and intervene in the supply chain to optimize it.

**Diverse process improvements through localization**

The smaRTLog digital service from SICK ensures a high level of transparency over all production-related assets, load carriers and loading equipment. It helps save time and money as it allows asset movements to be analyzed, and workflow bottlenecks to be identified and eliminated. Travel routes can be optimized and adapted dynamically. Setup times can be prepared or scheduled flexibly. The material flow can be planned and controlled, goods movements monitored, and storage spaces managed without manual booking processes. Localization data enables agile planning of production and logistical processes for better delivery quality and reliability.

**Images and image captions**

   
*With the smaRTLog digital service, the question of exactly where industrial trucks, transport equipment, and goods will be located at what time can be answered timely and accurately.*

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SICK is one of the world’s leading solutions providers for sensor-based applications in the industrial sector. Founded in 1946 by Dr.-Ing. e. h. Erwin Sick, the company with headquarters in Waldkirch im Breisgau near Freiburg ranks among the technological market leaders. With more than 50 subsidiaries and equity investments as well as numerous representative offices, SICK maintains a presence around the globe. In the 2020 fiscal year, SICK had more than 10,000 employees worldwide and a group revenue of around EUR 1.7 billion.

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