# With NAV-LOC SICK supplies solution for localization on contour for automated guided vihicles

Waldkirch, February 2019 – SICK is presenting the NAV-LOC (Localization on Contour) – an innovative and integration-friendly localization system for driverless transport systems, mobile robots and other freely navigating vehicles – at LogiMat 2019 from 19 - 21 February (Hall 1, Stand F51). It consists of a 2D LiDAR sensor and a SIM2000 Sensor Integration Machine with powerful software for contour-based localization. This compares the sensor’s measurement data with the stored map and uses the results to calculate the exact vehicle position with great precision and repeatability. What is special here is the exclusive use of existing natural contours in the surroundings for localization and navigation. Inductive, magnetic or optical guides in or on the floor are as unnecessary as reflectors on hall columns and walls. This ensures the rapid, simple and economical integration of vehicles with NAV-LOC in their intralogistical environment – in new developments or as plant retrofits. NAV-LOC is also very versatile: Depending on the requirements profile, a variety of 2D LiDAR sensors are available with ranges of up to 250 meters, scanning angles of up to 360°, or application-oriented positioning accuracy of within a few millimeters. The producers and operators of autonomous vehicles or mobile robots therefore profit from technically and economically efficient future-proof localization solutions.

Appropriate service offers from SICK for the creation of electronic maps of the deployment environment, for setting up the NAV-LOC system, and for support during plant operation ensure rapid commissioning as well as optimum availability and productivity of autonomous mobile units in intralogistics.

NAV-LOC – the log(ist)ical further development of autonomous vehicle navigation

SICK offers about 20 different product families for detection and distance measurement in factory and logistics automation. Up to now, many of these 2D LiDAR, 3D LiDAR or radar sensors have ‘only’ been used to support navigation in third-party systems. SICK developed the NAV-LOC localization system in order to be able to implement innovative localization and tracking concepts for autonomous vehicles and mobile robots whilst optimally exploiting the sensors’ technical advantages and functionalities, such as their high resolution and repeat accuracy. Two system sets are currently available – one using a NAV310 with a 360° scanning angle and a range of 250 meters; the second using a more compact NAV245 with a 270° detection field and a 50-meter operating distance. Both 2D LiDAR sensors also ensure maximum detection reliability even with dark, weakly reflective surfaces and contours.

The sensors’ measurement data, reproducible with millimeter accuracy, are collected by a SIM2000 Sensor Integration Machine and evaluated to provide localization. For this purpose, up to ten contour maps of operating environments can be stored in the SIM2000, detected during commissioning with the help of the 2D LiDAR sensors. No further infrastructure in the form of guide tracks or reflectors is required. This reduces costs and integration work. The distance and angular data that the sensors continuously detect during operation are compared with the digital map so that the current vehicle position is constantly determined. Localization thus no longer takes place in an external vehicle controller but directly within SICK’s system solution. This does away with complicated programming work, simplifies control, and minimizes the communication load within the vehicle network. As a result, the NAV-LOC from SICK is not just interesting as a complete solution for new developments by vehicle producers, but also for the technological retrofitting of a user’s existing vehicles.

**The future belongs to contour-based localization**

According to experts, the greater flexibility and lower costs for installation, commissioning and maintenance make localization via contour measurement a future-proof navigation technology. NAV-LOC represents a migration-enabled system solution here. Other system sets will follow, oriented upon, for example, the specific requirements of small vehicles, platforms or shuttles regarding size, range or distance resolution.


*The NAV-LOC from SICK only uses natural contours already existing in the surroundings for the localization and navigation of driverless transport systems, mobile robots and other freely navigating vehicles.*

SICK is one of the world’s leading producers of sensors and sensor solutions for industrial applications. The company, founded in 1946 by Dr. Erwin Sick and based in Waldkirch-im-Breisgau near Freiburg, is a technology and market leader with a global presence – with more than 50 subsidiaries and associated companies, as well as numerous sales offices. SICK achieved Group sales of about EUR 1.5 bn. in the 2017 fiscal year with almost 9,000 employees worldwide.

Further information on SICK is available at http://www.sick.com.

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