# More layers open up more perspectives

3D LiDAR sensors for mobile machines

Waldkirch, November 2017 – SICK has developed the MRS1000 multi-layer scanner, a 3D LiDAR sensor that accurately and reliably detects and measures objects quickly and in multiple dimensions. By collecting large volumes of data on multiple scan layers and from different angles, it can detect and respond to objects on the floor as well as objects that are obstructing the path of a machine.

The MRS1000 is highly rugged and can withstand adverse environmental conditions, such as rain, dust, and fog, which makes it ideally suited for outdoor applications. The sensor detects up to 55,000 measurement points across four layers. The MRS1000 emits three echo signals per measuring beam, which increases the number of measurement points to up to 165,000 per second. The layers are arranged horizontally, one on top of the other, and fan out from the sensor. At a distance of 20 meters, for example, the MRS1000 covers a height of 2.70 meters.

The 3D LiDAR sensor has a configurable echo filter that screens out unwanted measurement data and signals caused by rain, dust, snow, and other disruptive environmental conditions, for example. The field evaluation takes place in the sensor itself with a high scan speed and measurement field coverage.

In addition, the new HDDM+ procedure with multi-echo evaluation allows measurements to be made over long distances and produces low noise levels in the measurement data as well as having multi-echo capability.

Image: IM0073267\_MRS1000.jpg  
The MRS1000 3D LiDAR sensor from SICK produces reliable measurements even under adverse environmental conditions.

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