# Autonomous processes increase yields

The WGS driver assistance system for agricultural machinery

Waldkirch, November 2017 – At Agritechnica 2017, SICK is presenting driver assistance systems with contour guidance functions that result in more efficient and more highly automated harvesting processes. Smart laser scanners, which are the main component of these systems, increase the efficiency of agricultural vehicles, reduce the operator’s workload, and therefore lead to significant time and cost savings. Integrating the WGS (Windrow Guidance System) driver assistance system from SICK into agricultural vehicles and machinery brings higher yields and lower process costs.

All the measurement and vehicle data are processed in the sensor itself, which means that the results can be made available without CPU-intensive processing in the driver assistance system. This eliminates the need for an external computer, which reduces power consumption and space requirements. At the same time, it allows the system to be easily integrated into the existing vehicle architecture. As a result, forage harvesters and balers can be operated efficiently and automatically.

**The WGS driver assistance system – the intelligent harvesting assistant**

The WGS (Windrow Guidance System) consists of a TiM351 laser scanner with integrated application software. Once it has been incorporated into a driver assistance system or vehicle automation system, it can be used to control agricultural vehicles. The sensor system detects and measures the windrow. The TiM351 fitted to the vehicle measures the profile of the ground in front of the vehicle across its direction of travel. On the basis of the ground profile, the system identifies the windrow profile, determines its position, and calculates its cross-section area. The vehicle speed and the cross-section areas are used to calculate the volume of the windrow. If the current wheel angle or yaw rate are available, the sensor calculates a vehicle model. As the sensor now knows how the vehicle is moving, it can determine the exact course of the windrow. This allows the lateral movements of the vehicle to be controlled with high precision and puts the vehicle in the ideal position in relation to the windrow.

Image: IM0064242.jpg  
WGS is a driver assistance system used to detect and measure a windrow.

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.