

Press Release

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LEMKEN presents the intelligent “automation ready” cultivator

Milestone on the path to automated and autonomous tillage

What are the condition the tines of the Karat? Is there a risk of the cultivator becoming blocked? Is the roller still turning? These questions can be answered by automation systems installed on the LEMKEN Karat. The iQblue smart implement solution represents yet another milestone on the path to automated and autonomous tillage. The system was developed jointly with the Dutch software specialist Track32.

iQblue smart implement combines three automation systems to create a powerful, integrated autonomous solution: the iQblue flow control module monitors the flow of material in the tine section in real time. Intelligent image evaluation detects critical accumulations of material, such as clumps of straw or soil, through a targeted “region of interest” analysis even before disruptions occur in the work process. The system is complemented by iQblue slippage control: protected speed sensors continuously measure roller slippage. If there is a risk of impaired reconsolidation, the system automatically adjusts the ground speed without any need for driver intervention. The final module of the overall system is the iQblue tool monitoring system, which has already won the silver DLG Innovation Award. This module uses a camera with AI-supported image analysis to automatically assess the condition of the cultivator shares at the headland, without any manual checks.

All information is collated on a central display on the ISOBUS terminal. On autonomous units, data is visualised via a Human Machine Interface (HMI). This ensures that the driver always has a full overview of the tillage process.

More comfort, higher quality, even in assisted applications

With iQblue smart implement, LEMKEN is setting new standards in terms of process reliability and automation in tillage. Early detection of disruption significantly reduces driver strain, minimises interruptions and increases

efficiency. At the same time, tillage quality is increased, as consistent reconsolidation is maintained even in variable soil conditions, thanks to continuous system control.

The modular design can be adapted to existing technology and is ideal for changing drivers. With clear visualisation and automated assistance functions, the system is ideal for operations involving few trained personnel, all the way through to fully autonomous operations.

The path to autonomous tillage

Previous tillage solutions tended to be reactive, provide isolated information, or necessitate regular manual checks. They also failed to provide a comprehensive overview of the work situation or anticipatory fault detection. With iQblue smart implement, LEMKEN has closed this gap and created the conditions for fully autonomous work processes in the field.

iQblue smart implement is the result of a close partnership between LEMKEN and the Dutch company Track32, which specialises in AI and image processing software. This synergy of agricultural technology expertise and software development has produced an innovative solution that delivers impressive, intelligent image recognition, real-time data and adaptive control.

About LEMKEN: LEMKEN enjoys a worldwide reputation as a visionary, sustainably operating company that makes an important contribution to profitable agriculture. As medium-sized German family company, LEMKEN has applied its expertise and passion for progress for 245 years, delivering solutions for the challenges confronting agriculture today and tomorrow. The company's product range includes tillage implements, seed drills, hoeing machines, fertiliser spreaders and smart solutions for agricultural data management.

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Image 1: LEMKEN iQblue smart implement combines three sensor systems into a powerful, comprehensive solution on the path to automated and autonomous tillage.



Image 2: LEMKEN iQblue flow control module monitors the flow of material in the tine section in real time.



Image 3: LEMKEN iQblue slippage control continuously measures roller slippage.



Image 4: LEMKEN iQblue tool management uses a camera with AI-supported image analysis to automatically assess the condition of the cultivator shares at the headland.

