

R&W Industrieautomation GmbH, 57627 Hachenburg, Germany

Godelmann relies on 3D sensor technology for precise quality control

For years, the company Godelmann in Fensterbach has relied on the precise and durable stone height measurement systems from R&W. Since 2023, Godelmann has also been successfully using R&W's advanced 3D Inspection System on a plate press. In addition, two existing SHV500 measuring devices were upgraded last year, whereby some components of the existing systems could be reused for the new 3D systems.

Godelmann is a family-run concrete block company headquartered in Fensterbach, Bavaria, Germany. With a sense for perfection and great awareness for environmental and human concerns, Godelmann has been developing and manufacturing concrete blocks for sophisticated open space design for over 75 years. Durability, uncompromising quality, good design and forward-looking innovations for environmental and climate protection – these are the trades that make the Godelmann brand stand out.

The history of Godelmann is a success story spanning three generations. A clear strategic orientation, well-considered investments and a passion for concrete as a material enabled the successful expansion of the market position. Thanks to the constantly optimized productivity as well as the investment in new processes and possibilities, Godelmann is able to present its customers with high-quality solutions, well-coordinated programs, as well as uncomplicated and reliable service.

The company now operates at six locations in Germany, four of which feature modern paving block production facilities, and at two locations in the Czech Republic. With its 500+ employees, Godelmann has developed into a market and quality leader in Europe.

SHV500 block height measurement systems

R&W developed the proven SHV500 block height measurement systems to meet the high requirements of a modern concrete block plant. With very high precision, ease of application and impressive durability, the SHV500 is used by leading manufacturers worldwide.

Thanks to its modular design and compatibility with all common concrete block machines, the system can be integrated into any production line seamlessly. With decades of experience and a clear specialization in precise measuring systems



3D inspection system by R&W.

for the concrete block industry, R&W not only knows the challenges, but has also developed the right solutions.

Precision and defect detection – much more than just block height measurement

"Before joining R&W, I worked at a leading manufacturer of concrete block machines for many years. I was responsible for the development and worldwide commissioning of software for the machine control systems. That experience taught me the challenges in concrete block plants only too well," explains Uwe Rahn, Managing Director of R&W Industrieautomation GmbH.

Since 2001, R&W has not only offered a precise and robust standard device for block height measurements, but also

We think concrete



Results display with view of the measuring system.

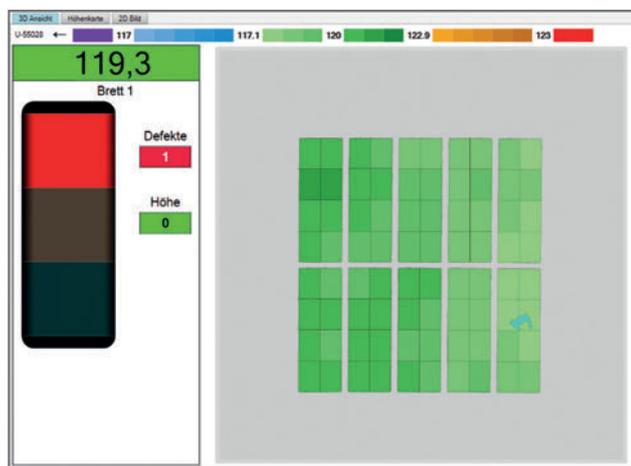
comprehensive support - from commissioning to ERP (enterprise resource planning) integration, worldwide. All measurement data is recorded in a central database and can be conveniently evaluated via the R&W software.

Patented 3D inspection system

For the highest demands, the patented 3D inspection system offers comprehensive height measurements and detailed surface inspection of all concrete blocks on the production pallet as an upgrade. With the help of state-of-the-art 2D and 3D camera technology as well as innovative AI systems, even more precise results are achieved. Surface defects and fine cracks are reliably detected, defective products are sorted out, and consequently complaints are significantly reduced.

User-friendly visualization and immediate error detection

The user-friendly display of the block height distribution on the underlay plate allows easy monitoring of height tolerances. Any defects on the block surfaces are immediately highlighted on the display. The R&W system is fully integrated into the machine control system: following a mould change or the selection of a new mix design, new parameters are automatically loaded into the R&W control system. In the event of recurring faults in the product height or surface defects, the conveyor is automatically stopped, and the machine operator can react immediately.



Results display with detection of surface cracks on the products.



Wet-cast machinery



Dry-cast machinery

bauma
Stand C1.142



Geoceramica



Moulds



Visits our website (QR-code) or call our Sales Managers

Edwin

Dick





Close-up of the image taken with the 2D camera, showing fine surface cracks.

Board weighing

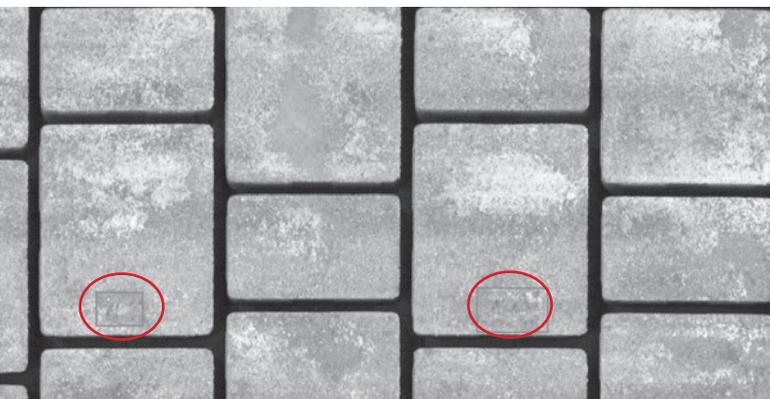
In addition, the optional board weighing system measures the weight of a block layer and compares it with specified limiting values. Deviations in the bulk density are thus detected at an early stage, which means that the product quality remains constant. At Godelmann, the existing scale on the wet side was successfully integrated into the R&W system.

RFID system

With the RFID (radio frequency identification) systems, production data can be tracked from the wet to the dry side. As an additional advantage, the R&W system already provides all the necessary data for the automatic handling of defective products by robots. This always keeps production efficient and quality standards under control.

Integration of RFID and automation of sorting

As early as 2019, an RFID system from R&W was installed on a system that transmits the measurement results from the wet



Marking the holes in the 2D image. It is evident that such defects can only be reliably detected with a 3D camera, which functions regardless of the colour of the concrete blocks.



Result display with detection of holes on the product surface.

to the dry side. At that time, a robot was used on the dry side to sort out defective products. An employee marked the defective blocks, which were then sorted out by the robot.

The new R&W 3D inspection system has now been integrated into the robot control system, allowing the robot to be operated as a fully automatic sorting station – a further optimisation of production processes at Godelmann.

Godelmann Production Manager Erich Deichl

"Height and surface defects can be detected by the machine operator in the control cabin at an early stage, allowing them to react immediately."

FURTHER INFORMATION



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