Press release

Bin picking for all situations

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**CHIRON Group relies on LHRobotics.Vision smart technology package**

The CHIRON Group, headquartered in Tuttlingen, Germany, is a leading global specialist in CNC-controlled machining centers as well as turnkey and automation solutions. To make its advanced automation projects more flexible and efficient, the company sought a bin picking solution independent of specific robots and cameras – and found the ideal technology package in LHRobotics.Vision from Liebherr-Verzahntechnik GmbH.

The CHIRON Group, headquartered in Tuttlingen, Germany, is a specialist in CNC-controlled vertical milling and mill-turning machining centers as well as turnkey and automation solutions. Comprehensive services and digital solutions complete the portfolio. The group has production and development sites as well as sales, service, and trading branches worldwide. With 1,900 employees at 20 locations, active in 60 countries, and over 29,000 machines delivered, the CHIRON Group is one of the world's leading suppliers. Around two-thirds of the machines and solutions sold are exported. Key user industries include the automotive industry, mechanical engineering, medical and precision technology, aerospace, and tool manufacturing.

Challenging bin picking

The company had long been seeking a bin picking solution that wasn't tied to specific robots or cameras, as manufacturer-dependent systems in this area often proved limiting. Bin picking – the removal of randomly arranged parts from containers and their correct, oriented placement in a workpiece carrier – is one of the most demanding applications in industrial automation. It requires complex interaction between software, image recognition systems, robots, and gripping technology. “We saw the LHRobotics.Vision technology package in action for the first time in 2023 at the 'Bin Picking in Practice' expert forum at Liebherr in Kempten,” reports Christian Kurz, Head of Robot Programming Automation at the CHIRON Group. “Extensive testing with various workpieces followed at the Kempten Tech Center, which thoroughly convinced us of the combination of technological expertise and industrial-scale implementation.”

LHRobotics.Vision technology package

The bin picking solution from Liebherr-Verzahntechnik GmbH comprises a technology package with software for precise object identification and selection, as well as collision-free withdrawal of parts. Thanks to its open sensor interface, the software is compatible with vision systems from various manufacturers. A simulation tool allows procedures to be virtually tested and optimized – with everything on a clearly arranged and intuitive interface. The package is available in two functional forms: The basic license includes collision-free gripping and picking function for workpieces and the pro license offers this plus placement planning.

Individually tailored solutions

The project-specific requirements of the CHIRON Group necessitated individual configurations: The system had to be adapted to robots from different manufacturers; both stationary and on-arm cameras were used, with the sensor mounted directly on the gripper. Workpieces with varying shapes and partially overlapping layers had to be identified and positioned on up to three trays. Different part geometries and surfaces posed additional challenges, as did the need to recognize containers and distinguish between workpieces and intermediate floors. In some applications, additional processes such as laser marking of data matrix codes or measuring systems have also been integrated.

Durable and future-proof technology

Christian Kurz is certain: “LHRobotics.Vision is exactly the building block we were looking for for our customer-specific automation solutions. Thanks to its great flexibility and intuitive visualization, the technology package covers such a wide range of requirements that we are already planning further projects with it. All systems have been delivered; and initial customer feedback has been positive across the board. More specific questions have come in. And that's why the CHIRON Group is planning to set up its own test facility so it can do customer presentations and tests in-house and keep all that expertise right where it belongs – in the company. We are delighted to be able to continue relying on the expertise of Liebherr-Verzahntechnik GmbH.”

Excellent advice and support

The comprehensive advice and practical support provided by Liebherr were greatly appreciated by the CHIRON Group project team. Christian Kurz places particular emphasis on the fast response times: “Whenever we had a concern, we received immediate feedback and quick support – we were really very satisfied with that.” Similarly, the Liebherr team found working with the CHIRON Group to be very constructive and goal-oriented: “The in-depth collaboration gave us the opportunity not only to contribute our experience, but also to gain deeper insights into the processes and technologies of the CHIRON Group. These findings have been directly incorporated into the further development of our software solution,” reports Sebastian Wendt, Product Manager for Automation Systems at Liebherr-Verzahntechnik GmbH. The combination of technical expertise, competent advice, and reliable support has proved to be a solid foundation for further joint automation projects.

PhotosEin Bild, das Kleidung, Person, Anzug, Im Haus enthält.

KI-generierte Inhalte können fehlerhaft sein.

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From left to right: Christian Kurz (Head of Robot Programming Automation, CHIRON Group), Artur Lammert (Commissioning), and Eduard Lorenz (Technical Sales Cells and Flexible Manufacturing Systems, both Liebherr-Verzahntechnik GmbH)Ein Bild, das Im Haus, Maschine, Bohrmaschine, Werkzeug enthält.

KI-generierte Inhalte können fehlerhaft sein.

Tech Center Cobot Kameras\_10

Ein Bild, das Wand, Im Haus, Ausstellung, Design enthält.

KI-generierte Inhalte können fehlerhaft sein.Stationary and on-arm cameras reliably detect workpieces in different positions and container structures.

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The LHRobotics.Vision technology package: an intuitive solution for the complex interaction between software, image recognition systems, robots, and gripping technology.  
  
  
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