BMW GROUP
Plant Dingolfing

Media Information
10.02.2025

BMW Group Plant Dingolfing and Landshut University of Applied Sciences are developing a smart logistics solution.

+++ Increasing efficiency through digitization: counting empty containers through AI +++ Cooperation with students +++

Dingolfing. Increasing efficiency through digitization: In a successful cooperation between BMW Group Plant Dingolfing and Landshut University of Applied Sciences, students have developed an innovative solution for plant logistics. The new digital tool automates the counting of empty containers using artificial intelligence (AI), saving time and avoiding errors.

Looking for simple automation

At the BMW Group Plant Dingolfing, around 1,600 different types of containers are in circulation every day, transporting parts for vehicle production. Until now, these containers were counted manually, which was time-consuming and prone to errors. "Our goal was to automate empties counting as efficiently and simply as possible," explains Wolfgang Schratzenstaller, project manager at the BMW Group plant in Dingolfing.

Cooperation with Landshut University

The idea of involving students from Landshut University of Applied Sciences in the project met with a positive response. "Students bring in new perspectives and unbiased approaches," says Schratzenstaller. Prof. Dr. Abdelmajid Khelil, head of the IoT Innovation Lab at Landshut University, supported the project

Firma
Bayerische
Motoren Werke
Aktiengesellschaft

Postanschrift
BMW AG
Werk Dingolfing
Postfach 1120
84122 Dingolfing

Telefon
+49 8731-76-0

Internet
www.bmwgroup.com

as part of a practical teaching module. The collaboration began with the summer semester 2024.

Mobile video instead of mental arithmetic

Within three months, the eight-person team developed a cost-effective and efficient solution. A simple mobile phone video, taken while you are running through the rows with the containers, is sufficient to determine the exact number per container variant. "QR codes are placed above the block storage lanes, which link to a database of container data. The AI analyses the video and calculates the number of containers," explains Dominik Dama, an IT master's student.

Outlook and development

The counting system is currently in the test phase to test its performance under real conditions. In the future, the solution will also be used in other areas of plant logistics. It is also planned to further automate the counting process by using autonomous Smart Transport Robots (STR) to record the videos.

Photo caption

Photo 01: With the help of a smartphone, a video of empty containers is recorded.

If you have any questions, please contact:

Julian Friedrich, BMW Group Plant Dingolfing, Head of Communications
Telefon: 49 8731 76 22020, E-Mail: Julian.Friedrich@bmw.de

Thomas Niedermeier, BMW Group Plant Dingolfing, Communications
Telefon: 49 8731 76 27666, E-Mail: Thomas.Niedermeier@bmwgroup.com

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Website: www.press.bmwgroup.com, www.bmw-plant-dingolfing.com
Instagram: https://www.instagram.com/bmwgroupwerkdingolfing/
E-mail: presse@bmw.de

BMW Group Plant Dingolfing

The Dingolfing plant is one of over 30 BMW Group production sites worldwide and currently produces BMW 4 Series, 5 Series, 7 Series and 8 Series cars as well as the fully electric BMW iX.

Around 18,500 people currently work at the site and more than 950 apprentices are being trained in 17 occupations. This makes the BMW Group site in Dingolfing not only by far the region's biggest employer, but also one of the country's largest industrial production sites and vocational training facilities.

In addition to cars, vehicle components such as pressed parts and chassis and drive systems are also produced in Dingolfing. Component plant 02.20 is also home to the company-wide Competence Centre for E-Drive Production, which supplies the BMW Group's vehicle plants worldwide with electric motors and high-voltage batteries for the production of plug-in hybrids and pure electric models.

The car bodies for all Rolls-Royce models are also built at the site. The so-called Dynamics Centre, a large storage and transshipment facility and the heart of the BMW Group's central aftersales logistics, pr the global BMW and MINI retail organisation with original parts and equipment.

The BMW Group

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial services. The BMW Group production network comprises over 30 production sites worldwide; the company has a global sales network in more than 140 countries.

In 2024, the BMW Group sold over 2.45 million passenger vehicles and more than 210,000 motorcycles worldwide. The profit before tax in the financial year 2023 was € 17.1 billion on revenues amounting to € 155.5 billion. As of 31 December 2023, the BMW Group had a workforce of 154,950 employees.

The economic success of the BMW Group has always been based on long-term thinking and responsible action. Sustainability is a key element of the BMW Group's corporate strategy and covers all products from the supply chain and production to the end of their useful life.

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