

ELECTRONICS MANUFACTURING

Application Case Study: BRUNATA-METRONA, Germany

Flexible Smart Cameras and Machine Vision Software from Microscan Ensure Correctness and Readability of Small Data Matrix Codes During Printing Process

Company profile

The BRUNATA-METRONA group has more than 60 years of experience and expertise in the collection and billing of energy and water. The company supports its customers in all matters relating to the energy data management of their properties.

BRUNATA-METRONA's services range from billing of heating, water and ancillary costs, to integrated billing and consumption analysis as complementary services. Supply, installation and annual reading of the recording equipment, and the service package for smoke detectors and drink water analysis complete their portfolio.

The innovative and reliable TELMETRICstar heat cost allocators from BRUNATA-METRONA determine the exact heat consumption of radiators. TELMETRICstar transmits consumption values with its radio module to a data collector which is located outside of the apartment. TELMETRICplus is available as a purely electronic version for reading within the apartment.

The Challenge

During the production process of the heat cost allocators, two-dimensional (2D) Data Matrix codes are printed onto the TELMETRICstar units for traceability. BRUNATA-METRONA required a solution to ensure that each code is printed correctly, and that the code is readable after it leaves the production process. The new solution would replace the linear barcode readers that were used in the past, and had to be able to decode two codes simultaneously.



Microscan's Vision HAWK smart cameras ensure that the Data Matrix codes are correct and readable on the heat cost allocators from BRUNATA-METRONA.

The Solution

Ingenieurbüro Lawrenow OHG provided BRUNATA-METRONA with an inkjet printing solution using the CodeCenter 2 with two printheads by Inkdustry, which is able to print 24x24mm Data Matrix codes from a distance of 25mm to the product from the printhead.

- **Requirement:** Decoding of multiple small Data Matrix codes from a distance of 25mm after printing process.
- **Project:** Integrating flexible smart cameras in the production line to decode the Data Matrix codes printed on heat cost allocators.

- **Solution:** Vision HAWK Smart Cameras from Microscan with AutoVISION® machine vision software.
- **Result:** Correct and 100% readable codes printed on each product.

MICROSCAN®

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Lawrenow had worked with WI-SYSTEME GmbH, a Microscan Elite Partner, already in the past, and when they needed a solution for decoding the Data Matrix codes, WI-SYSTEME recommended the Vision HAWK smart cameras from Microscan.

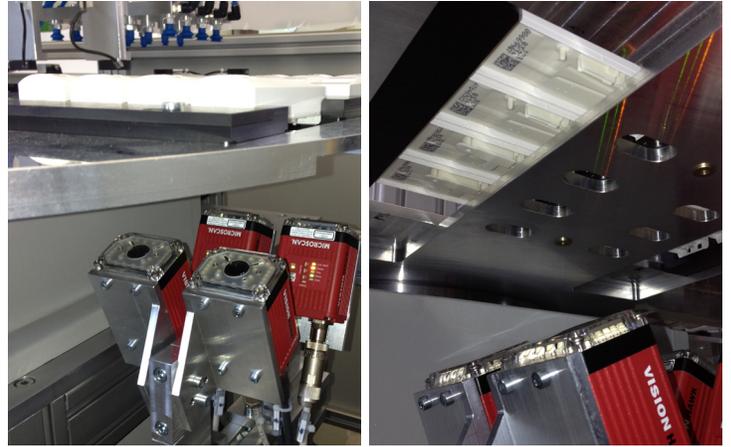
The Vision HAWK is a flexible industrial smart camera that delivers powerful vision capabilities in a compact, easy-to-use package. Developed for vision users of all experience levels in a broad range of applications, the Vision HAWK features an intuitive vision interface, optional C-mount lens design, integrated lighting, simple plug and play connectivity and high resolution, optical zoom. The Vision HAWK is able to read the high-density codes, as well as read two codes in parallel, in spite of the reflecting surface and poor lighting.

The following process is used to check the codes. BRUNATA-METRONA sends the data for the codes to the printer. The Vision HAWKs read the codes and send the data back to BRUNATA-METRONA's central system for control. The job was created in AutoVISION machine vision software from Microscan and saved directly on the cameras, so that no PC is needed. The software can be used to modify the job in case new parts are introduced. If the Data Matrix codes are not 100% readable within a certain time, the controller software of BRUNATA-METRONA is notified immediately about the error.

The Benefits

For BRUNATA-METRONA, delivering 100% quality is of utmost importance. Thanks to the Vision HAWK smart cameras, they are able to ensure code quality and readability on each product. The Vision HAWK smart cameras were easy to integrate, and provide excellent read performance, even for reading two small codes at one go. Also, no additional lighting was required thanks to the integrated lighting on the Vision HAWK smart cameras.

"We have been very pleased with the service from WI-SYSTEME and Ingenieurbüro Lawrenow OHG, and are very happy that they recommended the Vision HAWK to us. It has definitely proved its worth in practice," said Mr. Matthias Kraus from BRUNATA-METRONA.



The Vision HAWKs read the codes using a job created with AutoVISION® machine vision software and send the data back to BRUNATA-METRONA's central system for control. No PC or additional lighting is needed.



OVERVIEW

- **Customer:** BRUNATA-METRONA, Germany
- **Industry:** Consumer Electronics
- **Application:** Ensuring Data Matrix code readability
- **Products:** Vision HAWK Smart Cameras and AutoVISION® Machine Vision Software from Microscan

Founded in 1982, Microscan has a strong history of technology innovation which includes the invention of the first laser diode barcode scanner and the 2D symbology, Data Matrix. In 2008, Microscan acquired the Siemens Machine Vision division. Today, Microscan remains a technology leader in automatic identification and machine vision with extensive solutions for ID tracking, traceability and inspection.



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