

/ Quality Assurance at BASF



Traditionally, innovation and digitization are deeply rooted at **BASF**. Naturally, this refers to the continuous development of their own products, but it also reflects the constant endeavors to optimize processes and implement quality assurance. The focus is on internal processes and ensuring that every manufactured product fully meets the quality standards. Automated processes using state-of-the-art technology are thus employed in filling and packaging lines for liquid crop protection products. **Eric Fritsche** is the person in charge of these intelligent technologies. As part of the Process Management, he coordinates the digitization of all stages from filling to final packaging and palletizing. He trusts Wipotec systems for quality control.



Eric Fritsche – Process Management
BASF Agricultural Solutions

/ Weighed and approved

For years now, Wipotec dynamic weighing systems have been incorporated in the various production facilities at BASF: as weighing kits integrated in filling systems or as standalone checkweighers, for liquids and solids, bottles, canisters and bags, from portable containers to heavy-duty appliances. The compelling reason to use these systems is their precision and reliability.

That's why Wipotec's engineers have been entrusted with a new challenge at BASF: Quality assurance of the seals. The canisters and bottles used for liquid crop protection products are handled by farmers, so BASF places great importance on both the quality and originality of the containers. In the production process, we must ensure that lids are closed and sealed on each and every container. >>

Our customer

BASF SE

BASF SE is one of the world's largest chemical companies. Occupying an area of approximately 10 km², the Verbund site in Ludwigshafen is the largest integrated chemical complex in the world. In total, around 112,000 BASF Group employees contribute to the success of the different products in BASF's diverse portfolio.

Established: 1865

Locations: 234 production sites in 93 countries

Products: Chemicals, materials, industrial solutions, surface technologies, nutrition & care and agricultural solutions

More information:

 www.basf.com


We create chemistry



Camera systems help us to verify quickly and easily that the cap leaves the production process in perfect condition.

Eric Fritsche
Process Management
BASF Agricultural Solutions

Locked, sealed – verified?

First, check that the caps are correctly fitted and that the tamper-evident seals are intact. The method of choice was an optical inspection by camera, which is common practice. But a camera alone is not enough.

Important:

- Brackets with reproducible height and angle adjustment
- Article-based parameters for exposure
- Signal exchange with the process line
- Product transport and speed
- Discharge with cross-checking
- User interfaces
- Interfaces and integrations with higher-level systems

All these factors influence the reliability of the inspection, the duration of set-up times and acceptance by the operators. As Eric Fritsche states: “We initially developed our own solutions.

The difficulties were at the points of intersection, in the user interfaces and with integration. Wipotec gave us a solution by combining all modules in a single system.” ▲



/ 360° control for 100% quality

The most obvious advantage of the Wipotec system lies in the task it performs. The optical system specially developed for this application detects a 360° view of the lid from above.

This image is evaluated by the software, which checks all parameters in a single step:

- Is the cap in perfect condition?
- Is the cap correctly fitted?
- Is the cap screwed on tight enough?
- Is the seal ring closed?



Any products that do not meet these criteria are rejected by the system. "This process makes sure that only products that are perfectly sealed go to market," Eric Fritsche explains, stressing the importance of the data analysis provided by the system, which gives him proof that everything is entirely secure:

"We can ensure sustainable quality."

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The major advantage is the interaction of all modules. Wipotec offers a single user interface that combines everything, which in the past used to be provided by multiple suppliers.

Eric Fritsche
Process Management
BASF Agricultural Solutions





User-friendliness and article change

The basis for the system is the weight control, which, like all other tasks, is fully integrated into the unit. For Eric Fritsche and his team, this integration into a single user interface has many other advantages:

“It is self-explanatory, operators quickly master it, we have minimum training requirements and hardly any queries from the team.” If the line is switched to a different product, the operator simply loads the corresponding article and all the defined parameters are set.

This completely avoids adjustments, which are time-consuming and prone to error:

“Set-up times are thus significantly reduced.”

Integration and data exchange

The time slot was tight. Three days were available for installation and commissioning. Wipotec’s fully integrated approach also proved to be time-saving:

“We were able to start producing straight away and error-free,” Eric Fritsche recalls. “By combining these requirements, it is possible to integrate everything quickly and compactly.” Compared to using individual components, BASF also saves valuable line space, Fritsche reports.

Vertical integration was achieved using a standardized OPC UA interface. The higher-level MES communicates with the Wipotec system using this interface. This gives BASF the option of scaling the system and integrating additional modules without the need for additional development measures. >>



/One step after another

The positive experience gained from years of collaboration with Wipotec is thus confirmed for BASF in this new type of project. The fact that service and maintenance are still provided from a single source is a practical advantage for Eric Fritsche: "We have short response times, receive assistance quickly and find pragmatic solutions."

This is something we can build on: "We place a great deal of importance on our quality standards and are continuously developing them," Fritsche explains. In addition to the inspection systems for weight and seal, BASF is currently working with Wipotec on a solution for labeling:

- Presence verification
- Mix-up control
- Positioning
- Clean and wrinkle-free application
- Verification of the legibility of text and codes

With a variety of more than 4,000 different labels, easy conversion of the article parameters is a vital step for both efficiency and safety. Just as in the case of cap inspection, Wipotec's fully integrated approach is key here. ▲



Based on our many years of successful collaboration, we are open to working with Wipotec in the future on a fully integrated labeling and marking solution for our products.

Eric Fritsche
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