

## CASE STUDY | GLASS BOTTLE MANUFACTURING

In the glass industry, the bottle is considered the “dress” for the liquid product. It is the packaging, a functional container and — especially in the case of perfume — is also what triggers the impulse to buy. Glass intended for food, spirits and perfume is subject to the strictest quality regulations. Consumer safety is paramount in production and logistics. If anything goes wrong, the brand image is always at stake. KATHREIN’s French partner TAG Product has implemented zero-defect delivery for a global glass bottle manufacturer.



### > INDUSTRY | GLASS BOTTLE MANUFACTURING

#### About the Case Study

RFID tracking solution: Optimization of logistics flow and continuous safety throughout production and shipping.

### > KATHREIN PRODUCTS

➤ RAIN RFID Reader RRU 4500

### > PARTNER BENEFITS

The development of a specific software interface for the RFID reader to establish a real-time dialogue with the ERP was also required.

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Our customer can now at all times state with certainty that the reported production status corresponds to the shipment. This kind of transparency would not exist without RFID.”

Christophe Coquart, Sales & Marketing Director, TAG Products

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In recent years, a close link has been established between the two companies. The TAG Product team enjoys working with Kathrein products, mainly because of the flexible platform and the good options for integration into existing systems.”

Lucas Couderc, Sales & Partner Manager, KATHREIN Solutions GmbH



### Secure deliveries

Several million bottles leave the factory of a French glass bottle manufacturer every year to customers all over the world. Thousands of pallets are shipped daily. In order to handle all incoming and outgoing transports safely and on time, highly automated and, above all, reliable logistics are required. Confronted with this task, KATHREIN partner TAG Product starts its quality assessment during the production process. The aim is to prevent pallets from shipping in the event of even the smallest defect on the production line. This is to ensure that no defective goods leave the warehouse. With the focus on the line, it is important to automate and optimize logistical processes at the same time.

### Exclude sources of error – track pallets

In order to implement a continuous RFID-based Track & Trace solution, industrial robots have already been installed on the production line, which code the bottle pallets with transponders. The pallet transponder is printed and written to on site and contains the SSCC coded according to the GS1 standard. In this way, each shipment can already be clearly identified and tracked in the intra-logistics process. The goods are sent to the exact gate where the designated truck will pick them up, in a process that is fully automated and error-free. Forklift trucks, which transport the pallets to the outgoing goods area, are equipped with an RFID reading system, which ensures uninterrupted detection of the pallets on the forks in real time — up to the point at which they are loaded onto the truck. In this case, the forklift drivers are continuously informed of the status of their delivery, thus simplifying and at the same time optimizing the loading process. As a result, the RFID system integrator TAG Product achieved a perfect match between reported production and shipping.

### The new processes: Faster, more transparent, higher quality

The holistically designed process also reflects the automatic and highly precise information acquisition in the ERP system. Since commissioning of the RFID-based Track & Trace solution of the pallets, there have been no incorrect postings

nor qualitative deficiencies. The management of the glass bottle manufacturer is pleased with the result and the positive key performance indicators:

- accelerated loading process, up to 300%
- no customer complaints due to zero-defect shipping
- 90% conformity between declared production and shipping

### KATHREIN RRU 4500 Reader series on the forklift

The use of different forklifts, some of which can transport up to six pallets at a time, posed a challenge that had to be met within the scope of the project specifications. Ultimately, all pallets need to be read and, above all, without any “cross-reads” (incorrect readings, e.g. due to reflections or recording of unwanted errors). These incorrect readings should not generate a false status in the ERP. So how could you guarantee a constant and uninterrupted reading process?

The French team at TAG Product also turned to KATHREIN Solutions with this requirement. This technical challenge is not uncommon in practice, because whenever many read processes have to take place in a confined space in the immediate vicinity of each other, the reader must be able to accurately recognize and record each individual transponder. KATHREIN recommended the KATHREIN RRU 4500 reader series to its partner to ensure reliable pallet detection without cross-reads.

However, the forklift solution experienced other challenges in the course of the project. Such challenges included the installation of the RFID readers on the forklifts tines, the attachment and the fine adjustment of which. This was successfully handled by KATHREIN and system integrator TAG Product together as a team. The latter impressed the customer with the development of the specific firmware for running the reader on the Linux operating system in order to establish a real-time dialogue with the ERP. A successfully overcome challenge, which the two partners will certainly toast with a good bottle of French wine. Maybe the wine bottle will even be one produced by the customer.



Figure: Integration of the reader in the driver’s cab of the forklift; forklift fleet with equipped RFID pallet detection system.