

# High-speed, AI inspection saves millions of bottles from the bin

AUTOMATED, IN-LINE SOLUTION  
SET UP IN 48 HOURS

- **Accurately measuring**  
tolerances at 5 bottles per second
- **4,000 pallet-loads inspected**  
in under 10 weeks
- **2,500 pallet-loads saved**  
from unnecessary destruction
- **Potential for permanent,**  
company-wide rollout



## The challenge

Whisky is a premium product that demands a high-end, high-performance bottle that can be safely stored for years, or decades. After discovering a potential quality issue with one batch of its whisky bottles, one manufacturer identified 4,000 pallets of stock – over 3 million bottles – which needed reworking in 10 weeks.

The company asked Bytronic for an automated solution to this urgent rework challenge to avoid the cost - in time, labour and reputation, of manual checks.

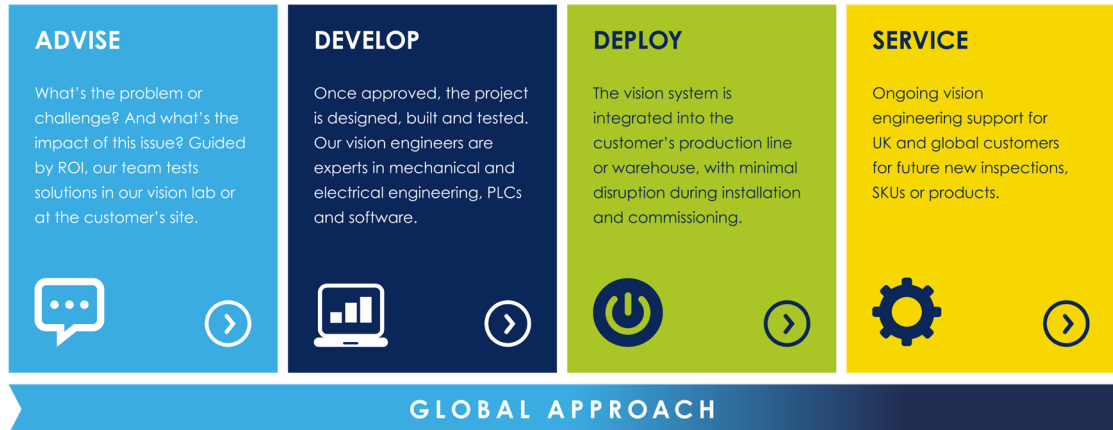
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# Overcoming the costs of manual inspection

Automating in-line inspection and sortation at five bottles per second

## THE ADDS BYTRONIC PROJECT PLAN



## The solution

The issue was the shape of the bottle in the 'neck' area. After the filling process, whisky makers apply a cap and sleeve to each bottle that securely seals the liquid inside and allows an unopened bottle to be safely picked up by its cap. Each bottle neck must be shaped to exactly match the angle at which the cap and sleeve are applied.

The customer identified one batch where the neck shape may have been incorrect, but it was unclear how many bottles were affected.

Our vision engineers replaced time-consuming, manual shadowgraph checks with an automated in-line inspection system in under 48 hours - using a pre-existing rework line to prevent downtime.

The solution inspected the dimensions of the neck of each bottle. These measurements were automatically checked against a pre-programmed set of tolerances for the acceptable shape, and bottles were sorted into 'good' or 'bad' depending on the result. **Failure rate is now almost one in a million.**

## The result

Our solution checked **5 bottles every second**, inspecting 4,000 pallets in 10 weeks. **3 million bottles were checked** and sorted, with **60% saved from the bin** - 2 million premium bottles that would have otherwise been needlessly recycled, costing money, time and emissions.

"The kit has done everything we needed it to and more and the Bytronic team was great - any time we had questions, we could ask and they would log on remotely to problem solve. We never had any issues, and they never let bad glass get onto a pallet."

*On-site quality product manager*



## INNOVATIVE SOLUTIONS AWAIT

Let's talk about how we can unlock your manufacturing potential and avoid productivity stagnation with the latest vision technology.

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