



CASE STUDY

MMAAZZ



‘From breakage to global optimization.’

Carlsberg, one of the world’s oldest and largest breweries, uses multiple MMAAZZ smart sensors across their bottling sites globally for pinpointing breakage issues and improving overall efficiency, reaping the associated cost saving on an ongoing basis.

A Carlsberg line was experiencing high levels of highly-visible breakage and the noise of the glass-on-glass contact was extremely loud.

The company needed to eliminate the breakage and its related downtime to reach target output efficiency.

The Carlsberg Group is a global brewer employing around 41,000 people, primarily located in Western Europe, Eastern Europe and Asia. Founded in 1847 by J. C. Jacobsen, the company's headquarters is located in Copenhagen, Denmark. Source: Wikipedia

CHALLENGE:

Carlsberg's first use of MMAAZZ was at one of its European bottling facilities.

A line was experiencing high levels of highly-visible breakage and the noise of the glass-on-glass contact was extremely loud. Carlsberg needed to eliminate the breakage and its related downtime to reach target output efficiency.

Operations staff tried various methods to identify what was going wrong but nothing worked. They lacked the data they needed to engineer a fix.

Project Snapshot:

ISSUE RESOLUTION

LINE EFFICIENCY

CONTINUOUS IMPROVEMENT

SOLUTION:

ShockQC™ identified the root cause of damage, which was not in the area suspected. “Where glass breakage occurs is not necessarily the highest or the only high-impact area,” notes Carlsberg Senior Packaging Expert Jane Tinning.

ShockQC™ (in an acrylic replica of the client’s bottle) was placed on the Carlsberg line and the real-time data from multiple runs left no room for doubt. Breakage was happening near the packer, but the largest impact area was occurring in the de-packer at the beginning of the filling line.

Use of ShockQC™ determined that impacts received by bottles were causing damage on the bottle surface and weakening the glass until other impacts downstream (though small) caused breakage.

Without ShockQC™, Carlsberg could not have identified the weak point in its line.

Carlsberg also uses PressureQC™ for ongoing maintenance and overall efficiency improvement.

Sporting pressure-sensitive film, PressureQC™ measures scuffing and squeeze load in glass, PET and canning processes. It helps Carlsberg and other international and smaller food and beverage manufacturers reduce scuffing and abrasion damage to bottles and can.

PressureQC™ enables companies to extend the life of recycled bottles by reducing their ‘Scuff Index,’ a ground-breaking industry-first measure created by MMAAZZ to quantify a container’s pressure and spin velocity. With this data, companies like Carlsberg can extend returnable glass container lifetimes.

“The MMAAZZ ShockQC™ and PressureQC™ are part of our Packaging Field Expert Team’s toolbox.”

Jane Tinning

Carlsberg Senior
Packaging Expert



ShockQC™ is a smart replica of glass containers, cans or other fragile containers to measure IPS and G-Force to identify the root cause of damage with 99% repeatability. Location tracking with wireless Bluetooth beacons and integrated photo capture pinpoints the origin of damage and opportunities for improvement as the device travels through the entire filling, capping and packing process.



BOTTOM LINE:

“The MMAAZZ ShockQC™ and PressureQC™ are part of our Packaging Field Expert Team’s toolbox,” says Carlsberg’s Tinning. “We have developed a systematic approach to assess the status and performance of our packaging lines. This complete configuration of our toolbox with the 360-degree approach and by using sophisticated high-tech sensors, the Expert Team is able to achieve deep insight not only concerning performance, but also regarding impact on bottles and cans.”

“Our Packaging Field Expert Team travels from Carlsberg brewery to Carlsberg brewery on a continuing basis, and uses MMAAZZ products extensively during the analysis part of the visit and then at the end once all the identified issues have been fixed,” Tinning explains. “The moment we make an adjustment, we can see immediately if we have fixed the issue.”

Jane Tinning, **Carlsberg Senior Packaging Expert**

Carlsberg find the MMAAZZ suite of products very easy to use. “After a quick two-hour training session given by Masitek, we were able to use the sensors in our lines,” Tinning notes. “We really appreciate that MMAAZZ offers a complete suite of products that really give the whole picture of what is going on with a filling line. Pressure, impact, scuffing/friction and vertical load are all important in their own, but much more powerful when you can measure all of them together in a particular filling line.”

Tinning says that the MMAAZZ suite of products has enabled Carlsberg to do what it could never do before – to find the source of breakage issues, and more importantly, to quickly fix the issues holding the company back from target output efficiency.

Use ShockQC™, PressureQC™ and other MMAAZZ technologies for both proactive maintenance – prevention of ongoing glass breakage, reduction of bottle damage and optimal line efficiency – and also in critical scenarios to quickly get your line back up and running.