



Case Study

**Allied Glass gets a Clear View of Bottle
Production with Shopfloor-Online MES**



Introduction

As a manufacturer of premium glass bottles, Allied Glass creates groundbreaking glass packaging for many world-leading brands of food and drink. With two state of the art factories, located in Leeds and Knottingley, Allied Glass has the capability to manufacture 13 million bottles each week.

From design through to manufacture, the company is committed to the highest production standards and the most stringent quality control procedures, as any defects in the glass can have very serious consequences for the consumer, brand owner and ultimately Allied Glass.

By its very nature, glass container production is challenging; therefore each container must undergo rigorous checks. This means Allied Glass lays great emphasis on automatic

inspection and rejection equipment on the shop floor, which ensures that any issues are quickly identified and appropriate improvements made.

It was with this in mind that Allied took the decision to upgrade its factory information system Shopfloor-Online from Lighthouse Systems, to the latest version 4. It was first installed at the Leeds plant before being added to the Knottingley site, with an added complication – Knottingley was adding new lines at the same time.

The software tracks production runs, tracking the product being made and the specifications associated with it; it captures defect data and other quality measurements; and supports end of line audits. When defects are found it identifies the mould and section (the mould is located in a section in the bottle forming



machine) from which the defective bottle originated, and can highlight trends by machine, mould, section or product.

As the software is web-based, reports identifying such trends, and the tracking of potential issues, can be easily made available to production and maintenance teams for speedy resolution.

The Requirement for Change

The manufacturing process for glass bottles is fast and complex, therefore it is a very difficult process to control and improve. Once a bottle is formed, the production team focuses on identifying and removing defective bottles. The ability to quickly and easily spot trends and track issues delivers significant value in terms of process improvement. The 'trending' capability was one of the most important aspects of the Shopfloor-Online

system to Allied Glass, as it promised better quality, throughput, and greater customer satisfaction. Richard Johnson, Continuous Improvement Manager for Allied Glass, comments:

"We wanted Shopfloor-Online to help us to improve trending. Removing paperwork from the process is the first step, this is because the software is highly adept at spotting trends or discrepancies in the figures. And, once the measurements from the shop floor are inputted into the system, it is simple to drill down into specific parts of the production process to find out information at any given point. With paper forms, our ability to pinpoint any disparities was arduous and time consuming. The new system gives us drill down capabilities at the press of a button. This not only enables the production team to alert operators to issues, but also helps us to focus resource where it is needed most and,

" Removing paperwork from the process is the first step, this is because the software is highly adept at spotting trends or discrepancies in the figures"

therefore, drive process improvements.”

Integrating with Other Systems

As part of the project, several interfaces have been created to allow data from Allied’s ERP (enterprise resource planning) system (PRISM) to be transferred to Shopfloor-Online automatically. This is used to provide better tracking of the production process. Production orders are automatically downloaded onto Shopfloor-Online along with other key data. This improves traceability and facilitates more exact/powerful reports.

The Lighthouse software also collects data directly from the ‘Otto’ measuring machine, an automated off line measuring device, which uses cameras to capture up to 600 measurements on any specific part of a bottle. The direct collection of data automatically into Shopfloor-Online, makes

analysis possible that would have been otherwise impossible. It saves time, and the graphical representation of the data collected makes the identification of discrepancies much easier to see.

Benefits

With the upgrade of Shopfloor-Online, Allied can use the Inspection area data to pinpoint where problems are occurring, to the specific mould or section on the glass bottle making machine. This allows Allied Glass to react rapidly to production issues and to be confident that quality issues are not going unnoticed. This ultimately leads to reducing the impact of faults and the level of rejects, which improves production output and reduces customer complaints.

Richard Johnson continues: “The Lighthouse System makes our production teams more proactive. We use the information in Shopfloor-Online to put focus into specific areas where we see potential issues arising. Simply we are reacting to information and so that we can proactively fix faults. The net results should be two-fold, a reduction in customer complaints, which will strengthen our brand over the longer term.”



Shopfloor-Online gives a real-time graphical representation of the equipment, showing the status. This clear visibility of plant performance is extremely valuable as everyone can easily discern what is taking place.

Previously, the creation of reports for management use was time consuming, as the information was held in paper form, which was complicated to cross-reference. Now they are created on demand with little effort and are more incisive and complete.

Looking to the Future

The implementation has been successful in achieving its goals, however Richard Johnson recognises that there is still more the company can achieve with Shopfloor-Online. Spoilage tracking is one area that he hopes to address in the near future. This will mean that all the machines on line are linked directly to the Lighthouse software to count production, spoilage and track machine status data in real time. This will assist Allied Glass in identifying problems at an individual machine level, which will help to prioritise staffing on lines. Also, the ability to schedule maintenance checks will enable Allied Glass to better manage the process and avoid potential problems.

“ We now actively market the system to our customers, using it as a contributing factor to our ability to deliver excellence in glass production”

In future, Allied Glass may explore linking its customer complaints database with the production data in Shopfloor-Online, enabling the production teams to cross reference information, aiding a faster and more comprehensive response to customers.

Richard Johnson concludes: “The upgrade to version 4.0 is a significant move for Allied Glass. The Lighthouse team have worked closely with us, delivering the expertise we have needed, whenever necessary. We now actively market the system to our customers, using it as contributing factor to our ability to deliver excellence in glass production. We are still building the system and our operators will continue to challenge it, to make sure that it continues to deliver more functionality and performance. We know we can achieve a lot more with it in time, but it is already proving to be a significant tool in our drive for process improvement.”

Lighthouse Systems is one of the world's leading developers of Manufacturing Execution Systems (MES) with offices in London, Singapore, Australia and Rochester, NY. Lighthouse Systems Shopfloor-Online is web based modular software that provides real time visibility of the entire manufacturing operations environment. Applications include Maintenance Management, Concern Management, Quality, SPC, Downtime, OEE, Spoilage and Inventory Traceability. Shopfloor-Online is being used in a wide range of industries with some of the biggest manufacturing companies; it is deployed in 15 languages in 28 countries.

For more information please call one of our offices or visit our web site www.lighthousesystems.com

UK Office

Lighthouse Systems Limited
Buchan Hill
Pease Pottage
Crawley
West Sussex
RH11 9AP
United Kingdom

Telephone +44 (0) 1293 605300
Email info@lighthousesystems.com

USA Office

Lighthouse Systems Incorporated
Building 3
6780 Pittsford-Palmyra Road
Fairport
NY 14450
USA

Telephone: +1 585 223 0600

Asia Office

Lighthouse Systems Pte Ltd
71 Bukit Batok Crescent
#07-10 Prestige Centre
Singapore 658071

Telephone: +65 6316 4370