



## Case Study

### **Lighthouse Systems drives plant performance improvements for Le Bélier Hungary facility**

*Plans to deploy across other international sites for performance gains, through increased machine uptime, and improved quality, resulting in reduced scrap*

## Introduction

Le Bélier has been specialising in the production of aluminium safety-related components for the automotive industry for over 20 years. It has facilities around the world, located in France, Hungary, Mexico, Italy, China and Serbia, producing parts for major car manufacturers including Honda, DAF, BMW, Audi and Peugeot.

Although the motor industry has been going through some challenging times over recent years, Le Bélier has been able to keep the



volume of its business in line with its forecasts by reorganising its facilities, keeping a tight control on its quality measures and procedures, and equipping itself more than ever with the resources needed to strengthen its position within the industry. The company's ability to minimise equipment downtime is vital to its on-going success, as is its focus on heightened quality, in order to eradicate the level of scrap as far as possible.

Le Bélier is able to offer its customers high performance machining in its production plants and its current control measures enable the company to offer automobile OEMs finished parts which can be directly assembled on their production lines. To achieve this, Le Bélier's control measures are constantly developing to keep pace with customers' rising quality requirements. In its Hungarian plant (BSM), Le Bélier has turned to Lighthouse Systems to deliver its web based MES solution, Shopfloor-Online, providing real-time visibility of the entire manufacturing environment at the plant.

## Making the move

BSM Hungary is a new machining plant for Le Bélier having moved its location at the beginning of 2007. It was during this planned relocation that the company made the decision to change its factory systems and implement an online MES system that would deliver a whole range of functionality within the one product and that would deliver considerable benefits in terms of quality standards, production control, and reporting resources. Efficiency benefits in terms of increased machine uptime and improved overall equipment performance were prime considerations at this juncture.

Lighthouse Systems' Shopfloor-Online has been implemented at the new site to enable

the company to increase its production capabilities and deliver improved visibility of the processes of the manufacturing plant.

Also, the Lighthouse software was implemented in place of several existing applications and paper based systems running on 20+ workstations. The benefits of this are many and varied for the business.

From an IT-specific perspective, the software can be run and maintained on a single server without any client setup and configuration to manage and maintain. It can be accessed across the entire plant and, as it replaces so many existing applications, it saves enormously in terms of the overall cost of ownership. Additionally, as the new solution replicates some of the previous paper based solutions the training requirements are minimal, therefore keeping costs low and ensuring rapid take-up and user acceptance.

Mr Philippe Révolte at Le Bélier/BSM Hungary, comments, "Improving the efficiency of data collection has eradicated many mistakes that were being made on the shop floor. Lighthouse's Shopfloor-Online has given us a complete view of our production performance and provides us with reports that clearly show us where losses are being experienced and, consequently, where improvements can be made. Also, knowing about issues early in the process through

improved data visibility will help to reduce stoppages and minimise product waste."

Shopfloor-Online was ordered at the end of 2006 and implementation started in March 2007. Initially, the software has been selected for the machining plant only but further implementation in the foundries and other company plants is being planned.

### Driving Quality

One of the core applications of the software is to monitor and report on production quality. The operators are required to perform regular checks on parts produced and to enter the resulting data into Shopfloor-Online.

At the same time, Co-ordinate Measuring Machines (CMMs) carry out a number of checks in the metrology department. These are performed on parts taken by operators from the production line and the measurements are used to determine whether parts are of the required quality or to raise an alarm to the operators that production is drifting out of control. Early warning of such an event means that operators are able to take action to correct process trending before defective parts are produced. Furthermore, this process feedback provides the operators with the confidence to leave the process alone when they may have



tampered in the past and caused unnecessary downtime.

Visual checks are also carried out on parts produced on the shopfloor by operators and the findings are entered manually into Shopfloor-Online. This is monitored alongside all other data to give a complete picture of the production process and the quality of the parts being produced. The combination of these measurements and observations provide the detail necessary to develop reports and studies that adhere to the quality requirements of Le Bélier's customers.

Capability can now be determined for any given product on any specific machine and over any period of time. This information is invaluable to Le Bélier and its customers.

### **Running Production**

Of course, production plants must run efficiently to be profitable and this means that the machines must be functioning to their optimum. Collecting data from the machines

is vital to plant managers when they are studying the overall performance of the plant.

OEE/TRS is of particular interest to the management, giving them detailed reports on line efficiencies. Machine stoppages, durations, reasons, quantity of part produced and quantity of scrap are all recorded at the end of each shift for each machine. This data is collected in a simple form that replicates the previous paper based solution. Reports are then automatically generated that show output performance, quality yield, availability and ultimately the Overall Equipment Effectiveness (OEE) for each machine.

Detailed analysis carried out on this data enables losses to be examined and their root causes to be understood and addressed. It also allows comparisons to be made between machines, shifts and tooling etc. Managers can then eradicate inefficiencies and see where profits are being made or, conversely, where money is being lost so that informed business decisions can be taken.

One of the next steps planned for 2008 is to interface Shopfloor-Online using the existing OPC technology to the PLC's on the machine tools in order to fully automate the collection of downtime and unit counts. This will free up additional time for the operators and further improve the accuracy of the data.



## Pushing Forward

With the software operating effectively in the BSM Hungary plant for machining Le Bélier is considering extending the implementation of the system into its foundries. The company also has plans to use the software in its new plant in Mexico.

In terms of functionality, Le Bélier plans to integrate its back office systems with Shopfloor-Online. This will involve connecting the MES software with its SAP systems to provide greater visibility across the entire

company and giving the management team more complete performance reports.

Mr Révolte concludes, “Shopfloor-Online has already begun to deliver real business benefits to us at the BSM plant and, over time, we can expect much more from the system. The buy-in from operators and managers has been quick and enthusiastic as they experience the positive effect that accurate and available data delivers. We look forward to working further with Lighthouse and bringing the benefits of Shopfloor-Online to our other production facilities here in Hungary and across the world.”

*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](http://www.lighthousesystems.com)

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