



Case Study

Capturing Quality & Production in Rigid Paper Packaging

Improved Manufacturing Visibility and Customer Quality through MES



Introduction

Sonoco is a global supplier of industrial and consumer packaging and a provider of innovative packaging solutions, with more than 300 locations worldwide, approximately 16,500 employees and 2009 sales of approximately \$3.6 billion. Sonoco's operations consist of three businesses; Tubes & Cores, Packaging Services and Consumer Packaging which has both Rigid Paper and Plastic Divisions.

The plant in Manchester UK is Sonoco's largest manufacturing operation within the Rigid Paper Group in Europe.

With a rapidly expanding market, as composite products replace the more costly steel cans, Sonoco's customers are becoming more and more demanding in specification, time to deliver and traceability of manufacture. As Sonoco supplies packaging to high profile businesses, its packaging becomes an essential element in promoting

the products of those businesses. Therefore as custodian of its customers' Brands, Sonoco must deliver packaging of the very highest standards to avoid possible Brand damage. A poor seal or damaged container could have devastating effects both on the Brand and the Consumer.

As a result, the need for continuous improvement, reduction of manufacturing costs and guarantee of Quality is at the heart of the Sonoco drive for excellence.

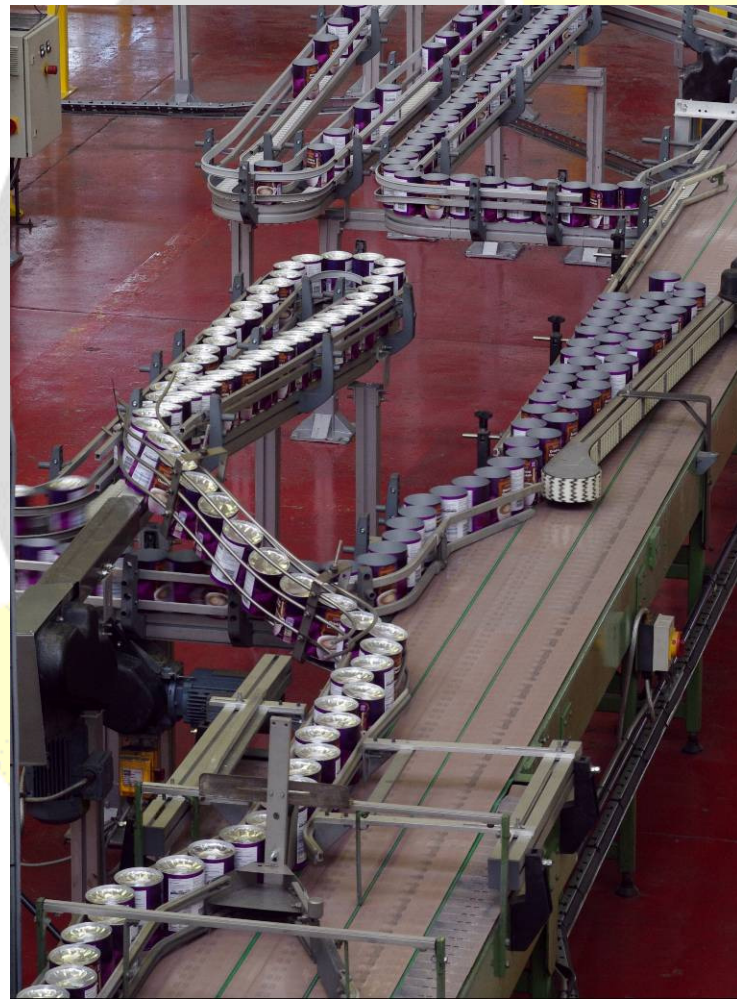
Planning for Change

Sean Cairns, General Manager Europe for Sonoco, started his tenure in Europe with a large change management programme to modernise the Manchester facility. One of his first actions was to introduce Lighthouse Systems' Shopfloor-Online to the plant to satisfy his need for operators to have real-time Quality information on the shop floor. The implementation was to replace a largely manual system of collecting and recording

data using paper forms that were prone to operator error, difficult to analyse in a timely manner and collate for inspection.

Cairns comments, “Quality is not a differentiator, it’s an expected attribute. Just to prove the point on how quality expectations have changed, 10 years ago there were 172 recalls of food product in Europe as compared to 1632 recalls last year. This is not due to quality deteriorating. It’s just consumers are becoming much more aware. In the past our quality team would react on out of spec readings but these were not instantly apparent to operators from the manual forms and that could lead to errors. If the data isn’t clear then things can get missed. What I wanted was real time data on the shop floor where measurements and records were accurate. The answer was to roll out statistical process control (SPC) with Lighthouse Shopfloor-Online to enable the operator to act with the best information possible. It’s what I would call the “moment

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of truth”, it’s all very well having quality teams operating on day shift, but in the event of a measurement trending out of spec, the operator has to be able to make a decision with the best information possible. Lighthouse enables this, as it makes sure that controls happen as and when they are supposed to because the software alerts operators at scheduled times. It does not leave room for manual error and that is a huge step in the right direction.”

Having been aware of Shopfloor-Online before, Cairns knew it could automate and streamline quality operations on the shop floor. However, as part of the drive to improve efficiency and reduce costs, he also wanted to take greater control of the production process. Because of the integrated features of the Shopfloor-Online software, it was possible to monitor downtime and production rates against target cycle times, for each product. This coupled with the Quality data, gives OEE information to compare effectiveness both by product and by line. This benchmarking provided a starting point for ongoing Lean Manufacturing and Process Improvement projects within the Plant.

The Power of Data

Sonoco Manchester is the company's largest UK factory and it is the leading rigid paper can factory, with approximately 80% of the UK market. The company intends to continue developing and increasing its market presence. This means that systems will need to play a pivotal role in delivering efficiencies for the plants. A new ERP system is being implemented into which Lighthouse will feed production data, ensuring that shop floor data is pumped directly into the company's central



repository. This is part of a control system which is, in turn, part of the overall change management programme.

Cairns comments, "Management Information Systems are critical these days and we standardise these across our sites so everyone is speaking the same language whether they are in France or the UK. We monitor and measure anything and everything we can.

That way any decisions are based on the best data available. The reason? We have to get everyone speaking with data. Where Lighthouse comes in we have live data. This has transformed our morning meetings because we can have accurate real time data

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projected into the room so that we can discuss issues and plan more effectively. Also, with Lighthouse being on-line, we can keep an eye on activity on the shop floor remotely. Operators become more accountable for their actions and can more easily ascertain the root cause of stoppages. Before, there would be a lot of assumptions made along with some educated guesswork. But, when you have complex lines running it is not ideal to rely on gut feelings. We need to base decisions on hard data and with Lighthouse the software takes data from PLCs in real time so that feedback to operators is accurate and instant.”

Single Structured Approach

The aim is to have a single system for everyone to use. This is good for the shop floor operators as they have just one system to master. It also means less training is necessary as screens are standard and operators do not have to switch from one application to another and back. All data goes into one place from where it can be

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compared, contrasted, analysed and collated.

Cairns adds, “We can compare quality with reasons for downtime quite easily with Lighthouse Shopfloor-Online. We can also compare the operations of one plant with another and judge where improvements can be made. We can better assess operator performances and encourage further training as and when it is required. We believe that people make a business and we promote a more flexible workforce. Honing their skills and supporting them in becoming multi-disciplined is part of our philosophy. Having better automated, real time data means that we can focus less on gathering the data and more on the human-related tasks on the shop floor, and elsewhere in the business. A standard Sonoco methodology across the business will enable us to cascade systems across international plants and reap the benefits of a scaled approach. This will help us to compare performance of various plants through standard reporting mechanisms.”

Looking to the Future

As time moves on, customer requirements and expectations increase. The chance of product recall is real, expensive, and damaging if the manufacturer doesn’t get it right first time. With pressure like this comes

the drive for continuous improvement. State of the art manufacturing software is a central part of this drive.

Sonoco has implemented Shopfloor-Online in its Manchester facility and now uses it for Quality and Overall Equipment Effectiveness to drive its business. The installation will be expanded and integrated with the new ERP system in the immediate future so that Shopfloor-Online supports real-time Scheduling on the plant floor and so strengthening Sonoco's ability to optimise manufacturing, as well as improving the availability of information and analysis for Resource Planning.

Over the coming months Shopfloor-Online will be implemented across the Sonoco plant in France, delivering the same functionality and visibility as is currently enjoyed in Manchester. The longer term plan is to cascade this infrastructure across other European plants.

In conclusion, Cairns says, "To manufacture quality products we rely on quality data and systems. Shopfloor-Online is a central part of our change management programme and our drive to continuous improvement. We will

look to extend its use into other areas of the business and other plants in the future."



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.

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