

New Belgium Brewery EMI Case Study

Background

The New Belgium Brewing Company is a medium sized brewery producing approximately 430,000 hls of premium beer each year at its site in Fort Collins Colorado.

NBB produce a variety of beer styles mainly influenced by some classic Belgian styles but also embracing Czech and German styles. Brand include the iconic Fat Tire, Mothership Wit, Blue Paddle, 1554 and Sunshine Wheat.

NBB's business is rapidly expanding, it is estimated that the market for premium beers is growing at the rate of 12% per annum.

NBB are continuously investing in the state of the art brewery at Fort Collins, recent expansions included the commissioning of a new Packaging line from KHS.

Problem

NBB found it difficult, time consuming and sometimes impossible, to gather all of the production related information (raw materials, WIP, QA, and finished goods) needed to generate reports (compliance) and to enable analysis, understanding, and improvement of products and processes (cost, quality, delivery.)

Requirement

In summary NBB wanted to:

- Successfully be able to trace a bottle of beer and a tank of beer back to all "inputs", finding 100% of a selected set of them, within 30 minutes.
- Reduce time spent entering data
- Reduce time accessing and analyzing data
- Improving data accuracy and reliability
- Reduction of time spent for inventory management
- Improve the user-friendliness
- Reduce training time

Constraints

The problem was that NBB had no batching system so they could not trace beer and yeast movements. And as a result users spent considerable time entering and checking data on beer transfers and yeast information in paper logs. Also they had no access to CIP information in a clear - user friendly format.

Orbis

Orbis is a Systems Integrator specialising in the design, build and delivery of advanced EMI solutions for the Food and Beverages industries. Orbis works closely with a number of major players including Diageo, SAB-Miller, Carlsberg, Kerry Foods and Glanbia.

Solution

Orbis worked with New Belgium to define an EMI solution for the brewery and select an appropriate foundation technology. After an extensive market search the Wonderware MES Suite was selected. The main reasons were that existing HMI on the site is Intouch and NBB store historical information in the INSQL database.

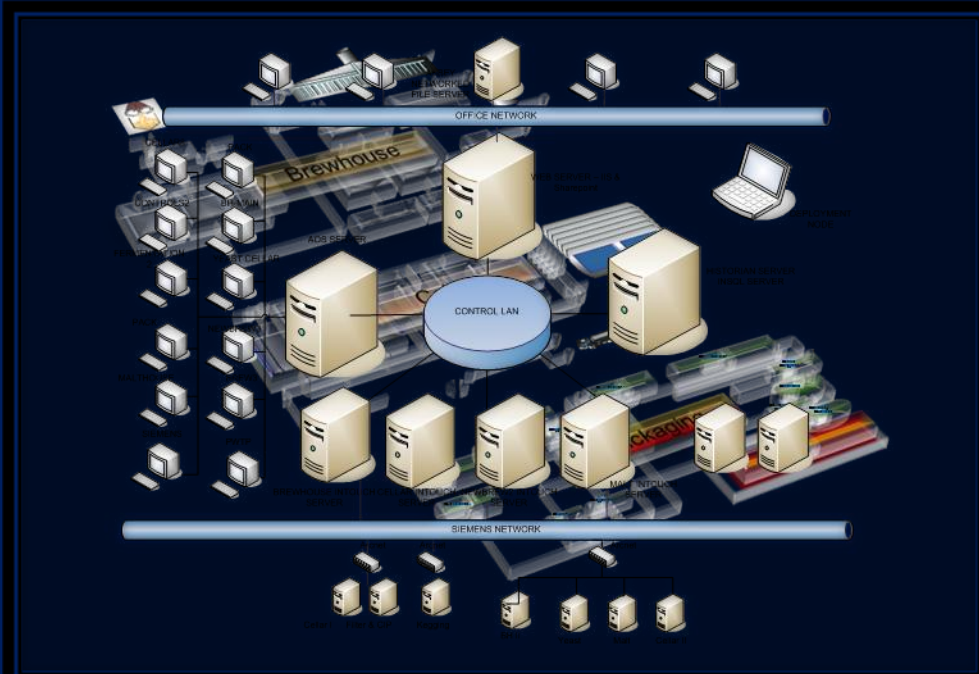
Orbis configured the brewery process as objects and PEM events using the IAS Galaxy. All process events are stored in the PEM database.

Orbis developed its own Track and Trace Web application with a tree view allowing the user to trace historically and in real-time a bottle of beer from the Packaging line right back to the Malt Truck Delivery displaying all transfers and raw material additions along the way.

The user can add / view Process, Lab information and manual movements to the LotId. The user can also view CIP information on a plant area and per vessel.

Orbis also developed a KPI Module web application allowing the user to create KPI calculations related to Lot ids and data tags. Users can view KPI results using a scorecard application per plant area.

Layout



Benefits

The mindset of the users changed. Interest in improving the process has increased and users are using intelligence to improve the way they move the beer through the Process providing better throughput and more effective process control.

Users are able to trace problem batches to yeast or incomplete CIP's, hence increasing cycle times and improving overall operating effectiveness.

High product quality and consistency has improved through more accurate and timely data and better visibility of the overall process.