

The Connected Enterprise

Using The Connected Enterprise to help unlock business value in the food supply chain

Food and beverage manufacturers continue to strive to achieve smart, safe and sustainable operations. In today's fast-paced industry, manufacturers must be flexible and agile in their operations to respond to changing consumer demands.

Innovations like the Industrial Internet of Things (IIoT), network convergence, big data and analytics, and mobility affect how food and beverage producers operate.

However, as Michael Cahill, technical consultant at Rockwell Automation explains, "It's not necessarily about the technology, the question that manufacturers need to be asking is how do these technologies enable new business value?"

Through technologies such as The Connected Enterprise, food and beverage manufacturers can develop a more agile response to changing consumer tastes. Faster time to market, lower costs, improved asset utilisation, and enterprise risk management can also be achieved.

"The IIoT has made technology advances that we could have only dreamt about in the past a reality. Smart manufacturing is available now and people are already adopting these technologies to see real business value," said Cahill. Today, The Connected Enterprise brings Information Technology (IT) and Operational Technology (OT) together into a robust, secure and collaborative way.

The IIoT is creating a new era for economic growth and competitiveness for industrial companies. Connected smart devices open new windows of visibility into processes. Data and analytics enable better and faster decision-making.

In this article we will explore how these technologies can be leveraged to connect processes and the food supply chain to achieve operational efficiencies and generate business value.

Collaborative manufacturing

Collaborative manufacturing can help businesses reduce inventories, improve integration with suppliers and customers and reduce time to market by streamlining end-to-end business and supply chain processes. This enables an accurate information base from which to make decisions.

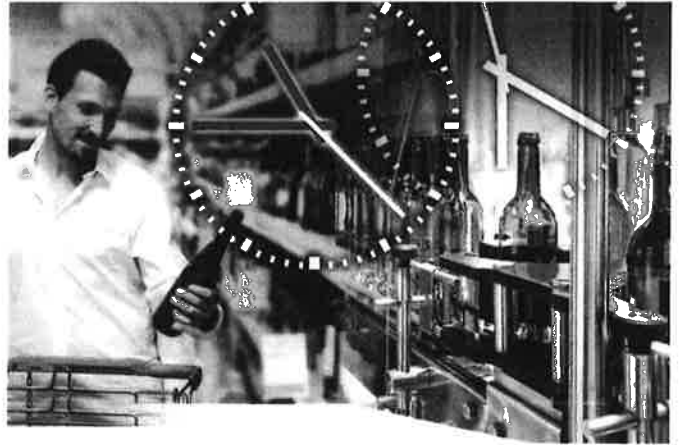
Through, collaborative manufacturing, critical business processes are identified and made as efficient and flexible as possible. The ARC Advisory Group introduced the Collaborative Management Model to provide a robust model of the manufacturing enterprise.

This model details the complex interactions, applications, collaborations and processes that a manufacturing enterprise entails. For the food and beverage industry this means aligning people, process, structure and systems to gain new operational insights. This improved visibility results in a more connected, efficient and profitable operation.

Connecting the entire supply chain

The Connected Enterprise facilitates a demand-driven supply chain by securely connecting people, processes, and technologies. Manufacturers can coordinate operations and communications.

Global manufacturer, Rockwell Automation, recently embarked on their own journey to the Connected Enterprise. Similar to other manufacturers with large product portfolios and a global manufacturing



presence, Rockwell Automation used a range of manufacturing processes at its 20 different plants. Each plant ran its own systems, with none of them talking to each other.

The company developed a five-year plan for the complete restructuring of their facility and supplier networks. The company started the journey by establishing a single connected system across the globe utilising Ethernet/IP. In tandem, they rolled out a new, unified ERP and MES solutions across all of the production sites. As a result, the company has experienced an estimated 4-5% annual improvement in productivity.

"When food and beverage manufacturers successfully connect business to production and suppliers to customers and also make their systems resilient to change, productivity is improved and business value is generated. If you focus on these three things in relation to people, business structure and IT/OT technologies, they are game changers," explains Cahill.

IT and OT convergence creates a common production platform and new technologies including mobile devices, the cloud, and big data can help securely connect plant information with enterprise systems. As a result of these advances in technology, manufacturing is predicted to change more radically in the next five years than it has in the last 20.

"By automating and using IIoT to connect suppliers to customers and business to production, the information flow within an enterprise and throughout the entire supply chain can be managed," said Cahill.

Supply-chain planners and purchasing managers now rely on an array of vendors from around the world, complicating management of lead times, quality and cost control. Throughout the entire supply chain from sourcing raw materials, to manufacture, distribution and return, the connection of people and processes via technology allows manufacturers to implement real-time decision-making.

"It is important to remember that the supply chain involves sourcing the raw product, manufacture, distribution and return – not just manufacture. People can sometimes have a silo focus where it's easy to think 'my part of the supply chain is covered', but when your brand is on a product it can be very difficult to explain to a customer that it wasn't your error," says Cahill.

A consumer response will have implications for everyone in the supply chain, highlighting the importance of reliable data and information exchange and the need for manufacturers to trace their products throughout the entire supply chain.