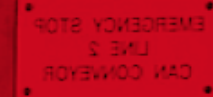


Factora Leverages GE Software to Optimize Food Manufacturing Performance

Factora Background

Factora is a manufacturing consulting company that helps its customers identify ways to improve performance efficiency and profitability. It plans, designs, and implements Manufacturing Execution Systems (MES) and Manufacturing Operations Management (MOM)—powered by GE software—to deliver key insights into its customers' processes and help them drive business value.

One of its customers is Premier Foods, which is among U.K.'s largest food producers. Premier manufactures a series of well-established food brands, including custards, cake snacks, bouillon cubes, ramen noodles, and a diverse spectrum of other foods. Prior to working with Factora, its various manufacturing sites were operating with a range of aging machinery.



Aging systems, lack of operational insight

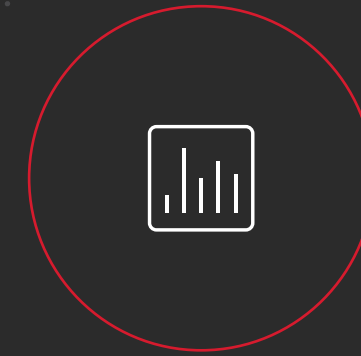
Many of the processes in place at Premier had been there for years or decades, and with no sensors on the machines. There was variability in the processes, and the manufacturer faced constant instability. Premier knew its plants were not operating at peak performance, but like any manufacturer without an MES, it needed help in figuring out why. It could not identify the root causes of issues or make improvements without better insights into key processes.



Aging systems



No sensors



High variability



Constant instability

The solution helps Premier get connected, get insights, and get optimized

That's when Factora came onto the scene, and the initial goal for Premier was simply to deliver savings in raw materials. With the right tools powered by GE software, Factora helped connect Premier's machines to get all the data, model the processes to visualize what's happening, and perform analysis to understand the correlations and root causes of issues—exposing insights into what was impacting the processes and how to improve them.

Factora's software tools and expertise helped Premier:

- Stabilize the production lines and the processes
- Expose the production lines to the operators for real-time insight
- Find the “profit loops” by identifying which control loops were causing problems
- Improve the processes to where they needed to be

Factora leverages GE software, which provides critical manufacturing analytics for production efficiency, execution and optimization. It connects machines, people and processes, tying all aspects of production together to maximize manufacturing efficiency.





Real-time decision support empowers operators

With the solution Factora put forward, operators at Premier are now armed with a real-time decision support tool. It's all about empowering manufacturers with real-time information, enabling them to make critical decisions as quickly as possible, with as much information as possible. There's a dashboard that displays real-time information, indicating to operators at Premier what needs to be addressed and in what priority—supporting true data-driven decisions.

For example, the solution has changed the way operators work by providing capabilities such as early indicators. Unlike in the past, operators can be proactive based on real-time information, such as oil temperature, which for example, can affect the weight of a block of ramen noodles. By exposing the right information to operators when they need to see it, they can take appropriate action in a timely manner if deviation occurs and correct the issue as soon as possible.

Premier is leveraging the power of the Industrial Internet to gain real-time intelligent insights, and the entire solution is hosted in the cloud by Factora.

⊙ Powerful ⊙ Outcomes

20% OVERALL EQUIPMENT
EFFECTIVENESS (OEE)
IMPROVEMENT

ROI IN LESS THAN TWO YEARS

GREATER PROCESS CONSISTENCY

HIGHER QUALITY PRODUCTS

IMPROVED WASTE STREAMS

LESS RAW MATERIALS USAGE

Results go beyond raw materials savings

The benefits of leveraging Factora's software tools have gone far beyond the initial goal of raw material savings. Premier now has key insights into all the key processes such as water activity, line speed, roller speed, heat, temperatures, and root-cause effects to understand what levers to pull to ensure consistent control, optimized yield, and quality.

For example, in Premier's OXO cube plant, the goal was to reduce the weight of the cubes. However, it was a balancing act to reduce the weight without compromising quality, where in the past higher weights tended to be easier to manufacture. With key insights into where to make changes in the processes for maximized consistency, Factora helped bring the weight of the cubes down while improving quality—resulting in savings for Premier as well as less customer complaints about the consistency of the cubes.

The Factora solution has also opened doors to the opportunity for higher sales. For example, in one of the cake snack lines, the goal was to reduce raw materials.

By stabilizing the process and enabling more control, Premier was able to not only use less raw materials but also reduce the calorie count of each cake snack—an attractive outcome that could potentially increase sales to customers who prefer and seek out lower-calorie snacks.

“Without the power of the Industrial Internet, these results wouldn't have been possible. We are hosting this solution in the cloud, using GE software to bring real-time intelligent insights to help our customers make the best decisions for optimized performance and profitability.”

Andrew Waycott, Chief Operating Officer and Chief Technology Officer, Factora

The future at Premier: Brilliant manufacturing

Data-driven insights have enabled Premier to become more competitive and to differentiate itself from other manufacturers. With the value it has realized from partnering with Factora, it plans to expand the solution to multiple projects across additional sites. The intelligent insights delivered by powerful and proven software tools will help Premier continue along its journey toward world-class brilliant manufacturing—delivering utmost quality, consistency, and performance.

“With Factora, we now get key insights into all the key processes... we understand what levers to pull to stay in control consistently and to ensure that our yields are very, very good.”

Karl Smith, Factory General Manager, Premier Foods



About GE

GE (NYSE: GE) is the world's Digital Industrial Company, transforming industry with software-defined machines and solutions that are connected, responsive and predictive. GE is organized around a global exchange of knowledge, the "GE Store," through which each business shares and accesses the same technology, markets, structure and intellect. Each invention further fuels innovation and application across our industrial sectors. With people, services, technology and scale, GE delivers better outcomes for customers by speaking the language of industry.

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