British Sugar hits maintenance sweet spot with Infor EAM

The sole processor of the UK's beet sugar crop, British Sugar works in partnership with around 3,000 growers to deliver a range of world-class products made to the highest standards for its customers. With factories that were first built more than 100 years ago, British Sugar processes approximately eight million tons of sugar beet and produces roughly 1.2 million tons of sugar each year for the British and Irish markets, as well as exporting to Europe and around the world.

Sugar processing is a complex, energy-intensive business, traditionally reliant on manual and sometimes inefficient processes that cost time and money. British Sugar delivers more than 50% of the UK's sugar. To keep up with this demand, British Sugar needed to transform its four sugar factories into digitally enabled manufacturing plants and remain a leader in its field.

Headquarters
Peterborough, England, UK

Industry
Food and beverage

Infor Product
Infor® EAM

Website
britishsugar.co.uk

> " **Running Infor EAM on mobile devices not only provides us with a modern, real-time way of working, but can save hours potentially in a single day.**"
>
> NICK SMALLEY
> Programme Manager, British Sugar

Creating a Factory of the Future

Over the last five years, British Sugar has invested £250 million into transforming its four sugar factories into digitally enabled manufacturing plants. Its Factories of the Future deliver over 50% of the UK's demand for sugar. Today, British Sugar manufactures the same amount of sugar as the 18 factories the company operated in the 1970s.

Sugar processing is complex and energy-intensive. The processing takes place across 42 weeks, starting in September once the sugar beet harvest begins from East Anglia, the East Midlands, and Yorkshire. Once harvested, the crop travel to one of four sites in Bury St Edmunds, Cantley, Newark, or Wissington, before being washed and processed.

The sugar beet is sliced into thin strips called cossettes and mixed with hot water to extract the sugar, while a lime solution removes any impurities, creating a syrup. The syrup is filtered, heated, concentrated, and seeded with tiny sugar crystals, which grow into the required size prior to being washed, dried, and cooled.

Moving to an asset performance management model

The scale and capabilities of the specialized equipment involved in sugar production means that effective maintenance is crucial to optimize availability throughout the autumn/winter processing window.

For years, Infor EAM has supported British Sugar's maintenance operations. The company has recently embraced the benefits of multi-tenant cloud to enhance safety, reliability, efficiency, and engineering productivity across the entire business.

By embracing the cloud, British Sugar can continue to move away from a planned maintenance model to a more predictive one, where monitoring identifies where equipment is falling short of performing optimally, so that remedial action can be taken before the equipment breaks. This reduces downtime, maximizes quality, and minimizes risk.

Callout stats

50%
is the amount of UK sugar demand delivered by British Sugar

200
grams of waste for every tonne of sugar produced

Connecting core systems throughout rural plant sites

Connecting its core systems is paramount to British Sugar's technology strategy. With connected systems, British Sugar can realize the benefits and potential of a predictive maintenance model, and deliver against Industry 4.0 and IIoT principles, including sensor-derived insights.

Because British Sugar's sites are all in rural areas, network reliability represented a barrier to achieving a truly connected enterprise as the company's digital enablement strategy was deployed. In addressing this challenge, the company is installing private mobile networks to ensure secure, high performance, and robust connectivity.

These networks are crucial as British Sugar deploys Infor EAM Mobile and enables its people to access Infor EAM out in the factory where they need it most. Having access at the source, or machine, to the full depth and breadth of maintenance-focused data within Infor EAM means that British Sugar employees can observe, record, input, and retrieve real-time insights. Previously, they had to make notes manually, risking time lags and errors pending a return to a desktop in an office.

"As a large site, the time taken to walk around a plant, make notes and return to an office is not insignificant," comments Nick Smalley, Programme Manager, British Sugar. "Running Infor EAM on mobile devices not only provides us with a modern, real-time way of working, but can save hours potentially in a single day."

In the event of an issue with the equipment, mobile applications can be used to contact remote specialist support at the site. Support can then review the specifics of the issue and expedite fault resolution. "Through being able to access high quality information, such as a full equipment record, comprising work orders, plant history, and supporting information, we can quickly complete details and take action immediately," says Smalley.

Not only does the software improve accuracy, efficiency, and reduce risk, it also helps British Sugar to attract new talent. "It stands to reason that young talent is unlikely to be motivated by the prospect of working with older, manual systems, so while it's hard to identify a bottom line benefit, the ability to compete for the best talent is hugely important for us strategically," Smalley explains.

Business challenges

- Support the manufacturing needs for complex and energy-intensive sugar processing

- Provide critical availability and uptime of specialized equipment throughout the post-harvest processing window

- Deliver network reliability at remote plant sites to create a truly connected enterprise

- Automate the gathering of information throughout large plant sites to save time and reduce manual processes

Optimizing resource utilization for a more sustainable future

Sustainability is at the forefront of British Sugar's strategy. A sugar beet travels on average just 28 miles from farm to factory. As part of its Factory of the Future investment, supported by Infor EAM, British Sugar's operations are incredibly efficient, as illustrated by less than 200 grams of waste for every tonne of sugar produced. This is because process outputs are used to make products including aggregate, topsoil, and animal feed, thus making the best use of all available resources to minimize cost and operate efficiently and responsibly.

> " Infor EAM is one of our core pillars moving forward, helping us to take our maintenance practices to the next level, consolidate our predictive maintenance model, and use EAM as a springboard from which to capitalize on new technologies. There are a million different ways to use the insights Infor EAM provides us with."

NICK SMALLEY
Programme Manager, British Sugar

A sweeter tomorrow for the Factory of the Future

Looking ahead, British Sugar wants to leverage its Factory of the Future to explore more ways to drive performance improvements and enhance sustainability activities.

"Infor EAM is one of our core pillars moving forward, helping us to take our maintenance practices to the next level, consolidate our predictive maintenance model, and use EAM as a springboard from which to capitalize on new technologies. There are a million different ways to use the insights Infor EAM provides us with," Smalley explains.

Examples of these specific initiatives include using AI to analyze sensor information and raise work orders automatically; supporting resource planning to refine skills utilization and uphold stringent safety parameters; and enabling deeper integration with British Sugar's ERP system to automatically order spare parts, streamline inventory, and assume greater control of stock.

"As our Factory of the Future evolves, we look forward to Infor EAM evolving with us. Twenty years ago, our maintenance was reactive, and for the last 20 it has been planned. Today, we're excited to embrace an era where sensors and AI can help us to realize a truly proactive, predictive maintenance model which not only helps us to maximize uptime and quality, but also capitalize on IIOT and Industry 4.0," concludes Smalley.

Business results

- Enhanced safety, reliability, productivity, and efficiency by moving maintenance software to the multi-tenant cloud

- Identified remedial action before failure, reducing downtime and risk with predictive maintenance

- Leveraged private mobile networks to ensure secure, robust connectivity

- Deployed mobile maintenance access at worksites to reduce time lags and errors associated with manual entry after the fact

LEARN MORE ↗