

# A Numbers Game

Krystal Gabert, Editor, Food Manufacturing

The demand for data management software in manufacturing plants has exploded over the last few years as manufacturers are realizing the benefits of quick response to information.

Data management software works by normalizing and storing data collected from every point in the manufacturing process. Incoming SKUs, fill levels on a bottling machine, energy usage in a boiler, line speed in the packaging area — all of these processes, and almost anything else imaginable, can be recorded and stored with most basic data management software.

The trick is understanding how to access and use it later.

Data management software functions by crawling a processor's operation, collecting data from distinct systems run on varying software platforms, and corralling that data so that it can be compared and analyzed side-by-side.

Most manufacturers go into a data management process not really knowing what they're looking for, says Sean Robinson, the global industry manager for GE Intelligent Platforms. "Our customers are surprised by what they're finding," he told *Food Manufacturing*.

Robinson says that data collection can help food manufacturers pinpoint areas of energy inefficiency they didn't even know existed. Once collected, data can be analyzed by almost unlimited metrics. If energy usage logs, for example, are compared to time-stamped logs reporting "in use" times for various pieces of equipment, spikes in energy use can be matched up with units in operation at those times.

This can help manufacturers identify faulty equipment in need of repair. Robinson boasts of a client who discovered a leaky heat exchanger by following this very data trail, saving the company thousands of dollars in energy costs.

With cloud computing and high-volume portable data storage solutions now available at minimal cost, the expense to collect and store data may now be within reach. With a lower cost-to-entry for data collection, even food manufacturers that don't quite know how they will utilize data in their facilities may choose to opt in. The data can be stored until manufacturers are ready to delve in; in fact, waiting a few months will allow manufacturers to gaze at a span of data that could provide interesting historical trends that may not appear in micro-analysis.

## The Challenges of Data Collection

Turning a plant manager into a data detective can be a challenge. First, data

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analysis straddles the line between business office and plant floor. Understanding the mechanical processes at work is integral to understanding the data itself, but though plant managers are best equipped for this role, they may be less empowered to make bottom-line decisions for the company. Second, when staring into a large pool of data, it can be difficult to know or decide where to start or which data to analyze first.

A competent software vendor will help manufacturers on both fronts. Working with plant managers and other decision-makers to develop a response plan for data management, vendors can help empower food manufacturers to harness and respond to data. Vendors can also put together analysis tools that crawl data for the most common issues facing manufacturers in a particular sector. By creating these standard analysis tools, vendors can aid manufacturers in solving the most common problems or issues that data collection can bring to light.

By pulling data out of its housing silos and legacy systems and integrating it into one common pool that allows operators to cross-reference years worth of process figures, data collection software can uncover previously unseen problems.

### **An Eye to the Future**

While sleuthing through data can help manufacturers uncover historical problems in their processes, it can also simplify budget forecasting for the front office. With a massive amount of data that covers every possible facet of the production process, accountants and budget directors can compare data from various sources to war-game various scenarios:

1. What does energy usage look like on a high production day with unseasonably cold weather?
2. How often have we historically had to change out the valves on the egg salad line? What about the chicken salad line?
3. Exactly how much does production fluctuate month to month, and what is the net effect on equipment burnout?

Using available data, forecasters are able to create budgets based on historical numbers instead of industry averages or best practice metrics, which may not take into account the idiosyncrasies of individual facilities.

Robinson says that his clients see data collection, management and analysis as “a competitive advantage.” In an industry where profit margins are narrow, truly understanding the effects of equipment functions and process decisions on the bottom line can make the difference between a manufacturer who stays a step ahead and one who gets left behind.

*For more information, please visit [www.ge-ip.com](http://www.ge-ip.com) [1].*

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