



# THE JOURNAL

From Rockwell Automation and Our PartnerNetwork™

## 2016 Best Practices in Process Automation

As an industrial producer, you must keep up with evolving customer demands, reduce costs and increase efficiency. Discover best practices from companies that use a modern distributed control system to achieve plantwide control, easier skid integration, scalability and more. See how the United States' fastest-growing yogurt company increased capacity by 300% after switching from manual to an automated process operation; how a cable sealing frame helped a firm customize motor controllers; how a batch-management solution helped the world's largest ice cream-making facility with frequent recipe changes; and how a wastewater facility increased efficiency using visualization. Also learn best practices for integrating consistent batch-management systems that produce measurable improvements.

Start ▶



In 2012, Noosa Finest Yoghurt built a new yogurt facility located on-site here at Morning Fresh Dairy, allowing the company to receive fresh raw milk directly from the farm.

## FOOD COMPANY SLASHES LOST BATCHES BY 95%

Fastest-growing yogurt company in the United States uses process automation to switch from a manual operation to an automated facility in just six months, increasing production capacity by 300%.

➤➤ What began as a quiet vacation to Noosa — a small, coastal town in Queensland, Australia — fueled one big idea that turned into the fastest growing yogurt company in the United States.

While vacationing in Noosa, Koel Thomae fell in love with uniquely decadent, Aussie-style yogurt — borrowing the common Australian spelling of the word — produced and sold locally by Paul and Grant Mathewson. Without any entrepreneurial background, Thomae convinced the Mathewson brothers to launch their family recipe for yogurt in the United States and establish what is now known as [Noosa Finest Yoghurt](#), located in Bellvue, Colorado.

Producing what is described as indulgent, artisan yogurt, Noosa officially launched in 2010 focusing on local Colorado consumers. But, the original taste and distinct sweetness of the yogurt quickly powered growth and drove demand. In less than four years after launching, Noosa has expanded its market and can be found in all 50 states.

### Growing Pains

When it first launched, Noosa produced all of its yogurt manually — beginning at the dairy farm. The facility

is located conveniently on-site at Morning Fresh Dairy, which allows Noosa to receive fresh raw milk directly from the farm.

The next steps involved blending cream and manually measuring and metering the signature ingredients — such as honey and fruit — into the mixing tank. Operators were challenged with monitoring critical processes, but also had the intensive job of setting up valve transfer paths, dialing-in mixer and pump speeds and adjusting crucial temperature control valves. Each step had to be conducted manually, and all data tracked, monitored and charted by hand, as well.

If something were to go wrong, Noosa would spend hours troubleshooting, and often times employees were only able to hypothesize what the issue could be — there was no way to track data back and pinpoint where, when or why the issue occurred. “We needed a way to track data for our own quality assurance, and also for the different regulatory reports required by the FDA,” explains Wade Groetsch, COO, Noosa Finest Yoghurt.

Noosa needed a way to track data and monitor the process without increasing human capital. As demand



for the yogurt grew, Noosa had only one option to meet production without increasing resources — automate the process.

“We had no expectations that our product would take off so quickly,” says Groetsch. “When we picked up some large retail customers, it became a reality that we needed to expand our facility — and expand quickly to fulfill orders. The only way we could increase capacity and keep up with demand was to automate. Not only that, but we foresaw demand increasing well into the future, so in order to meet our production goals, we needed a system that would monitor the process, collect data and allow for easy future expansion.”

### New Facility Meets Demand

In 2012, Noosa chose to build an entirely new 25,000-sq.-ft. yogurt facility located less than 50 meters away from its existing facility. Noosa collaborated with [Malisko Engineering](#), a Solution Partner within the Rockwell Automation PartnerNetwork™

The fully-automated control system at Noosa’s new 25,000-sq.-ft. yogurt facility lets operators capture material tracking data easily, such as raw milk/cream receiving information, critical process temperatures, ingredient amounts, batch cycle times and clean-in-place.

program, to design and implement a fully-automated control system for yogurt production, clean-in-place (CIP) and utilities.

Malisko implemented a [PlantPAx® modern distributed control system](#) (DCS) from Rockwell Automation. This scalable, plant-wide control system helps increase efficiency and access to real-time information.

“Malisko already had an understanding of the system architecture from past process implementation projects and was able to demonstrate the predefined system library and how the components worked together. Being able to help speed up the development time made PlantPAx our obvious choice,” notes Groetsch. “We wanted a proven solution that would allow for future growth, and we found that in the process system from Rockwell Automation.”

EtherNet/IP™ serves as the system’s communications backbone to deliver real-time information throughout





the facility. The Malisko team deployed the PlantPAx server components on a virtualized host from Encompass™ Product Partner [VMware](#) and deployed thin-client technology for the plant floor human-machine interfaces (HMIs).

The team also implemented technology from two Rockwell Automation Strategic Alliance Partners: a [Microsoft](#) Active Directory domain controller for integrated user security, incorporating [Cisco](#)® VPN firewall technology for remote access. This allows plant engineers to remotely troubleshoot and provides the option to deploy various system changes from anywhere with Internet access.

“Our plant runs 24/7. In the past, when we would get a call at two in the morning where something wasn’t operating normally, one of us would have to get out of bed and drive to the plant,” says Groetsch. “Now, with our remote monitoring capabilities, we are able to securely login from home and assess issues off-site.”

A byproduct of the process automation system is a wealth of data. The new system implementation provides manufacturing intelligence solutions, allowing the Noosa staff to capture material tracking data easily, such as raw milk/cream receiving information, critical temperature at specific points in the process, ingredient amounts, batch cycle times and CIP tracking. Data now can be retrieved to investigate process excursions, saving valuable time and money when troubleshooting. Most importantly, employees no longer need to hypothesize.

The new system also is readily equipped for future growth. “We planned ahead during the system sizing phase of the project,” explains Dan Malyszko, lead systems engineer, Malisko Engineering.

“The PlantPAx system is the ideal automation platform for a rapidly growing operation given its built-in

scalability. As new equipment and process units are needed to support demand, Noosa has the ability to add additional I/O, [programmable automatic] controllers, and servers without adversely affecting the base PlantPAx characterized architecture,” Malyszko adds.

## Efficient Operations

Noosa’s new, fully-automated yogurt control system was developed and deployed in an unprecedented six months. The company’s increased visibility into the production process has improved operations and made the overall yogurt process more efficient.

“Our new facility allows us to produce more yogurt, but also produce it more consistently,” says Groetsch. “Our manual process had many inconsistencies and many times resulted in lost batches of yogurt. With the PlantPAx system, we’ve decreased lost batches by 95%.”

Since opening the new facility, Noosa has increased production capacity by 300% without the addition of more employees and resources. Filling only one cup of yogurt at a time when first opening in 2010, the two lines can now fill approximately 100 cups per minute.

Demand for Noosa’s yogurt continues to grow at a staggering rate, and the company is currently working on another expansion project. □

*[Malisko Engineering](#) of St. Louis is a Rockwell Automation Solution Partner for Information, Control & Process. Its multidisciplinary team of engineers, designers, programmers, and automation and validation specialists help clients safely increase production speed, reduce cost and maintain product quality.*

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