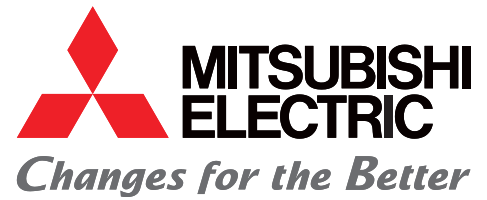




for a greener tomorrow



ISSI revolutionizes the bagged ice palletizing process with EVOLUTION — designed from the ground up using CC-Link communication protocol and all Mitsubishi Electric components

Case Study

Solution

- L Series Programmable Controller
- CC-Link Communications Protocol
- MR-J3 Series Servo Amplifier and Motor
- FR-E740 Series Safety VFD
- GT23 8.4 Inch Color VGA HMI

ISSI Evolution Product Benefits

- Doubled speed vs. incumbent palletizers
- Better handling of multiple bag sizes
- Reduces labor costs and challenges

Mitsubishi Electric Value-added Advantages

- Universal component communication via CC-Link
- Single source for PLCs, HMIs, servos and other components
- Outstanding price point

BACKGROUND

Founded in 1977, Ice Systems & Supplies, Inc. (ISSI), headquartered in Rock Hill, South Carolina, is a full service supplier to the packaged and commercial ice industry — a high quality, go-to source of equipment, service and support for the contemporary “Ice Man.” The company provides water treatment systems, condensers, cooling towers, ice makers, conveyor systems, baggers and sealers, dispensers, ice bins and more from all major manufacturers, and is a leading provider of needed replacement parts and fast, expert field service designed to keep their customers’ operations running smoothly and efficiently. ISSI also provides innovative “inside” tech support to help customers troubleshoot and get fast, effective answers to challenges with electrical systems, refrigeration systems and other general ice plant equipment areas. And, ISSI provides expert design and renovation of ice-making plants, including CAD design, automation and controls, and consulting expertise.



“Our Vision for a best in class palletizer included getting everything on one single common platform, and Mitsubishi’s CC-Link lets us do that. It’s simpler, cleaner and easier to wire — and there’s no more lag in communication between components that can be a drag on operating speed.”

– Kevin Lauricella, Automation Manager, ISSI

CHALLENGE

According to ISSI Automation Manager Kevin Lauricella, the cost and availability of labor as well as the seasonality of the business are huge issues for their customers in the packaged and commercial ice industry.

“Labor is expensive, and it can be challenging to find people who are willing to stack 40 pound bags of ice all day,” he said. “Especially since they might only be needed for short periods of time.”

Lauricella notes that there are very few areas of the country where there is high ice demand year round — in the cooler states the season could last only 3-4 months and in most of the warmer states only about 7-8 months. And, there are brief surges around holidays like July Fourth, Thanksgiving and Christmas, which can last just a few days.

“If you don’t supply your customers efficiently during those strong demand bumps, you could easily lose most of your profits for a good part of the year,” he said. “Making the ice, getting the right bags on the right pallets and getting them out the door quickly is very important to our customers.”

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SOLUTION

As ice industry insiders for nearly 40 years, Lauricella noted that he and his colleagues at ISSI believed that they could step up and provide their customers with a better solution, significantly raising the bar over current automatic palletizers with a custom machine, designed and manufactured in-house.

“Our customers want speed, they want the flexibility to run multiple bag sizes with quick changeovers, and they want a good price point too,” said Lauricella. “The ISSI Evolution gives them all that and more.”

Maybe better to call it “revolution,” at least from the customers’ perspective. According to Lauricella, the ISSI Evolution doubles the palletizing speed of conventional machines, allowing customers to increase their stacking rate of, for example, 20-pound bags, from 20 to 40 per minute for the same cost and footprint. In addition, the Evolution’s innovative product lifting system, with multiple suction cups, allows the processing of bags ranging from 7 pounds to 40 pounds without extensive intervention. It all adds up to lower costs, faster palletizing and minimal personnel challenges.

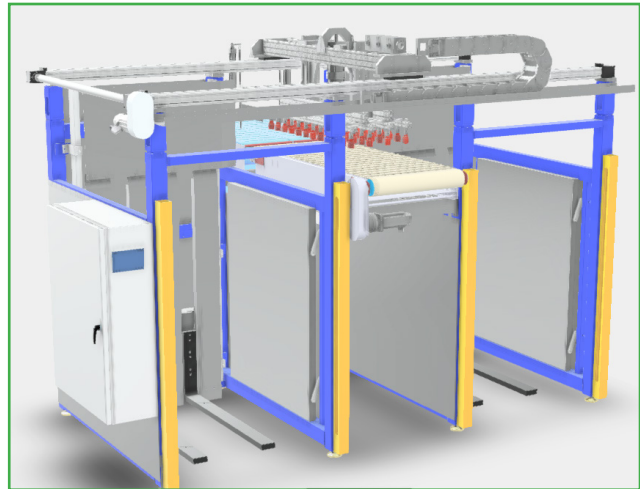
Meeting those impressive specs took decades of automation and palletizing experience and mechanical innovation from Lauricella and his team—and a just little help from outside suppliers like Mitsubishi Electric.

“We were looking for a single source of supply for all the needed automation components at a good price point, and Mitsubishi Electric provided that for us,” said Lauricella. “We looked at other companies to be our standard component supplier, but they were either too expensive, had more complicated communications, or both. Mitsubishi Electric provided an overall control solution from a trusted supplier.”

All Mitsubishi Electric products run on open CC-Link communications protocols, unlike the proprietary networks favored by many large automation suppliers, allowing ISSI’s customers to benefit from universal communications and “plug and play” design and expansion.

“Before Evolution, palletizers usually had the motors on one network and the touchscreen on another and the servos on yet another. Our vision for a best in class

palletizer included getting everything on one single common platform, and Mitsubishi Electric’s CC-Link lets us do that. It’s simpler, cleaner and easier to wire — and there’s no more lag in communication between components that can be a drag on operating speed,” he said.



RESULTS

A new palletizer can be a major capital investment for an ice plant, but interest and excitement around the Evolution is strong and growing, especially as the industry sees the benefits that are quickly accruing to those plants that are replacing outdated palletizers — or transient personnel — with an Evolution system. ISSI is fielding reports of ice plants palletizing their entire production with only one or two people, and Lauricella notes that ISSI recently had a customer replace two old palletizers with just one Evolution — maintaining or increasing volumes at lower costs and smaller footprint.

In addition, he notes, being the creators and exclusive provider of a game changing palletizer is a great entree to plant design and other “ground up” design and development work, elevating ISSI above competitors that are solely equipment distributors for other OEMs.

“We have built a palletizer that can significantly reduce their labor costs and increase their speed right off the bat,” he said. “It can be a very effective foot in the door.”

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