



## A Customer Had An Idea – and IPS Made It Happen

Integrated Production Systems, also known as IPS Custom Automation, was approached by a manufacturer who needed a new solution for producing anechoic foam; the kind of foam used in acoustic applications, as well as in electromagnetic damping.

The customer had been impregnating soft foam with two types of chemicals in a two-part process that used two different machines. Each machine soaked the foam in its assigned liquid and then squeezed out the excess.

Together the two machines had a large footprint, and because they were more than thirty years old, they required constant repair and maintenance. Something new was needed, so the foam manufacturer reached out to the integration experts at Integrated Production Systems.

### **The Right Team and Right Components Make All the Difference**

IPS typically provides a wide range of solutions for both defense and commercial customers. And they were the right company for building a commercially-viable custom solution with advanced motion control.

The foam manufacturer had three key considerations:

- Efficiency
- Cost
- Reliability



TSN enables real-time data collection  
from all devices on the shop floor



To realize these, IPS looked for assistance from Womack Machine Supply, a Mitsubishi Electric Automation Diamond Partner Distributor Elite. Why Womack? Seth Fuller, IPS Vice President of Engineering, said, “We knew Womack and knew they had the knowledge we needed. They jumped in, tutored us, and pulled us along. A lot of distributors don’t have the subject matter experts on staff to do that.”

Seth also noted that this was the first time they had used products from Mitsubishi Electric. “That’s why we tapped Womack on the shoulder to assist. Normally we do all the development on our own with in-house engineering. But we trusted Womack and they trusted Mitsubishi Electric for all the automation components.”

“As you can imagine,” continued Seth, “The learning curve for new motion systems can be high. But Womack helped make the learning curve more manageable.”

### **A Team That Works Together, Using Components That Work Together**

Mitsubishi Electric is known for their quality, reliability, and cutting-edge capabilities. IPS was able to design, engineer, and implement the machine in a more cost-conscious way because the automation components were all manufactured by Mitsubishi Electric. These included VFDs, Servos, HMIs, and a PLC with embedded motion control. Womack sized and selected all the components using only Mitsubishi Electric.

According to Sean Manus of Womack, “We use total solutions because they’re highly functional, while being easy to deploy and maintain. And all the components are designed to work together. The machinery itself is

complicated enough, so it’s important that everything is compatible. That’s why we went all-in with Mitsubishi Electric.”

The Mitsubishi Electric Automation team recommended using the new CC-Link IE TSN network, which is a very powerful tool. According to Account Manager Greg Bried of Mitsubishi Electric, “TSN is flexible, simple to use, and delivers a terrific performance speed.”

Mitsubishi Electric is part of an industry consortium that helped develop TSN.

### **Advanced Motion Control? Not a problem.**

Womack’s engineering expert, Mike Korinko said, “There were eight axes of movement at multiple points, with two conveyors moving up and down within a chain system. In addition, jack screws were moving at the same time as the chains. These are very complex movements.”

Happily, TSN delivers gigabit Ethernet performance and time-sensitive networking, so you can reserve bandwidth for controls. The hallmarks of TSN are:

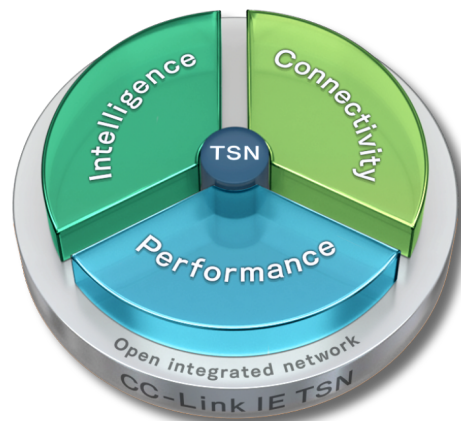
- Real-time networking
- Seamless communication
- The elimination of information silos

Many of the components from Mitsubishi Electric are TSN-enabled, contributing to advanced motion control through the prioritization of bandwidth.

To help IPS master the programming for TSN, Mitsubishi Electric Automation provided extensive training for the new system. Seth says, “They walked us through all the new TSN steps. Once we got through the learning curve, it was just like programming any other system.”

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*“The ‘graybeards’ from Womack and Mitsubishi Electric were an essential part of our team and were always just a phone call away. With that kind of collaboration, you can’t go wrong.”*

– Seth Fuller, Vice President of Engineering  
IPS Custom Automation

This new networking system made a huge difference in the successful operation of this very complex machine. In addition to coordinating the movement of the foam, the system’s digital controls enabled the manufacturer to store and call up the different chemical recipes used to treat the foam.

### From Aging to Awesome

Seth Fuller said, “Their old multipart machinery required endless maintenance and looked like something out of Frankenstein’s lab. The new streamlined machine combines all actions into a single device that’s easier to use, more productive, and has a much smaller footprint.”

He also said, “The customer was pleasantly surprised at the cost and quality of everything from Mitsubishi Electric.”

One outstanding benefit for IPS was that both Womack and Mitsubishi Electric were able to offer Subject Matter Experts (SMEs) who had extensive experience with all of the automation components.

### AUTOMATION SOLUTION INGREDIENTS

- CC-Link IE TSN
- FR-E800 Series VFD
- Servos
- FX5 PLCs
- GOT Series HMI

### NEXT STEPS

For more information or a free consultation with an automation engineer, please

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Integrated Production Systems  
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**Automating  
the World**