

The MOXA logo is located in the top right corner of the image. It consists of the word "MOXA" in a bold, white, sans-serif font, followed by a registered trademark symbol (®). The background of the entire slide is a photograph of a factory production line with a blue conveyor belt carrying several white, cylindrical food containers. The containers are in sharp focus in the foreground and become increasingly blurred as they recede into the background, creating a strong sense of depth and motion. The lighting is industrial, with some blue highlights on the machinery and the conveyor belt.

Ambassador  
Controls & Engineering

## ***Feed The Future : Achieving Zero Food Waste***

At a Glance

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# At a Glance

At a Glance

## Reducing Food Waste and Increasing Access: Food Industry's Vital Role

Food insecurity continues to be a pressing issue in the United States. In 2020, Feeding America reported that about 42 million people, including 13 million children, lacked access to sufficient food for an active, healthy life. Therefore, reducing food waste and ensuring the country's food security has become imperative, and the food and beverage industry's efforts are more important than ever.

## Revolutionizing Food Production With Digital Transformation

For over a century, Dallas, Texas has been the hub of the food and beverage industry, home to over 15,000 food-related companies, including major players like Frito-Lay, Coca-Cola Southwest Beverages, and Dean Foods. Amid this rapidly evolving industry, Ambassador Controls & Engineering, an industrial engineering solution provider in Dallas, is revolutionizing food and beverage manufacturing by providing cutting-edge solutions that encourage digital transformation and automation. As the industry continues to evolve, adopting new technology is crucial in shaping its future and reducing food waste.



**Ambassador Controls & Engineering**

Founded in: 2016

Headquarters: Texas, US

Industry: Manufacturing

Website: <https://ambassadorcontrols.com/>

# Business Challenges

Business Challenge

## Downtime in Food Processing Plants Leads to Increased Food Waste

Food processing plants typically run their equipment for 16 to 20 hours a day, but unfortunately, downtime is an inevitable part of manufacturing operations. Recent surveys have shown that downtime can lead to a loss of at least 5% of production capacity for most manufacturing sites, and sometimes it can take up to 20% of operational hours. This translates into increased business operation costs and disrupts the supply chain, causing delays in deliveries.

With the global food crisis looming, measures to avoid food waste are more critical than ever. In the food and beverage industry, downtime can lead to increased food waste, as processing plants often handle delicate and time-critical products. Delays in getting materials across production lines can cause food to spoil, and damaged machines can lead to bacterial growth and food contamination, resulting in the disposal of whole batches of food if production cannot resume in time.

## Maintaining a Competitive Edge Through Efficient Issue Resolution

The Director of Engineering at Ambassador Controls Brian Msal, explained that the company typically serves as a Tier 1 partner to their customers, providing essential support for their mission-critical production tasks.

Msal emphasized the importance of efficient and prompt issue resolution in maintaining the company's frontline position as a technology partner. As a leading provider of support services to manufacturing sites, Ambassador Controls aims to expand its exceptional service support to over 10 manufacturing sites annually. However, permanently stationing professional personnel at each site is not a cost-effective option for Ambassador, posing a challenge in ensuring timely resolution during breakdowns.



Reducing the downtime in food processing plants is critical to minimizing food waste.

# Solution

Solution

## Seamless Support: Remote Access Anytime, Anywhere

Ambassador Controls faced the challenge of providing timely support to customers across multiple manufacturing sites. To address this, they partnered with Moxa to deploy a secure remote access solution. Moxa Remote Connect (MRC) secure remote access gateways were installed onto manufacturing equipment panels, enabling easy and secure remote diagnostics, maintenance, and troubleshooting, regardless of the location or time zone. The MRC server was hosted on AWS, providing end-to-end secure tunnels between the MRC client (engineering team) and the machine behind the MRC gateway.

This allowed Ambassador's engineers to prioritize support, conduct preliminary troubleshooting, and offer real-time support to customers, resulting in a more streamlined and efficient process. The VPN secure tunnel, incorporated in the MRC solution, also addressed concerns about customer's internal systems' security. By providing a safe and secure connection, customers no longer had to worry about unauthorized access.

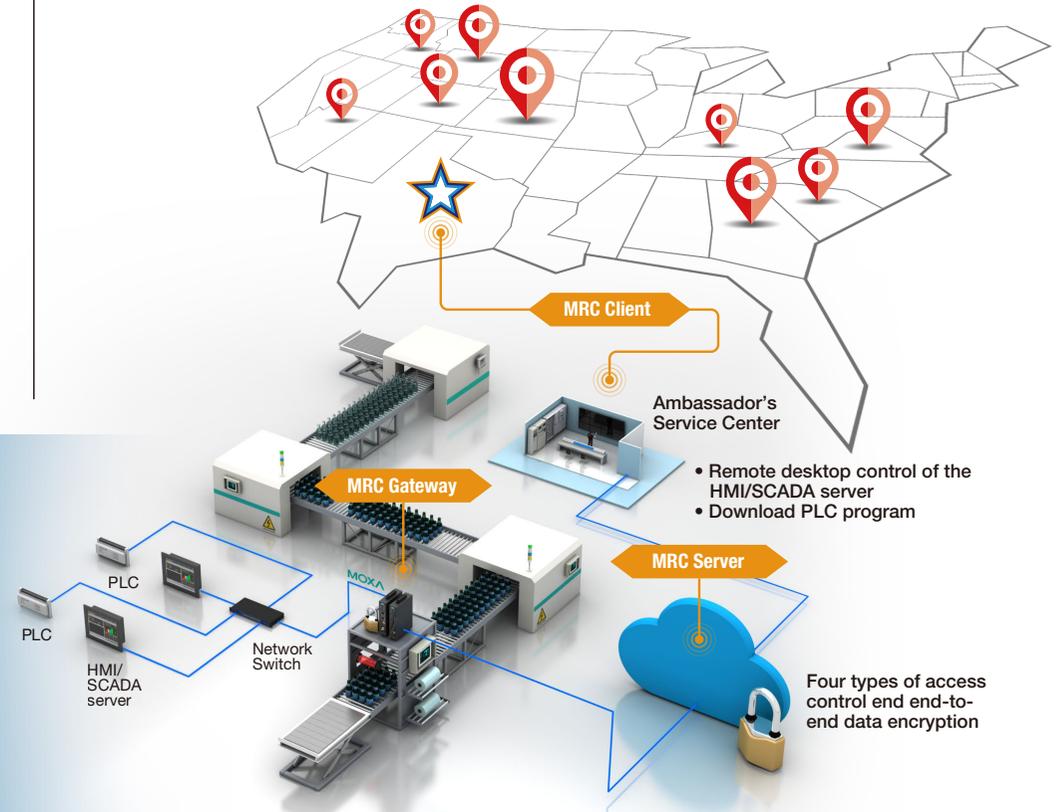


"The interface provides ease of use to our customers and engineers, which is a top priority for us. After evaluating multiple solutions, Ambassador Controls has chosen Moxa MRC for its user-friendly web-based interface to better serve our customers and streamline our maintenance processes."

**Brian Msal,**  
Director of Engineering at  
Ambassador Controls

## User-friendly Interface for Engineering and Operating Personnel

Another unique feature of the MRC solution was its user-friendly interface, which enabled both on-site manufacturing operators and Ambassador's engineers to access specified devices and connect to the MRC gateway easily with role-based control. This allowed for greater flexibility, ensuring that general operating personnel could assist with system checks and troubleshooting, even during labor shortages .



Breaking Barriers in Customer Support.  
Ambassador Controls and Moxa's Secure Remote Access Gateway Provides Easy  
Troubleshooting and Maintenance for Multiple Manufacturing Sites

# Results

Results

## Preserving Food and Reducing Waste: Making a Difference in Industry 4.0

By implementing remote access solution, Ambassador's engineers can reduce the carbon footprint of traveling and solve customer problems from their office, making it easier to prioritize and serve customers efficiently from anywhere. "Remote access service is a standard we have nowadays. With that standard, we use Moxa MRC to facilitate communication," said Brian Msal, Director of Engineering at Ambassador Controls. Besides improving customer experiences, Ambassador's remote access solution contributes to social development sustainability by preserving more food and reducing production downtime and operating losses for clients. By reducing the need for on-site maintenance, Ambassador is also reducing the amount of disposed waste.

Since 2020, Ambassador has upgraded its service level through instant response using Moxa MRC solution. "Moxa's MRC revolutionized Ambassador Controls' response time, resulting in high levels of customer satisfaction." Says Brian Msal. "The previous day-long wait is now reduced to instantaneous access in emergencies, securing Ambassador Controls' position as a leader in industrial maintenance."



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