



Delivering food inventory excellence: Deploying HACCP-compliant IoT systems on Azure Cloud

With a firm commitment to excellence, our customer embarked on a comprehensive journey, aligning their entire food supply chain, from farm to fork, with the stringent HACCP standards. Through monitoring, compliance, and ongoing assessment, they established a foundation of trust and credibility, positioning their brand at the forefront of the industry.

Customer in spotlight

Our customer is a dynamic leader in food safety and compliance, providing innovative solutions for businesses of all sizes. With a team of industry specialists and tech veterans, they set out to create a game-changing online food safety system. Their relentless pursuit of excellence led to the development of state-of-the-art equipment and software that redefine industry standards.



◆ FUN FACT

According to the McKinsey Global Institute, the number of IoT devices exceeded the world's population in 2008, and by 2025, it is estimated that there will be around 64 billion IoT devices globally.

Key challenges

- 01 Inadequate food safety measures led to **compromised inventory quality**, hindering global market expansion and causing resource inefficiencies
- 02 Manual health checks and reactive methods **couldn't meet stringent food safety standards**, and the absence of a comprehensive dashboard prevented timely and accurate monitoring of food quality
- 03 **Siloed teams across logistics** further obstructed resolution of inventory quality issues, while reliance on manual processes increased labor costs and introduced inefficiencies in inventory management
- 04 The **lack of real-time data** hindered quick decision-making, contributing to wastage, higher expenses, and compromised inventory integrity

Solution

Our customer's **quest for meeting the highest global standards of food safety** led us to **develop an Azure-based, HACCP compliant system** that transformed their operations. This comprehensive solution enabled the analysis and control of biological, chemical, and physical hazards, ensuring the utmost food safety. By leveraging IoT Technology, we built **a connected ecosystem that linked producers, manufacturers, suppliers, retailers, and other stakeholders on a unified platform**. Real-time data from wireless devices accelerated the reporting and correction of potential food hazards, providing swift insights into food hygiene.

To optimize inventory hygiene, **we integrated RFID signal boosters and bluetooth-enabled thermal sensors to track logistic movement and refrigeration temperatures in vehicles**. This IoT technology **seamlessly reflected on an android based tablet allowing operators to regulate system movements and maintain optimal storage conditions**. A centralized dashboard provided a holistic view, consolidating data from multiple sources and locations. It offered real-time insights into delivery checks, reheat checks, hot/cool checks, cleaning, temperature checks, and active sensor monitoring, empowering controllers to make informed decisions and ensure compliance.

The implementation of our solution enabled our customer to **unlock new international trade opportunities, enhance their bottom line, and preserve their strong brand reputation**.



Insights and impact

The combination of **IoT and Cloud Technologies** facilitated **operational efficiency and compliance throughout the supply chain**. Real-time insights obtained from IoT devices were **seamlessly integrated into the Cloud, enabling comprehensive analysis, trend identification, and predictive insights**. The centralized dashboard empowered controllers to make informed decisions **based on up-to-date** information, ensuring compliance with HACCP standards and reducing risks associated with food safety.

The influence of industry trends such as IoT and Cloud on our customer's outcomes cannot be overstated. The integration of IoT devices significantly accelerated data capture and reporting, while harnessing the power of Azure Cloud provided the essential infrastructure for seamless Data Integration, scalability, and security. Through these advancements, our customer's end customers, including supermarkets, restaurants, and more, were able to embrace digital transformation, optimize their supply chains, unlock new trade opportunities, improve their financial performance, and safeguard their esteemed brand reputation.

<hr/> Centralized data flow Centralized data collection and dissemination	<hr/> Inventory mastery Optimized control of resources	<hr/> Instant insights Real-time alerts and automated adherence
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