



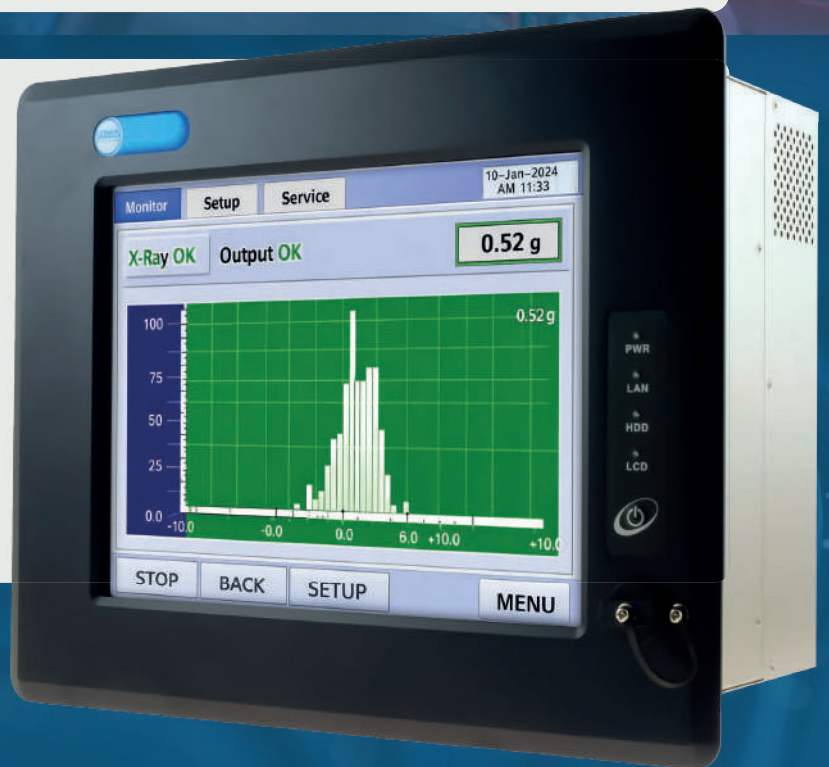
Integrated Industrial Panel PC

Food Processing X-Ray System Automation



Capttec delivered an industrial panel PC platform to support X-ray inspection systems used in food production. The solution provides reliable, continuous operation in wash-down environments, helping maintain inspection accuracy, system uptime and long-term stability for critical food safety applications.

The customer is a global provider of industrial computing and intelligent display technologies. They design rugged panel PCs, embedded systems and edge AI platforms used in manufacturing, transportation and energy. Their solutions support automation, data-driven decision-making and long-term digital transformation across complex industrial environments in more than 80 countries.



The Challenge

The customer required a reliable computing platform that could operate continuously in a demanding food production environment. Their X-ray inspection systems play a vital role in safeguarding food safety by detecting defects and contaminants, where any failure could halt production and reduce output. Maintaining system uptime was critical, as even short periods of downtime could directly affect productivity and customer satisfaction.

They also needed long-term supply continuity and material control to ensure consistent hardware and software performance across their product roadmap. This required a solution that could maintain compatibility over an extended lifecycle with minimal engineering intervention.

Additionally, the system needed to meet strict environmental standards, including IP65 protection for high-pressure wash-down conditions, ensuring that the platform could withstand exposure to moisture and cleaning chemicals without compromising functionality. Finding a durable, commercially available system that could operate reliably under harsh conditions was essential to reducing operational risk, avoiding production delays and maintaining the high standards of product quality and safety expected in food manufacturing.



The Solution

Captec proposed a commercial off-the-shelf computing platform that met the customer's operational, environmental and long-term stability requirements. The system was built using industrial-grade components to ensure reliable performance in food production environments where wash-down cleaning and continuous operation are routine.

To maintain software consistency and control, Captec recommended a managed configuration incorporating a custom BIOS, a controlled system image, and a Windows Embedded operating system. This approach helped standardisation across multiple units, simplifying updates and reducing software-related variability during operation.

The proposal also included flexible stock holding to support fluctuating production schedules and maintain system availability throughout the customer's manufacturing cycles. By specifying a proven COTS platform with industrial-grade resilience and tightly managed software control, Captec's system addressed the customer's need for supply continuity, environmental durability and dependable long-term operation. This provided a stable foundation for their inspection systems, providing a trusted foundation for critical food safety operations.



The Outcome

Captec delivered an application-specific computing solution that successfully met the customer's operational and technical requirements. Completing software imaging at the production stage significantly reduced engineering installation time, enabling faster integration and consistent configuration of all inspection systems. This allowed engineers to focus on operational performance rather than time-consuming setup activities.

The adoption of a stable, long-term platform reduced the need for redesigns and engineering changes, saving both time and resources over the planned five-year lifecycle. Platform consistency also limited the frequency of hardware updates and ensured predictable system behaviour, helping the customer maintain high levels of reliability across their production environments.

Coordinated supply and logistics management by Captec further reduced the customer's stock requirements while improving delivery turnaround times in line with variable production schedules. Service and support costs were controlled through the use of standardised components and robust configuration control. Overall, the system provided a dependable and cost-efficient computing foundation that strengthened productivity, optimised engineering resources, and supported long-term operational reliability across their inspection systems.



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