



Custom Industrial Workstation

Advanced Defect Inspection & Metrology

Captec delivered an advanced, scalable visual inspection system, featuring a cost-effective custom chassis, high-performance Intel Xeon processors, and optimised component selection for enhanced reliability. End-to-end supply management, lifecycle visibility, and collaborative technology roadmapping reduced costs, improved availability, and ensured long-term system performance to meet the customer's evolving demands.

The customer is a leading global manufacturer of advanced machine automation technologies, specialising in automated defect inspection, metrology systems, probe card test and analysis solutions, and lithography step-and-repeat equipment. Their innovations support high-precision processes across critical industries, ensuring accuracy, efficiency, and reliability in complex manufacturing environments.



The Challenge

The customer experienced ongoing issues with their existing computing solution from another supplier, which relied on a custom chassis designed to fit a pre-existing inspection module. While this approach initially met their needs, it led to long lead times, limited availability, and rising costs associated with the existing design. System reliability was also affected by poor component selection and inconsistent build quality, causing frequent disruptions.

Additionally, the lack of visibility into the component lifecycle resulted in unexpected hardware changes that regularly caused software compatibility issues. The system's reliance on outdated chipsets nearing end-of-life further limited performance and future scalability. To address these issues, the customer needed a reliable partner to support them design and engineer a cost-effective, and readily available solution that would enhance system stability, streamline operations, and support long-term growth for their evolving inspection technology requirements.



The Solution

Captec provided a comprehensive solution to address the customer's challenges, starting with the development of detailed drawings for a newly designed chassis. This chassis was engineered to accommodate all the customer's required technology while fitting seamlessly into the existing enclosure, ensuring a smooth transition without disrupting the current system setup. By utilising Captec's extensive and robust supply chain, the new chassis was delivered at just one-third of the cost of the original, significantly reducing expenses while improving availability.

The design incorporated carefully selected "Captec preferred components," chosen based on years of industry expertise and strong partnerships with trusted technology providers. This strategic selection ensured optimal performance, long-term availability, cost efficiency, and system reliability. To maintain consistency and application readiness, comprehensive build instructions and procedures were developed in collaboration with the customer, ensuring high-quality production standards.

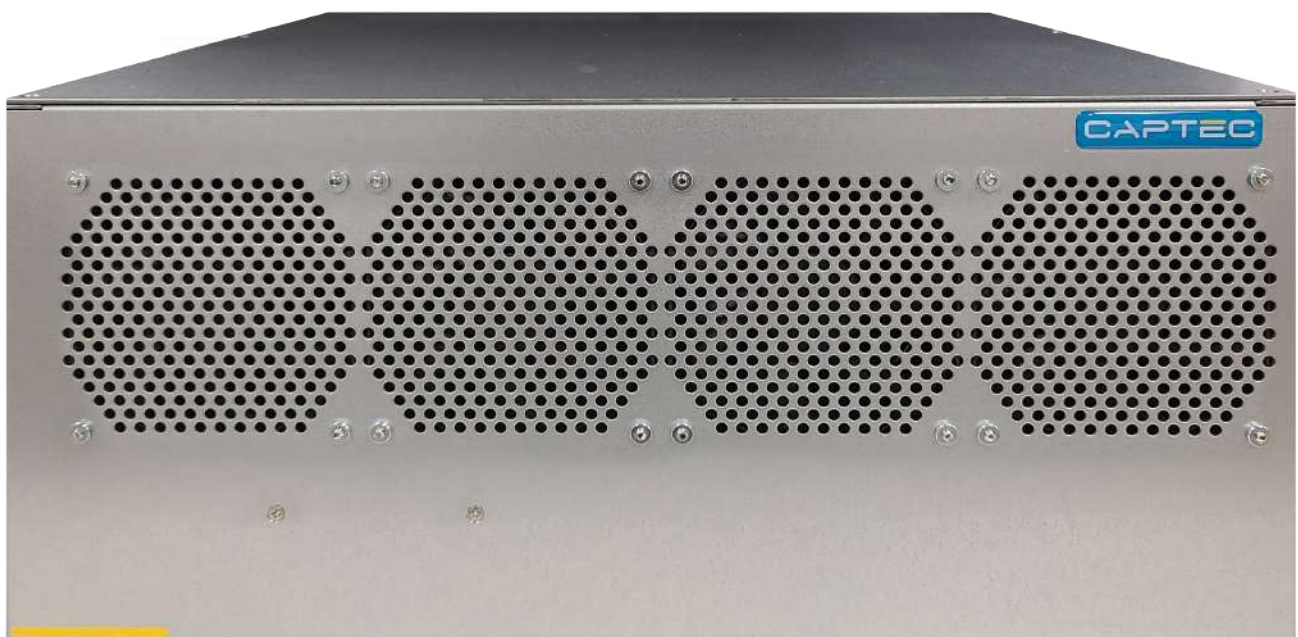
Once finalised, the specification was integrated into Captec's obsolescence and change management database, providing real-time tracking of each component's lifecycle. Quarterly reports offered the customer full visibility into upcoming changes, enabling proactive planning and minimising the risk of unexpected disruptions.

The Outcome

The customer now benefits from end-to-end supply chain management from Captec of their custom system design, significantly enhancing both reliability and availability. Captec's oversight ensures a streamlined process, reducing the risk of disruptions and providing consistent, dependable performance.

Improved visibility into the product lifecycle and collaborative technology roadmapping has been a key outcome, with real-time monitoring and proactive planning eliminating unexpected supply issues and enabling better long-term strategy alignment. To simplify procurement, a custom part number was created, making the ordering process straightforward and efficient for their teams, and scheduled deliveries are precisely aligned with the customer's operational demands, ensuring seamless integration into their production workflow without delays.

The customer now benefits from a customised workstation, equipped with high-performance Intel Xeon processors and advanced chipsets, designed to deliver robust support for dynamic defect inspection processes. This specialised solution optimises performance and provides the scalability and flexibility needed to support future growth and technological advancement.



CAPTEC

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