Success Stories

Winmate Panel PC Revolutionizes Fluid Automated Optical Inspection in Semiconductor Factories

Winmate's Panel PC has revolutionized Fluid AOI in semiconductor factories

Background

The semiconductor industry is known for its complex manufacturing processes that require high precision and quality control. One critical aspect of semiconductor production is Fluid Automated Optical Inspection (AOI), which plays a crucial role in ensuring the integrity and reliability of the manufacturing process. In this success story, we will explore how Winmate's Panel PC has revolutionized Fluid AOI in semiconductor factories, leading to improved efficiency, accuracy, and overall productivity.

Core Products

R15IB3S-65EX - 15" Intel® Celeron® N2930 ATEX Panel PCs

R15L600-65EX - 15" IP65 Stainless ATEX Rugged Display

W24ITWS-MHA2-EX - 23.8" Intel® Core™ i5-1135G7 HMI Panel PC

Main Challenges

Before the implementation of Winmate's Panel PC, semiconductor factories faced several challenges in their Fluid AOI processes. The existing inspection systems were often cumbersome, with multiple separate components that hindered seamless data flow and real-time analysis. The lack of a comprehensive and user-friendly interface made it difficult for operators to monitor and control the inspection process efficiently.

Why Winmate

Winmate's Panel PC proved to be a game-changer in addressing the challenges faced by semiconductor factories. Its robust and integrated design provided a unified solution for Fluid AOI, combining a high-performance computer, touch panel, and various connectivity options into a single device. This all-in-one solution streamlined the inspection process, enhancing productivity and accuracy.

Enhanced Data Visualization and Analysis: The Winmate Panel PC featured a large, high-resolution display that provided operators with a clear and detailed view of the inspection results. The touch panel interface enabled intuitive interaction, allowing operators to zoom in, pan, and rotate images for a more comprehensive analysis. Real-time data visualization and analysis capabilities empowered operators to identify and address any potential defects or anomalies promptly.

Seamless Integration and Connectivity: Winmate's Panel PC seamlessly integrated with the existing Fluid AOI system, ensuring smooth communication and data exchange between the various components. The Panel PC supported multiple connectivity options, including Ethernet, USB, and serial ports, allowing easy integration with cameras, sensors, and other peripheral devices. This enhanced connectivity enabled efficient data transfer and synchronization, minimizing delays and optimizing the inspection process.

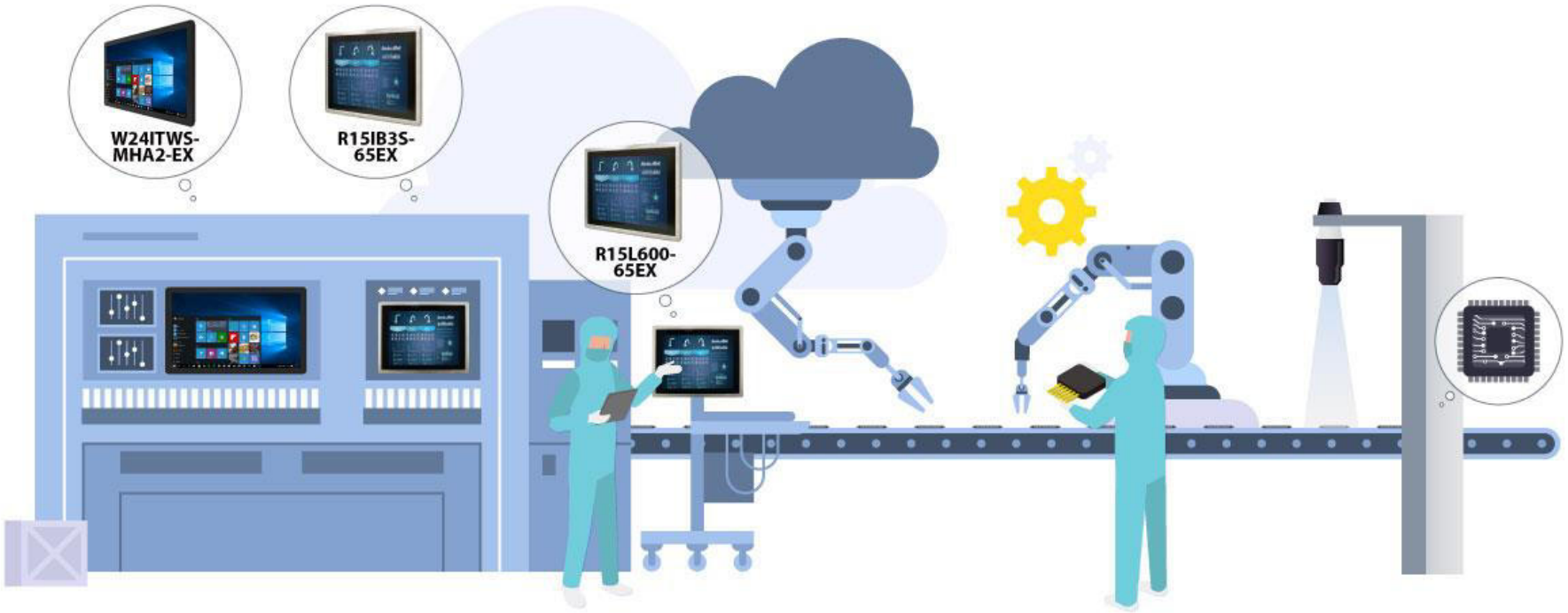
User-Friendly Interface: The intuitive user interface of Winmate's Panel PC simplified the operation of the Fluid AOI system. Operators could easily navigate through the software, adjust inspection parameters, and monitor the inspection progress in real-time. The user-friendly interface reduced the learning curve for new operators and improved overall operational efficiency.

Durability and Reliability: Semiconductor factories operate in demanding environments, with exposure to dust, humidity, and other challenging conditions. Winmate's Panel PC was specifically designed to withstand these conditions, featuring a ruggedized enclosure that provided protection against dust and moisture ingress. Its robust construction ensured reliable performance and minimized downtime, contributing to increased productivity and cost savings.

Scalability and Future-Proofing: Winmate's Panel PC offered scalability and flexibility, allowing semiconductor factories to adapt to evolving inspection requirements. The modular design of the Panel PC enabled easy upgrades and expansions, ensuring compatibility with future technologies and software updates. This future-proofing capability provided a long-term solution that could grow and evolve alongside the changing needs of the semiconductor industry.

The implementation of Winmate's Panel PC in semiconductor factories' Fluid AOI processes has resulted in significant improvements in efficiency, accuracy, and overall productivity. Its integrated design, enhanced data visualization and analysis capabilities, seamless connectivity, user-friendly interface, durability, and scalability have transformed the way semiconductor factories approach Fluid AOI. Winmate's Panel PC has proven to be a reliable and indispensable tool, empowering operators and enabling precise quality control in semiconductor manufacturing. With Winmate's innovative solutions, semiconductor factories can achieve higher yields, reduced defects, and enhanced operational excellence in their Fluid AOI processes.

Application Diagram



Related Products

Winmate **R15IB3S-65EX**

- 15" 1024 x 768, PCAP touchscreen, ATEX Panel PC
- Class 1, Division 2 & ATEX Zone 2 & IECEx Zone 2 device certified for hazardous area application
- Stand-alone solution for use in Ex Zone 2 hazardous areas
- Intel® Celeron® Processor N2930
- Fanless design with streamlined enclosure for highly efficient heat dissipation
- Wide operating temperature -20˚C to 50˚C

Winmate **R15L600-65EX**

- 15” 1024 x 768, 550 nits (Optional 1000 nits) LCD Panel
- Class 1, Division 2 & ATEX Zone 2 application certification rugged touchscreen
- Explosion-proof 5-wire resistive touch
- Stainless steel design
- IP65 Certified, dust-proof and water-resistant
- Wide temperature range -20˚C to 50˚C

Winmate **W24ITWS-MHA2-EX**

- Intel® 11th Generation Tiger Lake UP3 Core™ i5 CPU HMI Panel PC
- Signature true flat display screen with edge-to-edge design
- Aluminum, anti-corrosion treated housing
- Superior sealing with front IP65 protection against dust and water
- Projected Capacitive Multi-Touch Screen (PCAP)
- Fanless Design
- Class 1, Division 2, ATEX Grade zone 2 and IECEx certified for hazardous area applications