



Success Stories



Exceptional Application of Winmate AI Edge Computer in Robot Picking Solutions

Integration of Intel® 12/13th Gen Alder Lake-S/Raptor Lake S Processor and NVIDIA RTX GPU

Background

In today's highly automated manufacturing and warehouse environments, the use of robots has become increasingly crucial. However, these robots require advanced computing power and intelligence to ensure efficiency and accuracy. Winmate AI Edge Computer provides an advanced solution by integrating artificial intelligence into robot operations, enhancing overall production efficiency.

Core Product

- [WNAI-E800](#) - Intel® 12th/ 13th Gen Core™ Processor with NVIDIA® RTX™ GPU Industrial Edge AI Computer

Main Challenges

A manufacturing company faced challenges in achieving automation on its production line. They aimed to implement robots for material picking to save labor costs and improve production efficiency. However, they needed an intelligent solution capable of adapting quickly to environmental changes and ensuring high-precision picking.

Why Winmate

The company chose Winmate AI Edge Computer as the core of its robot control system. Winmate AI Edge Computer supports Intel® 12/13th generation Alder LakeS/Raptor Lake S processors (LGA 1700) and can accommodate a single NVIDIA RTX™ A4000/A5000/A6000 GPU. With powerful computing capabilities, Winmate AI Edge Computer can process real-time visual data, enabling intelligent picking.

Moreover, it supports high-speed DDR5 memory, with a maximum of 64GB per slot (32GB per slot, 4800MHz). Equipped with 2 Intel 2.5 Gigabit LAN ports, additional 4 Gigabit LAN ports can be optionally added, providing reliable network connectivity. It supports dual display outputs, including 1 HDMI 2.0 and 1 DP 1.4a interface, meeting diverse display requirements. Additionally, it incorporates Intel® vPro technology, offering enhanced management and security features.

Furthermore, Winmate AI Edge Computer features a rugged design, capable of operating in extreme temperature conditions (optional), suitable for various applications in harsh environments.

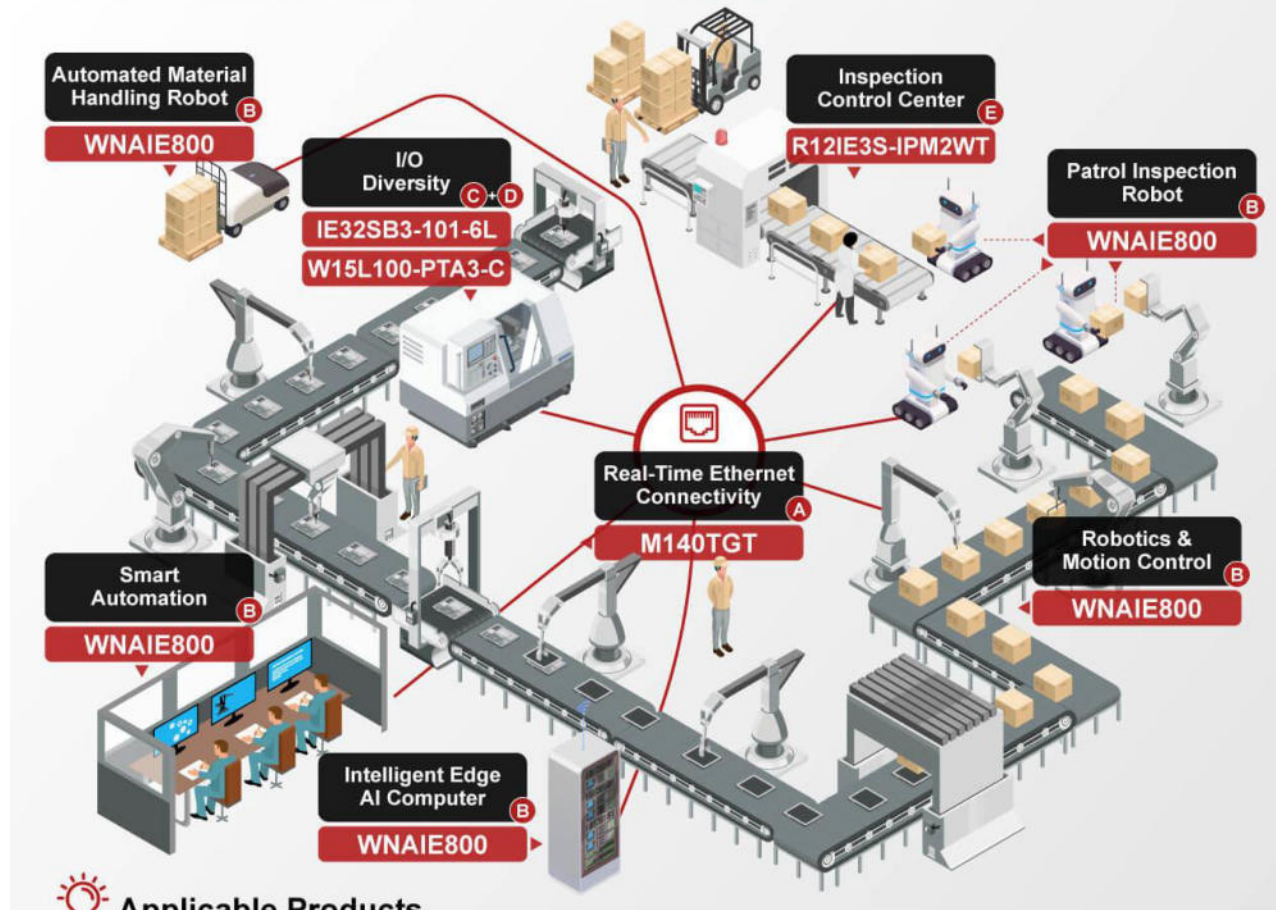
Compared to traditional robot control systems, the advantages of using Winmate AI Edge Computer are evident. Traditional solutions may rely on fixed processes and predefined rules, lacking the flexibility to adapt to changes in the environment. This can lead to picking errors and production interruptions, reducing overall efficiency.

Following the implementation of Winmate AI Edge Computer, the company achieved outstanding results. Robots could adjust their picking strategies in real-time, making appropriate decisions based on different environmental conditions and material characteristics. This not only increased picking precision but also reduced error rates, resulting in time and cost savings.

The successful application of Winmate AI Edge Computer brought significant benefits to the company, making them more competitive in the automated manufacturing environment. It underscores the superiority of advanced artificial intelligence technology over traditional solutions, especially in handling complex and dynamic production environments.

Application Diagram

Exceptional Application of Winmate AI Edge Computer



Applicable Products

<p>M140TGT</p> <p>A</p>  <p>14" Intel® Core™ i5-1135G7 Industrial Rugged Tablet Integrated Smart Card Reader</p>	<p>WNAIE800</p> <p>B</p>  <p>Intel® 12th/ 13th Gen Core™ with NVIDIA® RTX™ GPU Industrial Edge AI Computer</p>	<p>IE32SB3-101-6L</p> <p>C</p>  <p>Intel® Celeron® N6211 M Series Box PC</p> <p>W15L100-PTA3-C</p> <p>D</p>  <p>15.6" USB Type-C Chassis Display</p>	<p>R12IE3S-IPM2WT</p> <p>E</p>  <p>12.1" Intel® Celeron® N6211 Wide Temperature Panel PC, Front IP65</p>
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Related Products

Winmate WNAI-E800



- Intel® 12th/ 13th Gen Core™ Processor with NVIDIA® RTX™ GPU Industrial Edge AI Computer
- Supports Intel® 12/13th generation Alder LakeS/Raptor Lake S processor (LGA 1700)
- Supports single NVIDIA RTX™ A4000/A5000/A6000 GPU
- Up to 2 x 262pin SODIMM DDR5 4800MHz up to 64GB(32GB per Slot)
- 2 x Intel 2.5 Gigabit LAN. Optional additional 4 Gigabit LAN.
- Supports Two display, 1 x HDMI 2.0, 1 x DP 1.4a
- Supports Intel® vPro
- Rugged Design, -40°C to 60°C operation (Optional)

Winmate M140TGT



- 14" Intel® Core™ i5-1135G7 Industrial Rugged Tablet Integrated Smart Card Reader
- 11th Gen. Intel® Processor Family – Tiger Lake Processor industrial rugged tablet
- 14-inch tablet, 1920 x 1080 wide viewing angle LED Panel
- Optical bonding and Antiglare technology for sunlight readability
- IP65 water and dust proof with MIL-STD-810H rugged housing
- Hot-swappable battery for wholedaywork
- Integrated Smart Card Reader



Winmate **IE32SB3-101-6L**

- Intel® Celeron® N6211 M Series Box PC
- Intel® Celeron® Elkhart Lake N6211 Processor
- 1 x DDR4 SO-DIMM 3200 MHz, max. 16GB
- Supports 2 x USB 3.2 Gen 2x1, 6 x Giga LAN
- Elegant and slim mechanical design
- Fanless cooling system
- Optional Capture Card for HDMI input or CVBS input



Winmate **W15L100-PTA3-C**

- 15.6" USB Type-C Chassis Display
- 15.6", 1920 x 1080
- USB Type-C connector
- Chassis
- VESA mount
- PCAP touch
- Front IP65