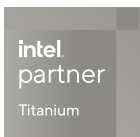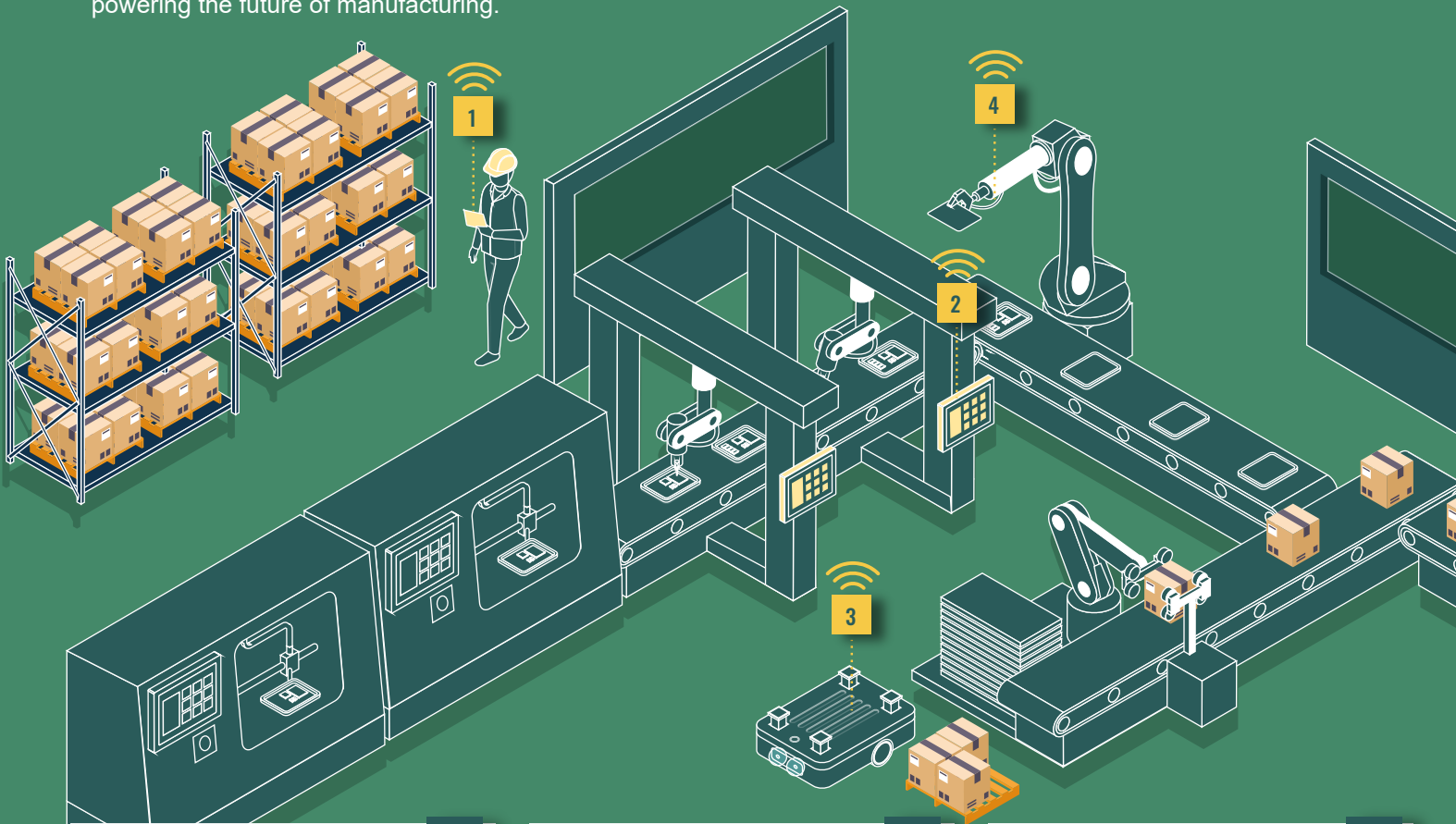# Sustainable Embedded Solutions
for Smart Manufacturing Excellence

www.ieiworld.com

Step into the Future of Sustainable:
Smart Manufacturing

Explore the forefront of smart manufacturing, where ingenuity blends with efficiency. Our precision-engineered offerings, encompassing both cutting-edge hardware and innovative software, are designed to redefine your edge computing landscape. From robust embedded systems and versatile panel PCs to high-performance monitors and network appliances ensuring OT security, our hardware lineup is complemented by a sophisticated software suite, collectively powering the future of manufacturing.

1 Inventory Management

Our e-paper displays stand out as a sustainable, transformative solutions, allowing for instant updates and accurate stock monitoring, enabling precise inventory management, reducing risk of errors.

2 Human Machine Interface (HMI)

IEI industrial panel PCs excel in delivering visualizations directly on the factory floor. These devices boast multi-touch panels with an intuitive interface. This simplicity aids operators in efficiently handling complex automation tasks across manufacturing, processing, and fabrication.

3 Autonomous Mobile Robots (AMR)

Featuring powerful computing power and versatile I/O connectivity, IEI fanless DIN-rail PCs and SBCs are perfectly suited for AMRs, handling data-intensive workloads of IIoT applications.

▶ Network Appliance

PUZZLE-9040
2U Rackmount Network Appliance

- Dual 4th Gen Intel® Xeon® Scalable processors
- DDR5 4800 ECC RDIMM, up to 4 TB
- 8 x OCP 3.0 expansion slot
- 2 x 10GbE SFP+ & 2 x 1GbE RJ45 LAN ports
- 2 x U.2 SSD slot

PUZZLE-5030
1U Rackmount Performance-Level Network Appliance

- Intel® Xeon® E processor
- 8 x 2.5 Gbps RJ-45 LAN ports & 2-pair LAN bypass
- 2 x Standard PCIe slot (1 x PCIe Gen4 x4, 1 x PCIe Gen4 x8)
- 2 x PulM network module
- 300W AC redundant PSU

7 Quality Control & Optical Inspection

10"-24" wide operating temp monitors, and high-performance embedded systems coupled with AI-driven image processing capabilities contribute to superior quality control and inspection in real-time.
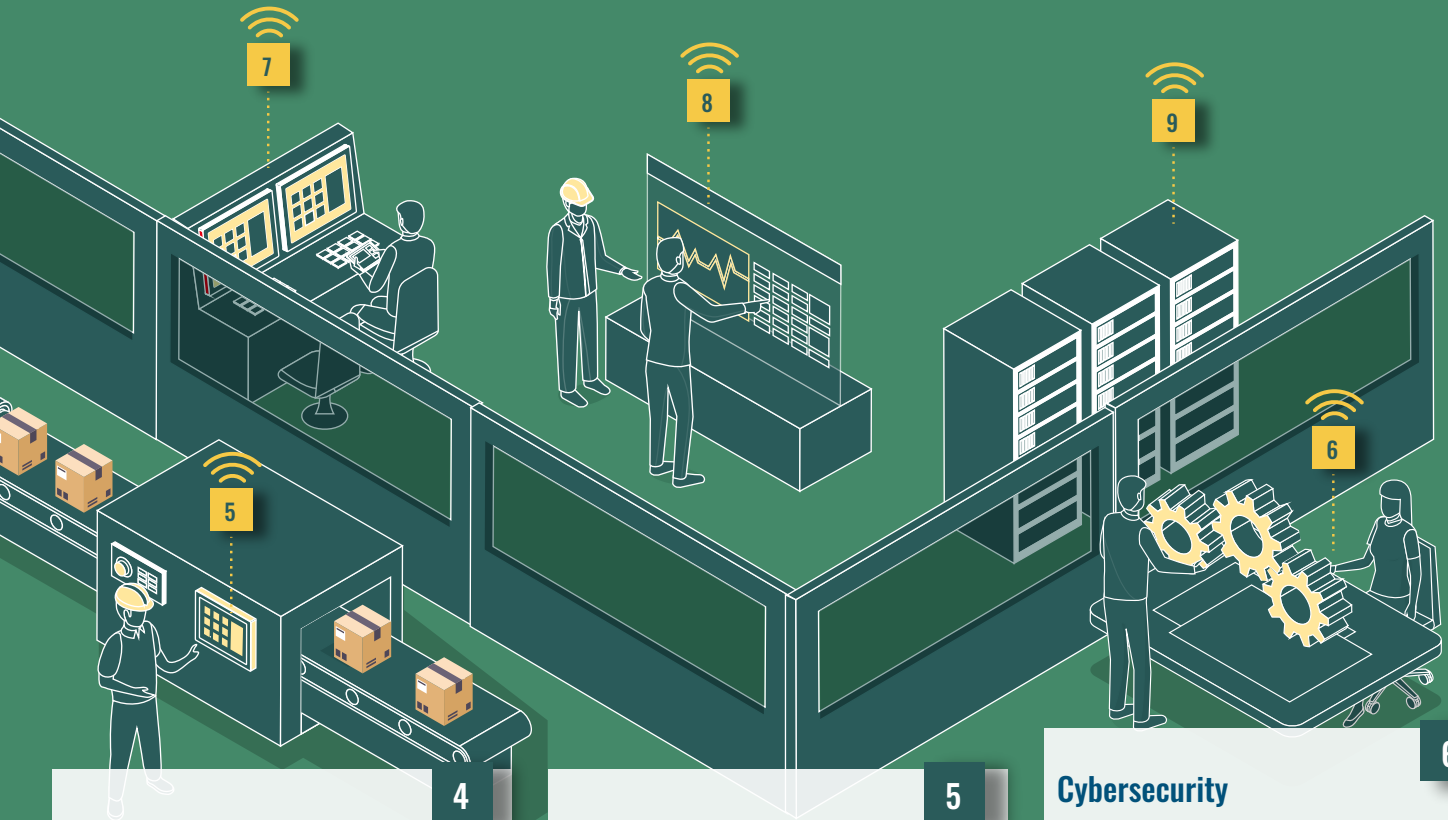
8 Industrial Workload Consolidations

IEI's virtualization platform transforms your industrial infrastructure, allowing you to consolidate workloads, improve resource utilization, and run multiple applications seamlessly.

9 Remote Monitoring & Management

Deploy our remote management solution for real-time monitoring and control of industrial computers. Gain instant visibility into critical metrics, optimizing maintenance and minimizing downtime with efficiency.

4 Robotics & Automation Control

Comprehensive compact embedded systems designed for withstanding harsh industrial environments and ideal for real-time control applications. Space-efficient DIN-rail PCs are suitable for installing in control cabinets where available space is limited.

5 Data Aggregation and Analytics

We offer robust DIN-rail PCs, SBC solutions, and edge servers with rich I/O connectivity and enhanced reliability for efficient data aggregation. This enables real-time analytics, providing valuable insights for optimizing production processes and operations.

6 Cybersecurity

Our network appliances play a crucial role in enhancing Operational Technology (OT) security. By serving as a comprehensive security hub, they deploy firewalls and Intrusion Detection Systems (IDS) to safeguard sensitive data and fortify the network against cyber threats and potential attacks, ensuring strict compliance with industry regulations.

PUZZLE-100

Desktop ARM Based Network Appliance

- Marvell® ARMADA® 7040 Quad-Core CA72 processor
- Onboard 2GB DDR4 memory & eMMC 4GB
- 1 x 1GbE WAN port & 5 x 1GbE LAN port
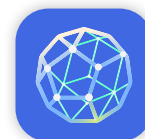
PUZZLE-3034

Desktop Network Appliance

- Intel® Atom® C3758R 8C/8T (16M cache, 2.4 GHz)
- 2 x DDR4 2400MHz non-ECC UDIMM
- 8 x 2.5GbE RJ45 LAN ports, 4 x 10 GbE SFP+
- 1 x RJ45 console, 2 x USB 3.0

Remote Precision, Operational Excellence:
Unveiling Efficiency in Every Command

IEI provides comprehensive solutions to address contemporary industrial challenges through the IEI Remote Management (iRM) and IEI Virtualization Edge Computer (iVEC). These solutions excel in the efficient management and maintenance of a diverse array of devices spread across multiple locations.
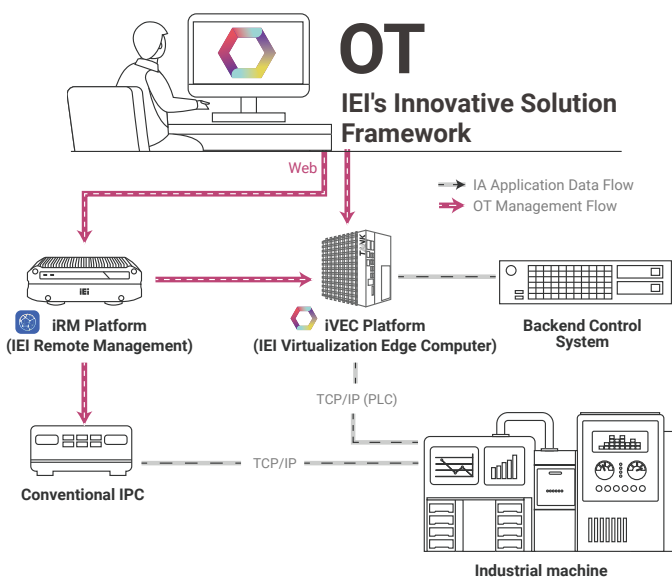
▶ IEI Remote Management (iRM)

The IEI Remote Management (iRM) solution provides centralized control and real-time visibility for edge devices, optimizing system performance and reducing operational complexities. Coupled with an industrial-grade hardware platform and a user-friendly online interface, iRM allows efficient management of multiple industrial devices from a single dashboard. Users can remotely configure settings, visualize historical performance, and conduct diagnostics, leading to cost savings and simplified IT/OT operations.

Advantages of iRM

- Compatible with any x86 platform, including non-IEI devices
- Support both Windows & Linux OS
- Customizable email notifications for targeted metrics tracking
- Support more than 100 devices
- Secure server with quick OS recovery & antivirus
- Secure mini server with RAID 1/5/6/10 protection

▶ IEI Virtualization Edge Computer (iVEC)

The IEI Virtualization Edge Computer (iVEC) transforms industrial applications through the seamless integration of virtualization and robust hardware. With remote desktop accessibility, iVEC empowers OT professionals, efficiently running multiple industrial applications on a single server. It stands out for its exceptional performance, flexibility, and the ability to effortlessly scale infrastructure using VMs for optimal efficiency. iVEC provides an economical yet sturdy option for organizations looking to optimize expenditures and embrace the future of edge computing.
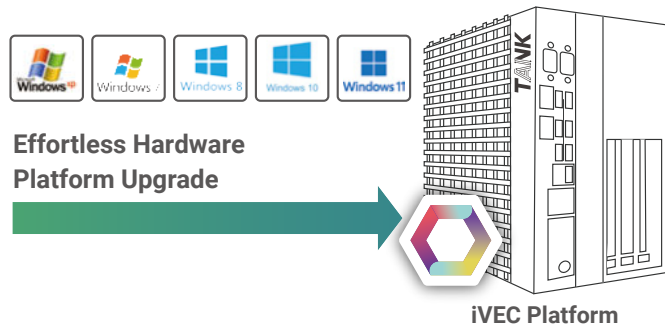
Advantages of iVEC

- Optimize hardware with virtual machines (VMs)
- Web-based remote desktop access and control for industrial systems
- Legacy applications support for gradual system upgrade
- Flexible workload distribution for enhanced QoS
- Edge AI capabilities with CPU acceleration and add-on GPU support
- Secure Ubuntu Certified IoT Platform support
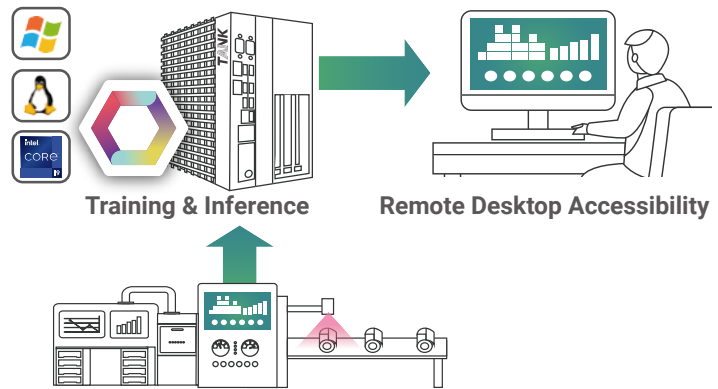
Elevating Vertical Solutions with iVEC

Digital Transformation

iVEC empowers industries by smoothly decoupling hardware and applications, allowing seamless hardware updates without disrupting critical operations.

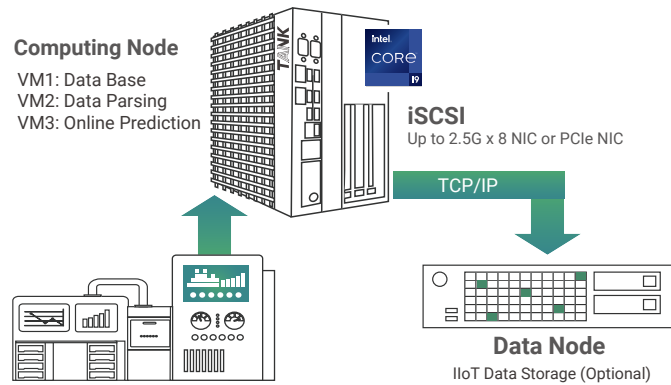**Effortless Hardware Platform Upgrade**

iVEC Platform

Automated Optical Inspection (AOI)

iVEC revolutionizes Automated Optical Inspection (AOI) by utilizing 13th Gen Intel® Core™ CPUs to boost computing power, especially for AI tasks, via its integrated GPU.

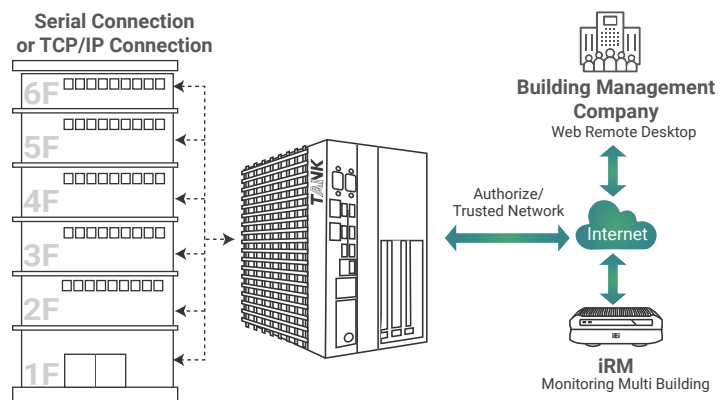**Training & Inference**

Remote Desktop Accessibility

Industrial IoT

iVEC, the ideal IIoT edge server, is tailored for diverse protocols, leveraging Intel® TCC & TSN for real-time performance and dynamic data expansion in industrial environments.

Computing Node

VM1: Data Base
VM2: Data Parsing
VM3: Online Prediction

iSCSI
Up to 2.5G x 8 NIC or PCIe NIC

TCP/IP

Data Node
IIoT Data Storage (Optional)

Building Automation

iVEC streamlines building automation by consolidating edge computers, optimizing resources, and enhancing control with features like virtual machines, remote management, and disaster recovery.

Serial Connection or TCP/IP Connection

6F
5F
4F
3F
2F
1F

Building Management Company
Web Remote Desktop

Authorize/ Trusted Network

Internet

iRM
Monitoring Multi Building

The Green Way to Communicate
E-Paper Displays Solution

IEI's e-paper displays offer an eco-conscious solution, reducing carbon emissions by cutting paper consumption and minimizing energy usage. With various sizes (7.3"/4.2"/2.9"/2.13"), our displays seamlessly adapt to diverse environments. Integrated with advanced management tools like IEI Remote Management and the content management system, ideaRoomX, they simplify content customization and distribution. Powered by AAA batteries, our displays ensure effortless replacement, universal compatibility, and sustainability.

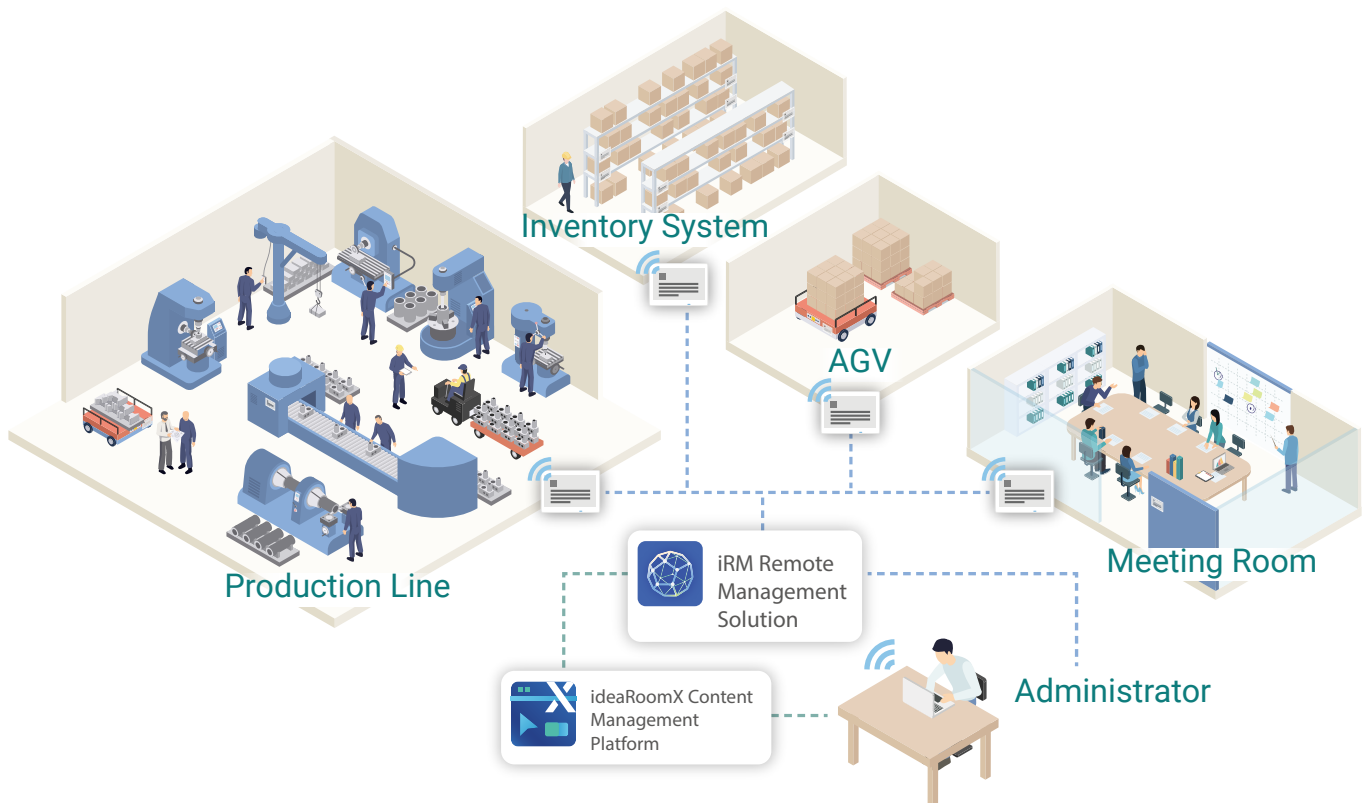| Low Power Consumption	Always On	Sunlight Readable	Wide View Angle	Wi-Fi & Bluetooth	USB Type-C Port

▶ Seamless Remote Content Management with iRM and ideaRoomX Platforms

Our e-paper displays utilize IEI's advanced remote management platform—iRM and content management system - ideaRoomX. These platforms allow seamless Wi-Fi updates for multiple displays from any location. ideaRoomX enables instant content updates across all displays through a user-friendly interface. Users can easily upload and distribute various content with a few clicks. ideaRoomX simplifies content distribution using iRM by generating dynamic images from specified information.

Inventory System

AGV

Production Line

Meeting Room

iRM Remote Management Solution

ideaRoomX Content Management Platform

Administrator

Optimal Power Efficiency with AAA Batteries

Our user-friendly e-paper displays are designed for convenience, powered by widely available and easily replaceable AAA batteries. The option for rechargeable versions aligns with our commitment to eco-friendly technology, reducing waste and supporting established recycling infrastructure.

✔ Reusable   ✔ Convenient   ✔ Eco-friendly

Versatile Power Options for Eco-Friendly Display Performance

Our displays offer dual power options: AAA batteries and an eco-friendly USB Type-C port, catering to varied customer preferences and needs.

AAA Batteries

E-paper displays use energy only during content changes, ensuring longer AAA battery life.

USB Type-C Port

Connect the display to a compatible power source, ideal for stable environments like factory automation systems.

Panel PCs & Monitors

▶ Panel PC

IEI presents a versatile lineup of resilient panel PC solutions, featuring IP64/IP65/IP66/IP67 ratings and anti-glare, anti-UV PCAP touch screens. Engineered for optimal performance in challenging environments, these panel PCs boast impressive shock and vibration resistance, coupled with a rugged design.

Heavy Industry Panel PC

IP67

Shield Series

Wide screen stainless steel panel PC with Intel® Alder Lake-N / Amston Lake processors and full body waterproof design with supercapacitor inside

- 15.6" / 18.5" / 21.5" FHD LCD
- Anti-glare & anti-UV PCAP touchscreen
- Full body IP 67 waterproof

- 304 stainless steel / 316 (optional)
- Supports VESA / yoke mount
- Built-in supercapacitor (optional)

IP66

UPC-F12M1-RPLP

12.1" panel PC with Intel® Alder Lake-P / Raptor Lake-P processors with aluminum die casting housing & full body waterproof design

- 12.1" 1024x768 600 nits LCD
- Anti-glare & anti-UV PCAP touchscreen

- Full body IP66 waterproof
- Aluminum die-casting & fanless design
- Wi-Fi / Bluetooth 5.2 / RFID (optional)

Light Industry Panel PC

IP64

AFL4-ADL-P Series

10"~13.3" fanless panel PC with Intel® Core™ i7/i5/i3 Alder Lake-P & Raptor-P processor with narrow bezel design

- 12" and 10"/12.1"/13.3" wide screen panel
- Anti-glare & anti-UV PCAP touchscreen
- IP64-compliant front panel

- Durable aluminum die casting housing & fanless design
- Support Wi-Fi 6E and Bluetooth 5.2

IP64

AFL3-ADL-P Series

15.6"~21.5" fanless panel PC with Intel® Core™ i7/i5/i3 Alder Lake-P & Raptor-P processor and supports panel mount

- 15.6"/18.5"/21.5" wide screen panel
- Anti-glare & anti-UV PCAP touchscreen
- IP64-compliant front panel

- Support panel / VESA mount
- Support Wi-Fi 6E and Bluetooth 5.2
- Support iRIS2 modules

IP64

AFL4-EHL Series

7"~15.6" fanless panel PC Intel® Celeron® J6412 Elkhart Lake processor with narrow bezel design

- 12" & 7"/8"/10"/12.1"/13.3"/15.6" wide screen panel
- Anti-glare & anti-UV PCAP touchscreen

- IP64-compliant front panel
- Durable aluminum die casting housing & fanless design
- Support Wi-Fi 6E and Bluetooth 5.2

Industrial Panel PC

IP65

PPC2-ADL Series

15"~21.5" panel PC with Intel® Core™ i7/i5/i3 Alder Lake-S & Raptor Lake-S processors and supports high-bandwidth expansion

- 15"/17"/19" and 15.6"/18.5"/21.5" wide screen panel
- Anti-glare & anti-UV PCAP touchscreen
- IP65-compliant front panel
- Supports panel / VESA mount
- High-bandwidth PCIe Gen4 x16

IP65

PPC2-EHL Series

8"~21.5" panel PC with Intel® Celeron® Elkhart Lake processor and supports panel mount

- 8"/10"/12"/15"/17"/19" and 12.3"/13.3"/15.6"/18.5"/21.5" wide screen panel
- Anti-glare & anti-UV PCAP touchscreen
- IP65-compliant front panel
- Supports panel / VESA mount

▶ Industrial Display

IEI's industrial displays offer versatile mounting, sleek design, and choices between analog resistive or capacitive multi-touch displays. With IP65 protection and a -20°C to 60°C operating range, they guarantee durability and reliability in diverse industrial environments.

IP65

DM2 Series

10"~23.8" industrial displays with aluminum frame and accessible OSD key & speaker after panel mount

- (4:3) 10.4"/12.1"/15"/17"/19"
- (16:9) 10.1"/12.1"/13.3"/15.6"/18.5"/21.5"/23.8"
- (8:3) 12.3"
- New flat-panel & narrow bezel design
- Anti-glare & anti-UV PCAP touchscreen
- IP65-compliant front panel
- Supports panel / VESA mount
- Built-in camera for AI recognition application (optional)

Embedded Systems & DIN-rail PCs

▶ Embedded System

IEI embedded system solutions feature reliable performance, rugged design and flexible customization options, which are ideal for mission-critical industrial applications.

Embedded Box PC

TANK-XM811

Fanless, wide-temp embedded system with 13th Gen Intel® Core™ Raptor Lake processor and modular expansion options

- 13th Gen Intel® Core™ processors with Intel® Hybrid Technology
- Modular chassis/backplanes for expansion options via PCI/PCIe
- HDMI and DP++ ports support dual independent display
- Wide operating temperature: -20°C ~ 60°C

IDS-330

Fanless, compact size digital signage player with eligible Intel® Core™ i5/i7 processor

- 12th Gen Intel® Core™ i5/i7 processors with built-in Intel® Iris® Xe graphics card
- 4 x HDMI ports with 4K resolution
- M.2 B key, M.2 M key & M.2 E key expansion for wireless connection
- 4 x USB 3.2 Gen 2 and 2 x 2.5GbE LAN ports

DIN-rail Embedded System

DRPC-242

Fanless DIN-rail PC with eligible Intel® Core™ i3/i5/i7 processors, wide operating temperature, and rich I/O connectivity

- Intel® Core™ i3/i5/i7 processors & Intel® Celeron® 7305 processor
- Modular PCIe x4 expansion capability
- 2.5kV isolated COM ports: 2 x RS-232 and 2 x RS-422/485 for system reliability
- Wide operating temperature: -20°C ~ 60°C

DRPC-140

Fanless DIN-rail PC with Intel® Celeron® J6412 processor, onboard 8GB DDR4 memory, wide operating temperature and rich I/O connectivity

- Intel® Celeron® J6412 processor
- Pre-installed DDR4 3200 SO-DIMM, up to 32GB
- 4 x RS-232/422/485 & 2 x CAN-bus (2.5kV isolation)
- Wide operating temperature: -20°C ~ 60°C

Industrial Mini PC

TANGO-7010

Fanless industrial mini PC with 12th Intel® Core™ i processors and 8GB DDR4 3200 memory

- Built-in Wi-Fi 6E & Bluetooth 5.2 module with embedded antennas
- Triple 2.5GbE LAN port
- Support 2.5" SSD and M.2 M key expansion slots
- RS-232/422/485 serial ports for industrial needs

TANGO-3010

Fanless industrial mini PC with Intel® Celeron® J6412 quad-core processor and onboard 8GB LPDDR4x memory

- Tri-band Wi-Fi 6E and Bluetooth 5.2 with embedded antennas
- Triple Intel® 2.5 GbE LAN port
- Support 2.5" SSD and M.2 NVMe SSD, up to 2TB large storage
- RS-232/422/485 serial ports for industrial needs

uIBX-260

Fanless ultra-compact embedded box PC with Intel® Celeron® J6412 quad-core processor
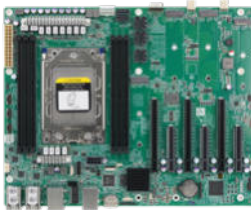
- Two 2.5GbE LAN ports via Intel® I225V
- M.2 A key & M key slots for storage and functionality expansion
- Four USB 10Gb/s, one RS-232/422/485 and expandable I/O options
- Rugged design, shock & vibration resistance

Embedded Boards & Modules

▶ **AMD Solutions**

Elevate your standards with the revolutionary AMD EPYC™ and Ryzen™ Series motherboards, setting new benchmarks in performance innovation.

ATX Motherboard

IMBAX-SP6

ATX motherbard supports Socket SP6 AMD EPYC™ processors with DDR5 memory support

- 6 x DDR5 4800MHz ECC RDIMM
- Support 4 x M.2 M key for NVMe storage
- Multiple I/O expansions: 3 x PCIe x16 slot,
- 3 x PCIe x8 slot

IMBA-AM5

ATX motherboard supports AMD Ryzen™ 7000/8000 Series desktop processors

- 4 x DDR5 5200MHz unbuffered DIMMs
- Support 2 x M.2 M key for NVMe storage
- Multiple I/O expansions: 1 x PCIe x16 slot, 2 x PCIe x4 slot and 3 x PCIe x1 slot
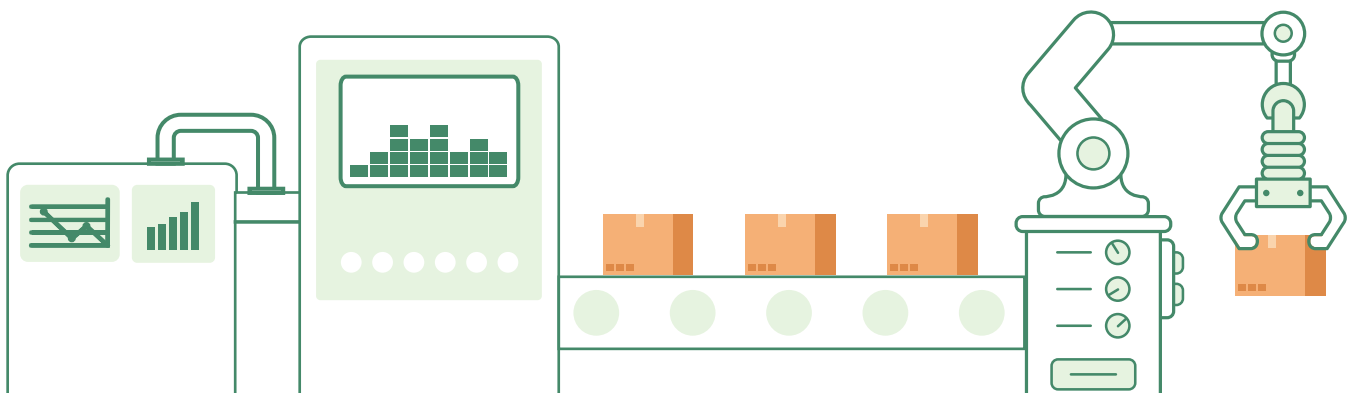
microATX Motherboard

IMB-AM5

microATX motherboard supports AMD Ryzen™ 7000/8000 Series desktop processors

- 4 x DDR5 5200MHz unbuffered DIMMs
- Support triple independent display via DP and HDMI

▶ Intel Solutions

IEI's newest COM-HPC solutions come in various form factors with robust computing capabilities, enabling the deployment of flexible and data-intensive computing applications for IoT devices that generate substantial data 24/7.

COM-HPC

HUK-CR680

COM-HPC Size C module support 12th/13th/14th Gen Intel® Core™ processors (65W)

- DDR5 4400MHz 2-CH up to 64GB
- Triple display output: DP/HDMI/eDP
- Flexible design for customized requirement
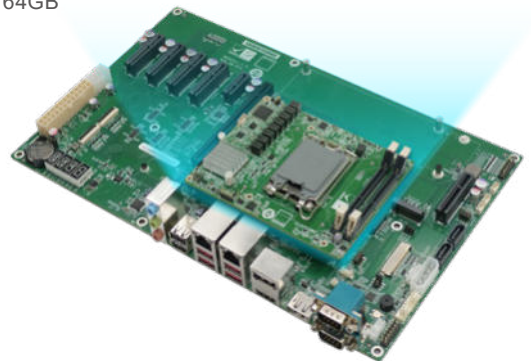

HUK-ARPLP

COM-HPC Client Size A module

- Support 12th/13th Gen Intel® Core™ mobile processor
- Onboard LPDDR5x 4800MHz 16GB, up to 64GB

HUK-DB

COM-HPC carrier board supports Client Size A/B/C modules

- 1 x PCIe Gen5 x16 slot, 5 x PCIe x4 slots, 1 x PCIe x1 slot
- M.2 M key and M.2 A key
- 3 x DDI (HDMI & DP) & 1 x eDP

Embedded Boards & Modules

▶ Embedded Single Board Computer

Explore IEI's Single Board Computer (SBC) solutions, designed with diverse form factors and extended product support for addressing the distinct needs of industrial applications.

3.5" SBC

WAFER-EHL-x6000EWC

3.5" SBC powered by Intel® Atom® x6000 series processors

- Triple independent display via HDMI 2.0, DP 1.2 and iDPM
- On board LPDDR4x 3200 8GB
- Supports M.2 A Key & B Key, PCIe x4 expansion
- Wide operating temperature: -20°C~85°C, wide voltage input: +12V~28V

Pico-ITX SBC

HYPER-EHL

Pico-ITX motherboard with Intel® Celeron® J6412/N6210 on-board SoC and 4GB LPDDR4x 3200MHz

- Dual independent display via HDMI and iDPM
- On board LPDDR4x 3200 4GB, up to 8GB
- PCIe x4 & M.2 M key 2242 (PCIe x2) expansion slots
- 2.5GbE LAN port, USB 3.2, iSATA 6Gb/s and RoHS

▶ Embedded Motherboards

IEI's motherboard solutions boast robust CPU and graphics performance, extensive I/O connectivity, excellent scalability, and enduring product support tailored for mission-critical industrial applications.

ATX Motherboard

IMBA-R680

ATX motherboard supports 12th/13th/14th Gen Intel® Core™ i9/i7/i5/i3, Pentium® and Celeron® processor, DDR5 memory capacity

- PCIe Gen5 x16, PCIe Gen4 x4, PCIe Gen3 x1 and M.2 M key NVMe expansion slots
- Dual 2.5GbE LAN, USB 3.2, SATA 6Gb/s and RoHS

microATX Motherboard

IMB-MTL

microATX motherboard supports 14th Gen Intel® Core™ mobile processor

- Dual-channel DDR5 5600MHz
- Support USB4, DP, HDMI and iDPM module
- 1 x PCIe Gen5 x8 and 3 x PCIe Gen4 x4 slots

IMB-ADL-H610

microATX motherboard supports 12th/13th Gen Intel® Core™ i9/i7/i5/i3, Pentium®/Celeron® processor, and Intel® H610/H610E chipset

- Triple independent display via HDMI, DP and iDPM
- Supports DDR4 3200MHz, up to 64GB
- PCIe x16, PCIe x4 and M.2 M key NVMe expansion slots
- Dual LAN port, USB 3.2, SATA 6Gb/s and RoHS

Mini-ITX Motherboard

KINO-RPL-PS

Mini-ITX SBC support Intel® Core™ i7/i5/i3 and Celeron® Alder Lake-PS processor (socket-type)

- Support two 3200MHz DDR4 SO-DIMM
- Triple independent display: DP 1.4a, HDMI 2.0b & iDPM slot
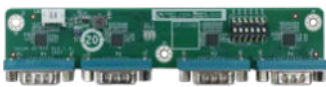- Support dual Intel® I225-V/I226-V 2.5GbE controllers

KINO-RPL-P

Mini-ITX SBC with Intel® Alder Lake-P / Raptor Lake-P SoC processor

- Dual-channel 3200MHz DDR4 SO-DIMMs
- Support DP 1.4a, HDMI 2.0b & iDPM slot
- Triple Intel® i225-V/i225-LM 2.5GbE LAN
- Support PCIe Gen3 x4, M.2 M key, M.2 B key and M.2 E key expansion

▶ Peripherals

iUCOM-4D
USB module supports four RS-232/422/485 DB-9 ports, RoHS

iUCOM-2D
USB module supports two RS-232/422/485 DB-9 ports, RoHS

iUCOM-4R
USB module supports four RS-232/422/485 RJ-45 ports, RoHS

IPCIE-CAN-2D
PCIe card supports 2-port CAN bus with isolation protection, RoHS

iM2-DLAN
M.2 B+M key card supports dual Intel 2.5GbE LAN, RoHS

iM2-CAN-2P
M.2 B+M key card supports 2-port CAN bus, RoHS

iM2-UART-4P
M.2 B+M key card supports four RS-232/422/485 ports, RoHS

IPCIE-UART-2D2P
PCIe card supports four RS-232/422/485 ports, RoHS

Headquarters
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