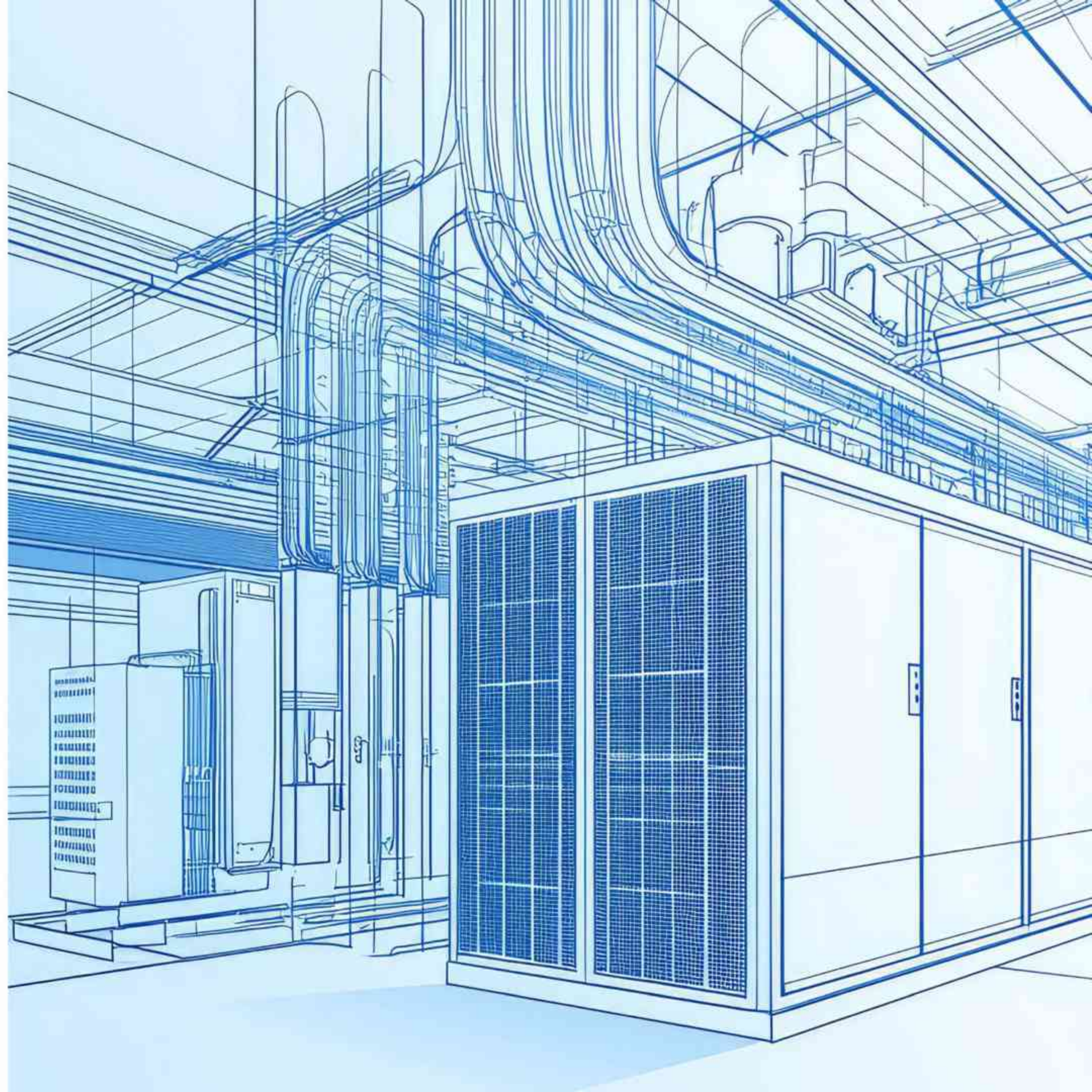


ADVANTECH

Enabling an Intelligent Planet

Intelligent Infrastructure Management for Critical Power in Data Centers

<https://www.advantech.com/en-us>



ADVANTECH

Enabling an Intelligent Planet

Purpose-Built, Vertical Market Computing Solutions

Est. **1983**

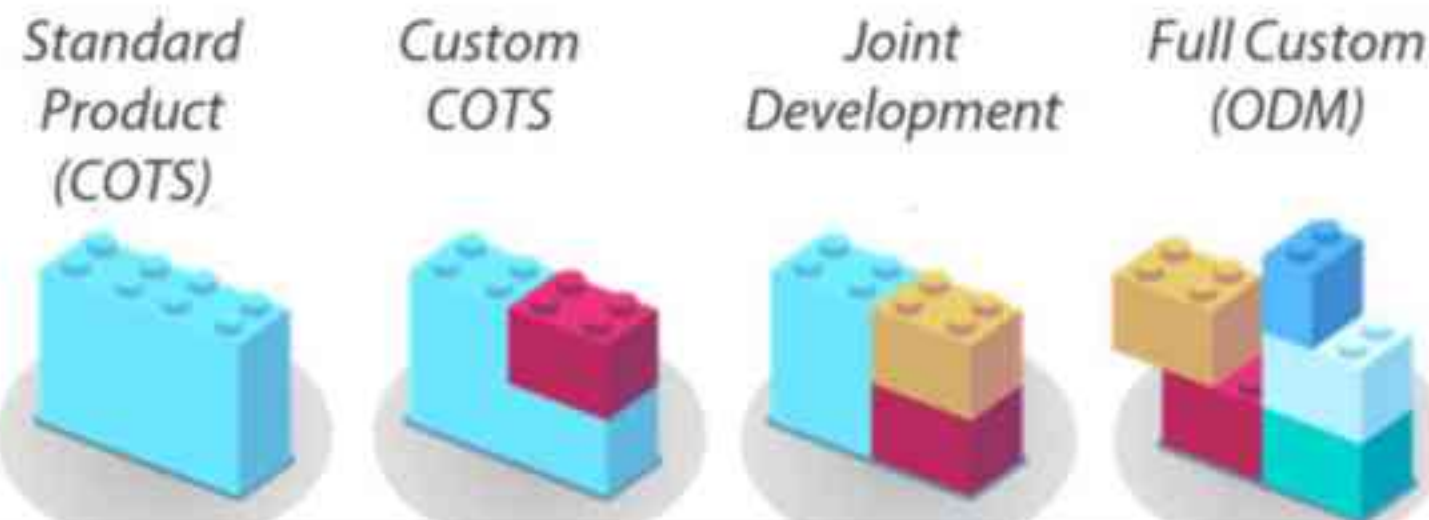
Founder and CEO: K.C Liu
Headquarters: Taipei, Taiwan

Vertical Market Expertise

- Edge AI
- Telecom & Network Security
- Healthcare / Medical
- Warehouse Automation
- AI Video Analytics
- Cloud Infrastructure
- Robotics & Humanoid
- Rugged & Mission Critical
- Semiconductor MFG
- Retail & QSR

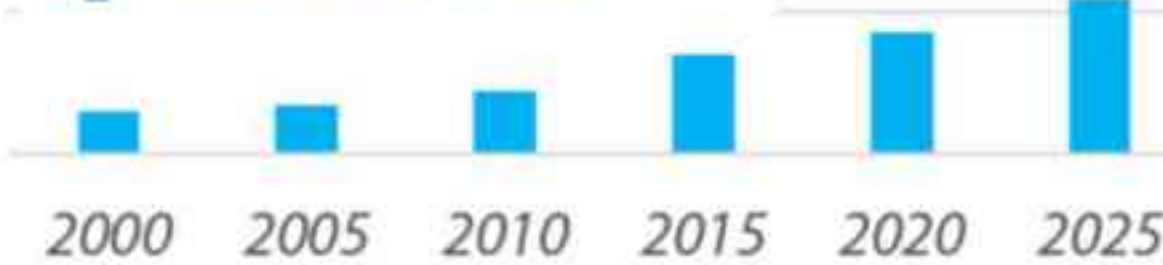
2000+ STANDARD PRODUCTS

Customization Capability



Standard Custom

\$2.2B 2025 REVENUE



9,000+ EMPLOYEES

\$9B MARKET CAP

KEY ECO-PARTNERS



Quality & Sustainability

- ✓ OHSAS 18001
- ✓ ISO-17025
- ✓ IECQ QC 080000
- ✓ Sony GP
- ✓ IEC-62443 & EU CRA
- ✓ FDA
- ✓ ISO-13485
- ✓ TL-9000
- ✓ IECEx QAR
- ✓ AS9100

Global Manufacturing



Primary Manufacturing Center:

- Taiwan
- SMT, DIP, Assembly & Test



US-Based Integration & Logistics:

- Milpitas, CA
- Tustin, CA (Opening Q2 2026)

Designed & Built at Advantech Facilities

- ✓ Vertically Integrated manufacturing (Self-contained)
- ✓ Full Manufacturing redundancy (Risk Mitigation)
- ✓ Full BOM and lifecycle control (End-to-End control over quality)
- ✓ New investments in manufacturing resources in Taiwan and US

Global Facilities



Design Centers	6
Manufacturing Centers	3
Integration Centers	13
Logistics Centers	4
On-Site Service	2
Repair Centers	14
Sales Offices	19

North American Support

600+ EMPLOYEES



- Engineering Design Center / R&D
- Product Management Teams
- Application Engineering
- Software Support
- Program Management

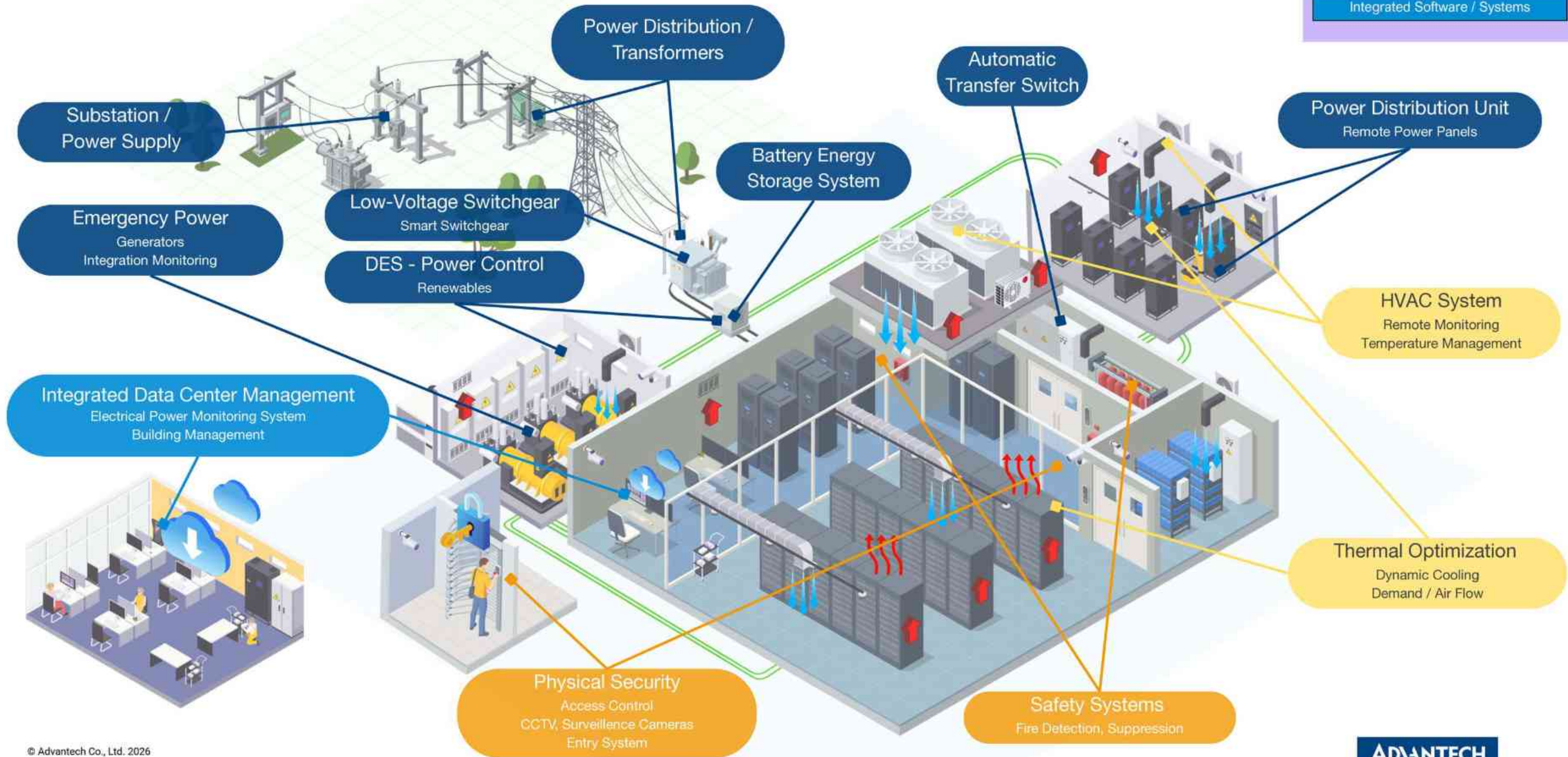
Connected, Intelligent, Always On: Data Center Infrastructure Management Solutions

Advantech brings proven industrial IoT expertise to the heart of modern data center and critical power infrastructure management. As data centers grow in scale, complexity, and energy demand, maintaining uptime requires visibility into power, cooling, security, and facility systems—along with the ability to unify data from both legacy and next-gen assets. Advantech's comprehensive portfolio of remote I/O, intelligent sensing, edge computing and edge AI platforms, and industrial communication enables data acquisition and integration of stranded assets across facilities. By securely connecting, digitizing, and processing data at the edge, Advantech empowers real-time monitoring, predictive management, and optimized power distribution. This intelligent, connected foundation helps enterprise, colocation, and hyperscale data center operators improve energy efficiency, enhance reliability, and confidently manage the full lifecycle of critical power infrastructure.

- Edge Computing & Edge AI
- Energy Management
- Power Distribution
- Environmental & Facility Monitoring
- Data Aggregation & Protocol Conversion
- Thermal Management & CDU Control
- Battery Energy Storage Systems
- Critical Facility Safety
- Electrical System Monitoring
- Surveillance & Security Control



• Data Center Facility Infrastructure



Common Electrical System Power Flow



Facility & Environment Monitoring

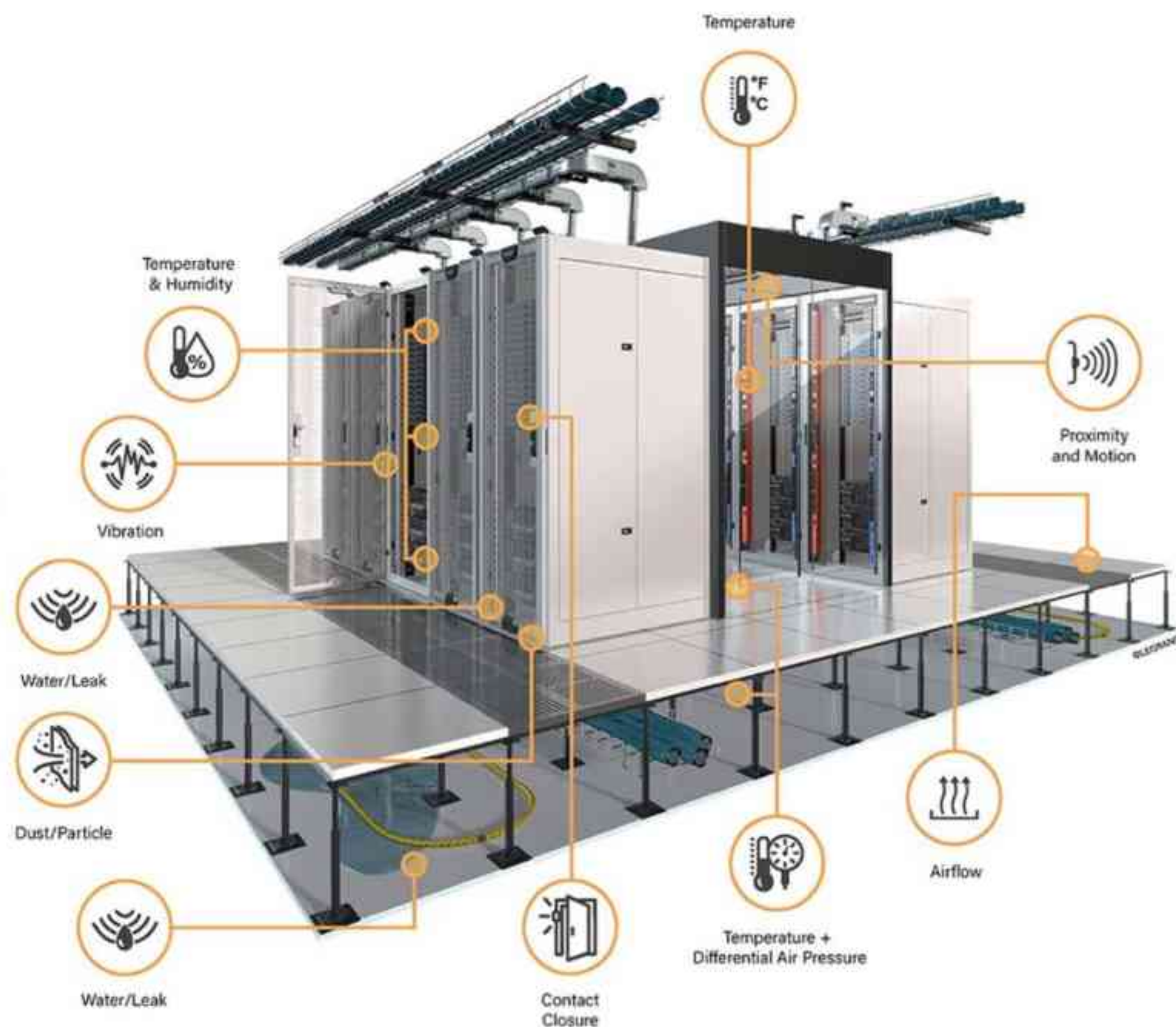
Monitoring & Management

Capacity Planning

Energy Efficiency

Uptime Improvements

Cost Savings



Advantech Domain-focused Hardware for Facility Monitoring



IoT HMI

For local data visualization and on-site monitoring



Wireless I/O & Sensing

Early detection for environmental factors, such as temperature and humidity



Remote I/O

Connect the edge to the cloud through protocols MQTT, SNMP, RESTful, and HTTP



Single-cable PoE

Simultaneous power and data transmission for surveillance



Domain-specific Controllers

For localized, low-latency loop processing

CDU Hardware Components

Key CDU Tasks

- 1 Pump Chambers
- 2 Heat Exchangers
- 3 Liquid Ring Pump
- 4 Microprocessor Control
- 5 Water Quality Control
- 6 Coolant Handling Manifolds



Advantech Domain-focused Hardware for CDUs



HMI

For operation and status dashboard



Gateway

Communicate with BMC and central system by Redfish



Controller with I/O

Temperature and flow control with PID logic inside; supports redundancy



I/O Modules

- RTD, Temperature
- AI, Tach meter
- AO, PWM/0-10V
- DI, Leakage/Level

Use Case | Smart Wireless Monitoring for Better Energy Efficiency and Uptime

Efficient power and energy management is essential to data center operations. Key systems must be continuously monitored to ensure they perform reliably. Gaining real-time visibility into these assets helps maintain uptime, optimize energy consumption, and minimize operational risks.

Advantech Solutions:

- **WISE-6610**: LoRaWAN gateway as a central hub for wireless sensor data transmission
- **WISE-4610P + WISE-S617-A**: LoRaWAN I/O module collecting analog/digital data from equipment
- **EVA-P**: RS-485 power meter for real-time measurement of voltage, current, and power quality
- **ECU-1224**: Protocol gateway to convert serial data from EVA-P and central systems

This solution combines LoRaWAN sensing with Modbus communication to deliver comprehensive visibility into data center power infrastructure. The WISE-4610 captures real-time I/O signals from UPS systems and VFDs, sending the data wirelessly to the WISE-6610 gateway. Meanwhile, EVA-P power meters collect detailed energy measurements over RS-485, which the EKI-1224 converts for integration into the central management platform.

Together, these components enable centralized monitoring, rapid alerts, and predictive maintenance—all without the need for complex wiring. With real-time insights, early fault detection, and simplified deployment, this solution empowers operators to improve reliability, efficiency, and long-term infrastructure resilience.



Key benefits include real-time visibility into UPS and VFD operating status and early anomaly detection to reduce unplanned downtime



Use Case | AI-Driven Facility Protection Through Edge Intelligence

Modern data centers require more than passive video recording—they need real-time threat detection to protect critical infrastructure. By applying Edge AI to existing surveillance cameras, security gains instant event recognition, accurate alerts, and rapid response without deploying additional sensors or costly new systems. This approach enhances building security while keeping operational complexity and expenses low.

Advantech Solution:

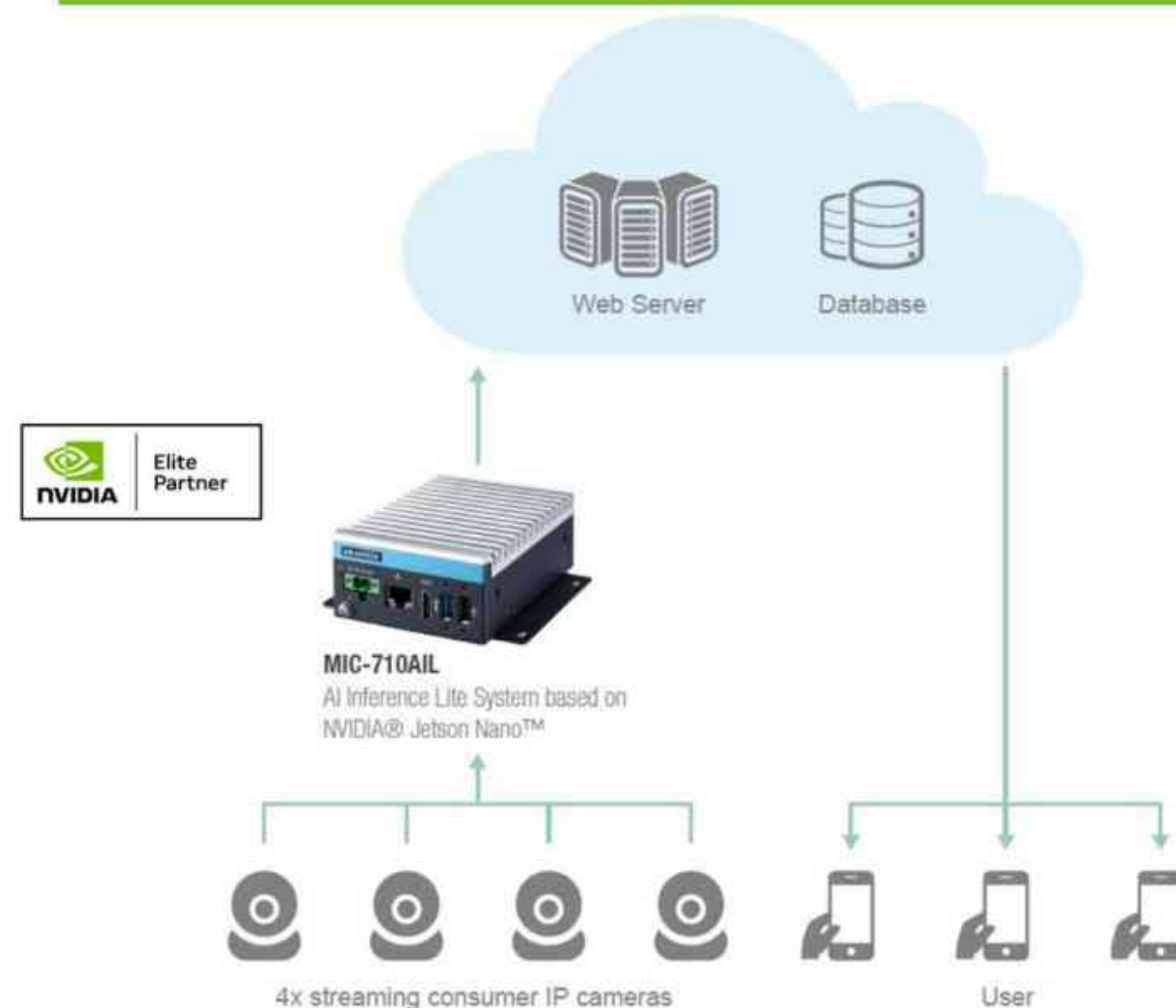
An Advantech customer recently required a reliable and affordable security upgrade solution that enhanced protections while integrating seamlessly with standardized surveillance hardware. The system also had to deliver real-time image analysis, accurate identification and alerts, improved service quality, cost efficiency, certified products with stable production, and dependable warranty with after-sales support.

- **MIC-710AI** or **MIC-710AIL** (AI inference system with NVIDIA Jetson Nano)

The system architecture consists of four technical tiers, beginning with consumer-grade IP cameras that stream RTSP video into an Advantech MIC-710AIL powered by an NVIDIA Jetson Nano for real-time edge inference. Here, a deep neural network pipeline optimized with NVIDIA technologies analyzes four simultaneous video streams to detect events against predefined thresholds. When a trigger occurs, metadata and visual evidence are packaged and sent to a cloud service that manages alert delivery, user configuration, camera setup, and ROI selection. The final tier is a mobile application that receives these alerts and allows users to fine-tune detection parameters, such as motion sensitivity, face recognition, lighting conditions, and scheduling.



The reliance on Advantech products and services proved to be one of the most important aspects of the solution, delivering cost savings, quality assurance, and strong after-sales support.



Use Case | Rugged HMI Solution for CDU Communication and Control

As data centers scale to meet increasing demand, efficient thermal management becomes critical to maintaining uptime and controlling energy costs. Coolant Distribution Units (CDUs) play a vital role in liquid cooling systems, but without clear, real-time visibility into system performance, operators face challenges in detecting inefficiencies, identifying faults early, and preventing costly downtime.

Advantech Solution:

An Advantech customer required a robust and reliable HMI solution for integration into a CDU within a high-compute data center environment. The solution needed to provide visualization of system performance, real-time alerts, and communication with control systems, all while maintaining stable operation in demanding industrial conditions.

- **TPC-107WX (7" High Brightness Touch Panel Computer with ARM Cortex)**

The TPC-107WX delivers a high-brightness screen display with multi-touch functionality and is powered by NXP® ARM® Cortex™ processing, enabling intuitive interaction and secure control of CDUs. Designed for industrial environments—with IP66 and IK08 protection—it offers durability and reliable performance.

The TPC-107WX helps provide operators with real-time dashboards, system status visualization, and diagnostic feedback. Users can quickly identify anomalies, adjust operating parameters, and respond to alerts. The system can also communicate with higher-level data center management platforms or cloud services for logging, analytics, and predictive maintenance insights.



Enables faster decision-making, helps reduce human error, and supports predictive maintenance strategies.

TPC-107WX

High Brightness Touch Panel Computer



Use Case | Rugged Touch Panel Computer for Microgrid Controller

A customer developing a 4,000-acre data center campus required reliable management of microgrid controllers to support high-density AI and high-performance computing workloads. The facility operates independently from the public grid, demanding a resilient, behind-the-meter power infrastructure.

The customer required a rugged touch panel computer for integration into its microgrid controller, featuring a 15.6-inch display with the ability to scale up to 21 inches as system demands evolve. The solution needed to support Windows 11 and deliver reliable performance in demanding industrial environments. Additionally, the customer sought flexibility in customization, including a brand-neutral front bezel, along with support for compliance requirements, such as PPAP/APQP certification.

Advantech Solution

Advantech provided the TPC-B modular series panel PCs, enabling:

- Scalable display options from 15.6" to 21"
- Rugged, industrial-grade design for reliable operation
- TPC-B520 runs on 13th Gen Intel® Core™ processing
- Windows 11 compatibility
- Customizable, brand-neutral front bezel

The final result is a flexible, scalable, and robust microgrid control solution that supports the customer's vision of powering next-generation AI and HPC infrastructure with a reliable private energy ecosystem.



Versatile industrial panel PCs for diverse needs with multiple CPU options and customizable screen sizes.

TPC-B Series

Modular HMI / Touch Panel Computers



Use Case | Scalable Data Center Power & Connectivity with Power over Ethernet

Traditional power distribution models rely on separate electrical and network cabling, increasing install costs, limiting scalability, and complicating maintenance, which creates bottlenecks in deployment and efficiency as data centers evolve to more distributed architectures.

Advantech Solution:

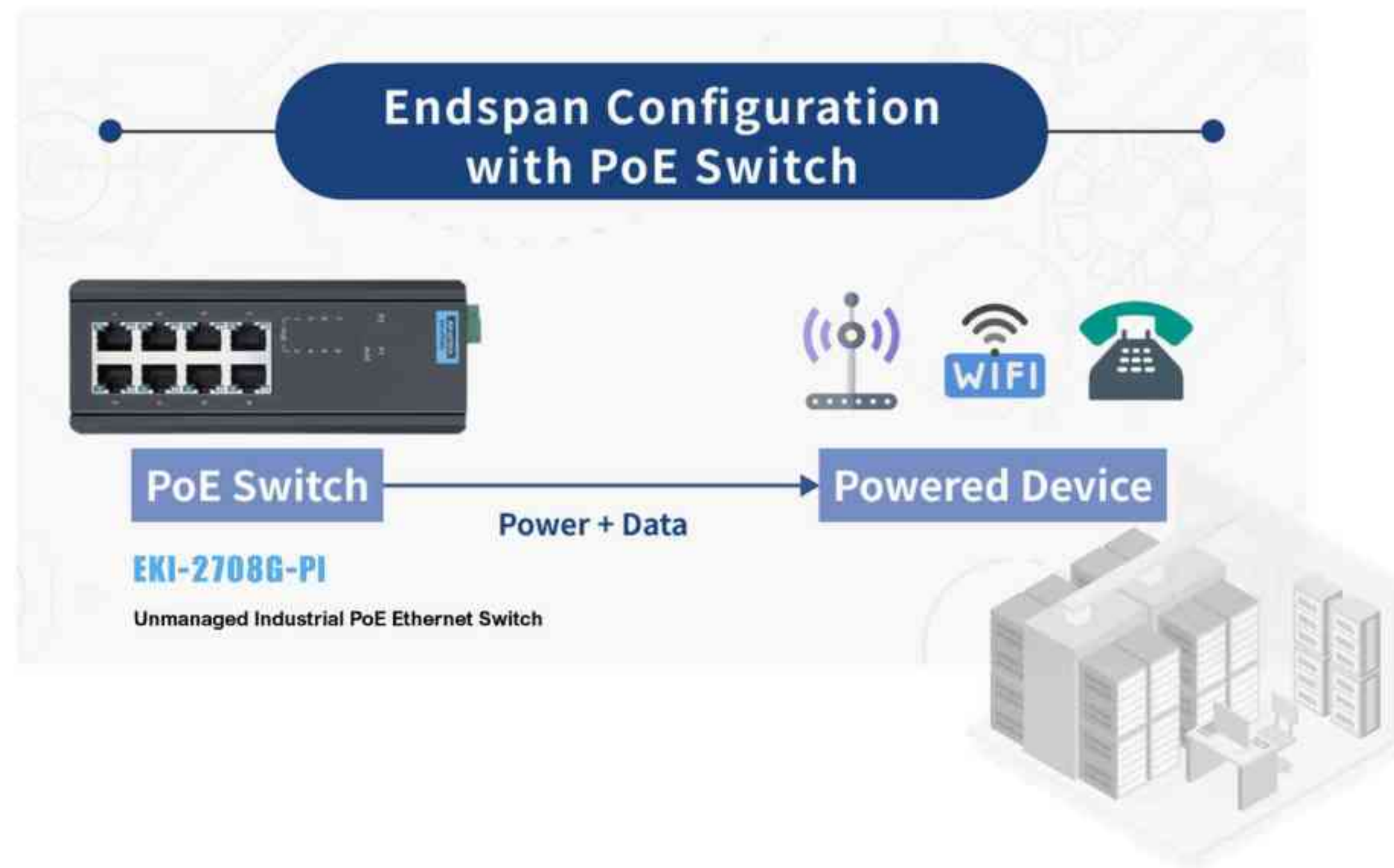
Recently, a systems integrator customer required a scalable, cost-effective infrastructure upgrade to support increasing device density and intelligent systems in a connected data center. The customer needed to simplify power distribution, reduce cabling, and maintain compatibility with existing Ethernet infrastructure.

Power over Ethernet (PoE) addresses these challenges by converging power and data delivery into a single source enabling streamlined connectivity of network devices like security cameras, wireless access points, and more. The customer implemented Advantech's **EKI-2708G-PI** as an access-layer PoE switch, delivering both power and data to devices across the data center. With eight Gigabit Ethernet ports supporting IEEE 802.3af/at standards, the switch provides up to 30W per port, enabling direct connection of high-power devices without additional power supplies.

To ensure operational reliability, the EKI-2708G-PI incorporates redundant dual power inputs (12–48 VDC) and industrial-grade protections, including EMC Level 4 resistance and ± 6 kV surge protection. The final deployment enables centralized management of powered devices, simplified expansion through plug-and-play connectivity, and improved energy efficiency. By integrating PoE technology into the building network, the final solution reduces TCO while supporting future-ready infrastructure for AI, IoT, and edge computing applications.



Streamlined, scalable, and cost-efficient data center infrastructure ready for next-generation workloads.



Use Case | Cost-Effective Energy Monitoring System Solution

A recent Advantech customer needed help implementing an energy monitoring system. Advantech provided an integrated solution for data management including a flexible platform supporting diverse communication protocols. With the solution, the customer's SIs were able to quickly develop energy monitoring systems by seamlessly handling bottom-layer data acquisition and upper-layer integration.

Advantech Solution:

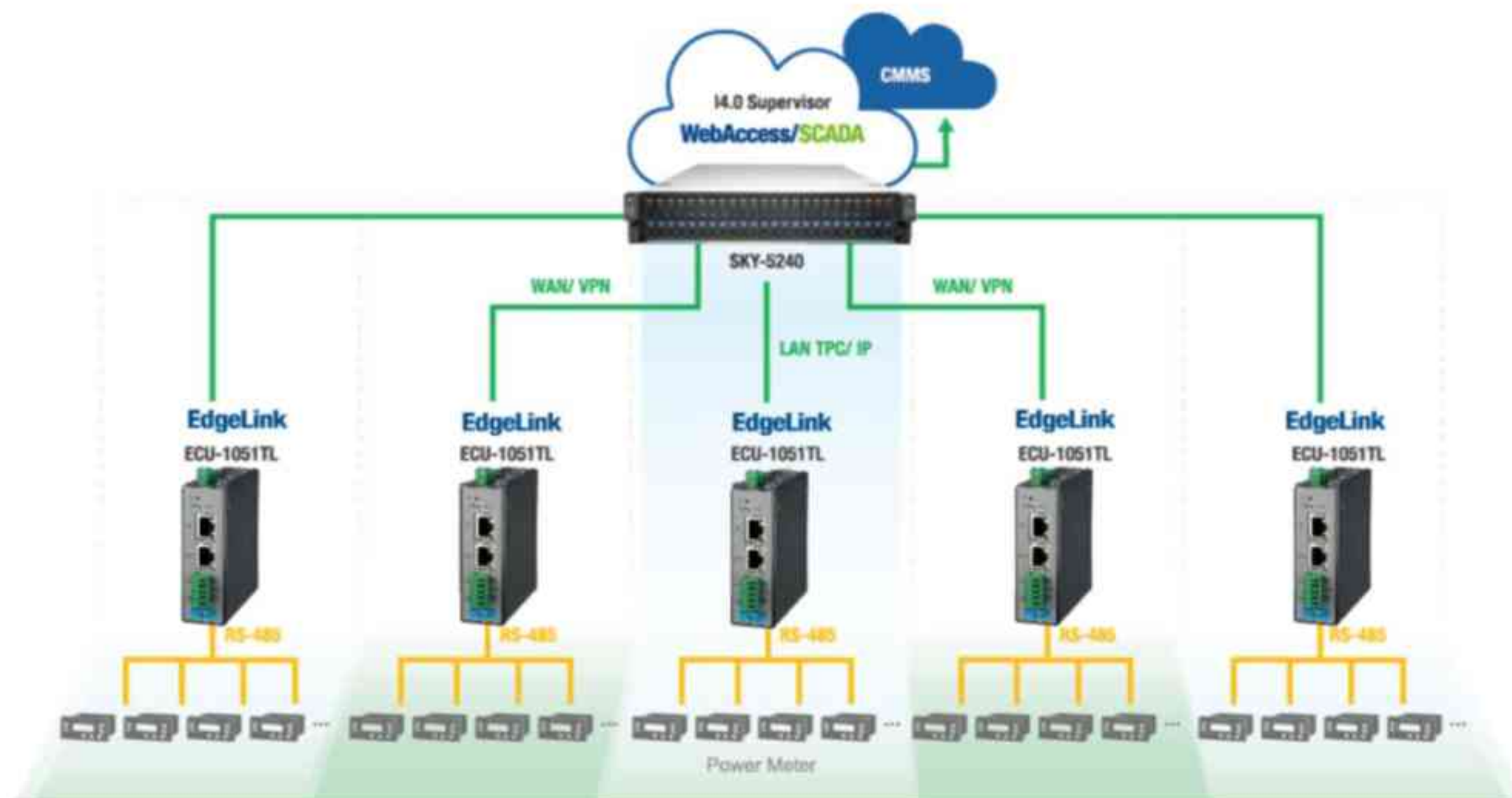
The solution included installing an **ECU-1051** in each facility to collect data from devices via Ethernet and RS-485, with the main site sending data via LAN TCP/IP. The data preprocessing function manages protocol conversion and encrypts data, enhancing transmission security.

WebAccess/SCADA software installed in the data center will visualize and display energy consumption data on the computer for the administrator to monitor in real time. Even if the administrator leaves the data center, they can access the system to retrieve data by mobile phone or tablet.

- Built-in EdgeLink supports a variety of communication protocols (Modbus, IEC 60870-104, DNP3, BACnet and OPC UA)
- The EdgeLink data preprocessing function not only performs protocol conversion, but also encrypts data, enhancing the security of data transmission
- Provides temporary data storage at local site to avoid data loss caused by network interruption



Enabling a distributed solution for energy data acquisition that could be implemented quickly and easily expanded



Use Case | Enabling Real-Time Power Distribution Intelligence

Maintaining reliable power distribution in data centers requires continuous monitoring of electrical assets, sometimes across multiple locations. Manual inspections and fragmented systems make it challenging to respond quickly to power events, manage capacity, and support predictive maintenance.

Intelligent control is the only way to manage the entire lifecycle of switchgear and reduce manual detection errors during the flow of power. Robust connection technology ensures reliable power distribution, balanced loading, and network communication.

Advantech Solution:

Advantech power distribution solutions use industrial remote I/O, power meters, edge computing platforms, and secure communication gateways to deliver real-time monitoring and control across the entire power chain. By collecting, aggregating, and transmitting critical electrical data, Advantech enables operators to optimize power usage, detect anomalies early, and improve reliability and uptime.

Intelligent Connectivity

ICR-3241

- 4G LTE Cat.4 VPN Gateway
- Carriers support; Verizon, AT&T, T-Mobile, FirstNet (Public Safety)
- Powerful CPU with 1.3 GB storage



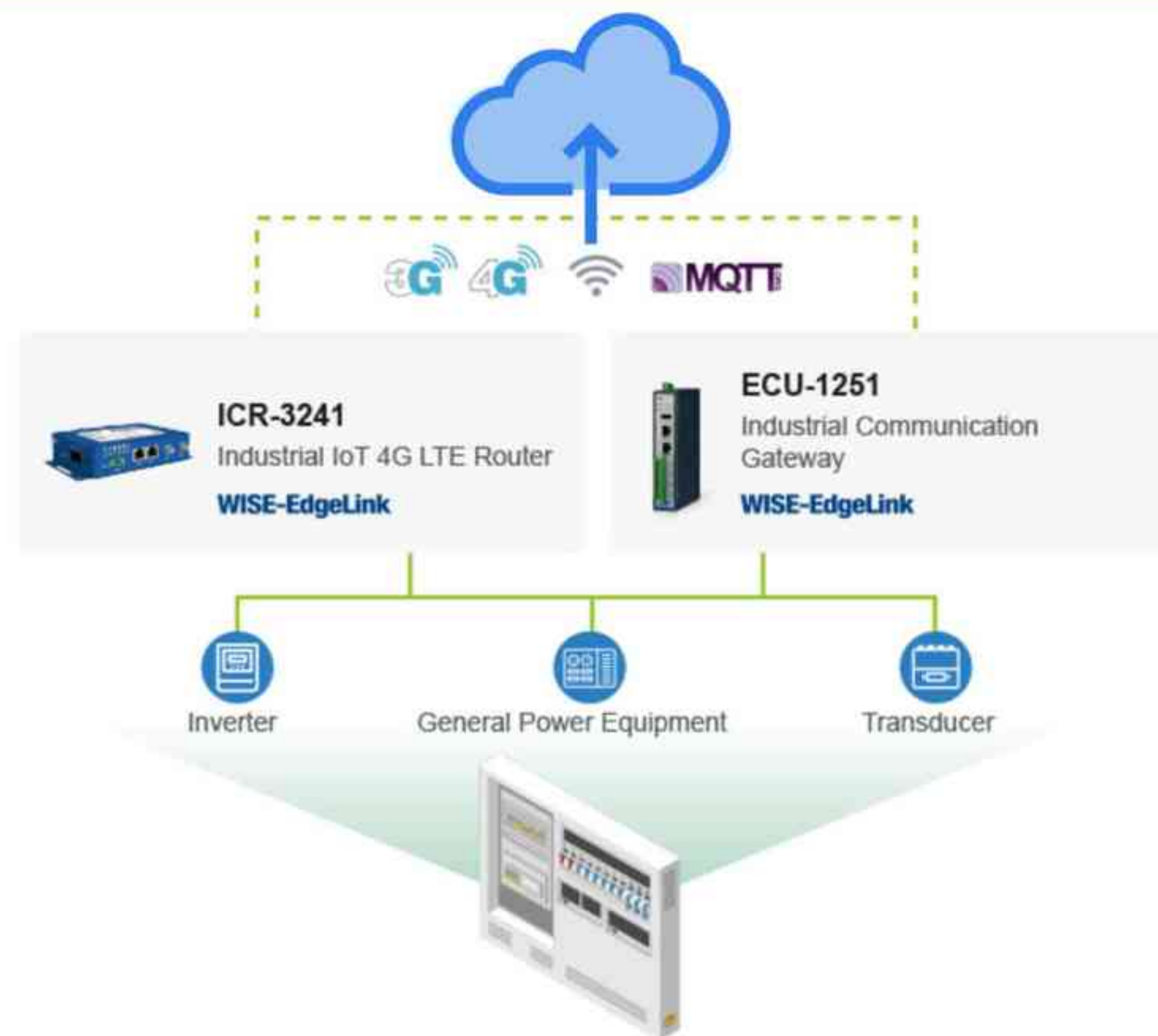
Communication Gateway

ECU-1251 V2

- Cortex A9 processor with 2G RAM/16GB eMMC storage
- 2 x Ethernet ports, 4 x RS-232/485 isolated ports
- Supports Modbus, OPC UA, MQTT, BACnet, DNP3, IEC 60870, RESTful



Reliable power distribution ensures the quality of power supply and improves the safety of critical operating equipment.



Use Case | Intelligent Monitoring for Legacy Power Generators

Stand-alone power generator sets are a critical component of data center power infrastructure, providing reliable backup power during utility outages and supporting continuous operations when grid power is unavailable or unstable. For these mission-critical generator systems, maintaining consistent performance depends on effective monitoring and scheduled maintenance to ensure they are always ready to deliver uninterrupted power when needed. An Advantech customer was facing challenges with manual inspection and fault repair for legacy power generator machinery. Additionally, there was a challenge with a lack of network connectivity in legacy equipment.

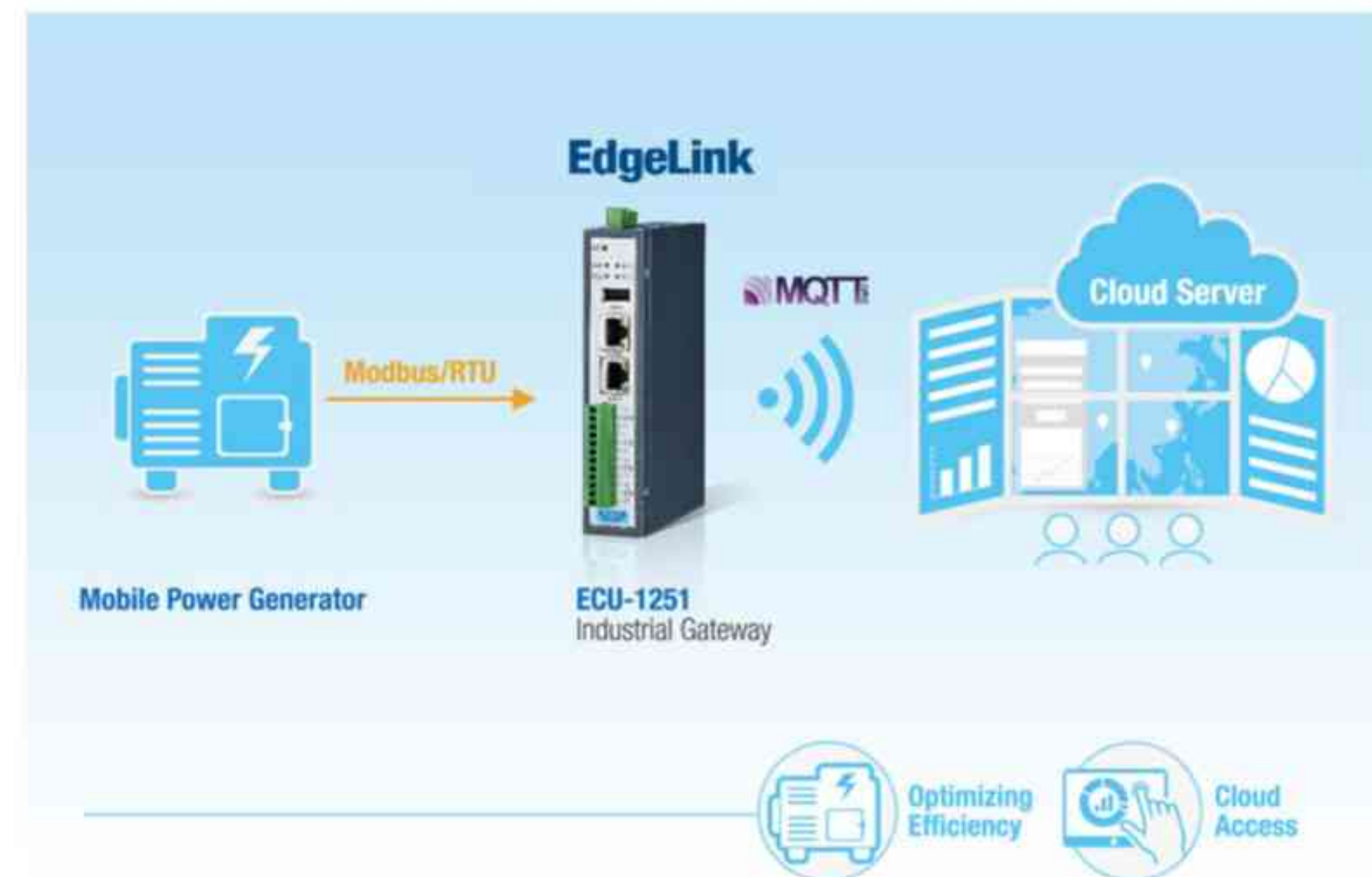
Advantech Solution:

To address the power generator monitoring challenge, an industrial communication gateway, the Advantech **ECU-1251**, was deployed with EdgeLink software to enable secure protocol conversion and wireless connectivity. The gateway connects directly to diesel generator controllers via RS-485, collecting critical operational data such as status, alarms, and performance metrics. This data is then converted and securely transmitted to a third-party cloud platform using MQTT over a 4G network, enabling remote, real-time monitoring of generator health and availability for data center operations.

Continuous data collection supports long-term tracking and analysis, helping reduce maintenance costs by identifying trends and optimizing service schedules. By leveraging historical and real-time data, operators can establish a data-driven maintenance strategy that improves reliability and extends equipment lifespan.



Continuous data collection helps establish a data-driven maintenance strategy to improve reliability and extend equipment lifespan.



Use Case | Battery Energy Storage System (BESS) Management

Battery Energy Storage Systems (BESS) are often comprised of multiple subsystems (e.g. EMS, PCS, ECS, BMS), each with its own specific functions and communication protocols. The gateway plays a critical role in ensuring smooth communication and data exchange among these subsystems, especially when they use various protocols and physical interfaces.

Advantech Solution:

The **ECU-1 series** of gateways supports diverse protocols including DLT645, DNP3, IEC-60870-5-101/103/104, Modbus, OPC UA, CAN, IEC-61850*. ECU gateways can also sustain wide temperature ranges of -40~70°C.

Industrial & Commercial Scale

ECU-1252

- Cortex A9, 600MHz
- 2GB DDR3L, 16G eMMC
- 2 x CAN, 2 x RS-232/485
- Operating temp. -40~70°C



ECU-1270

- Cortex A35 Quad Core, 1.4GHz
- Expansion module: Wi-Fi/BT, Cellular, PoE, DIO, CAN FD, RS-485
- TPM 2.0 for security
- Operating temp. -40~70°C



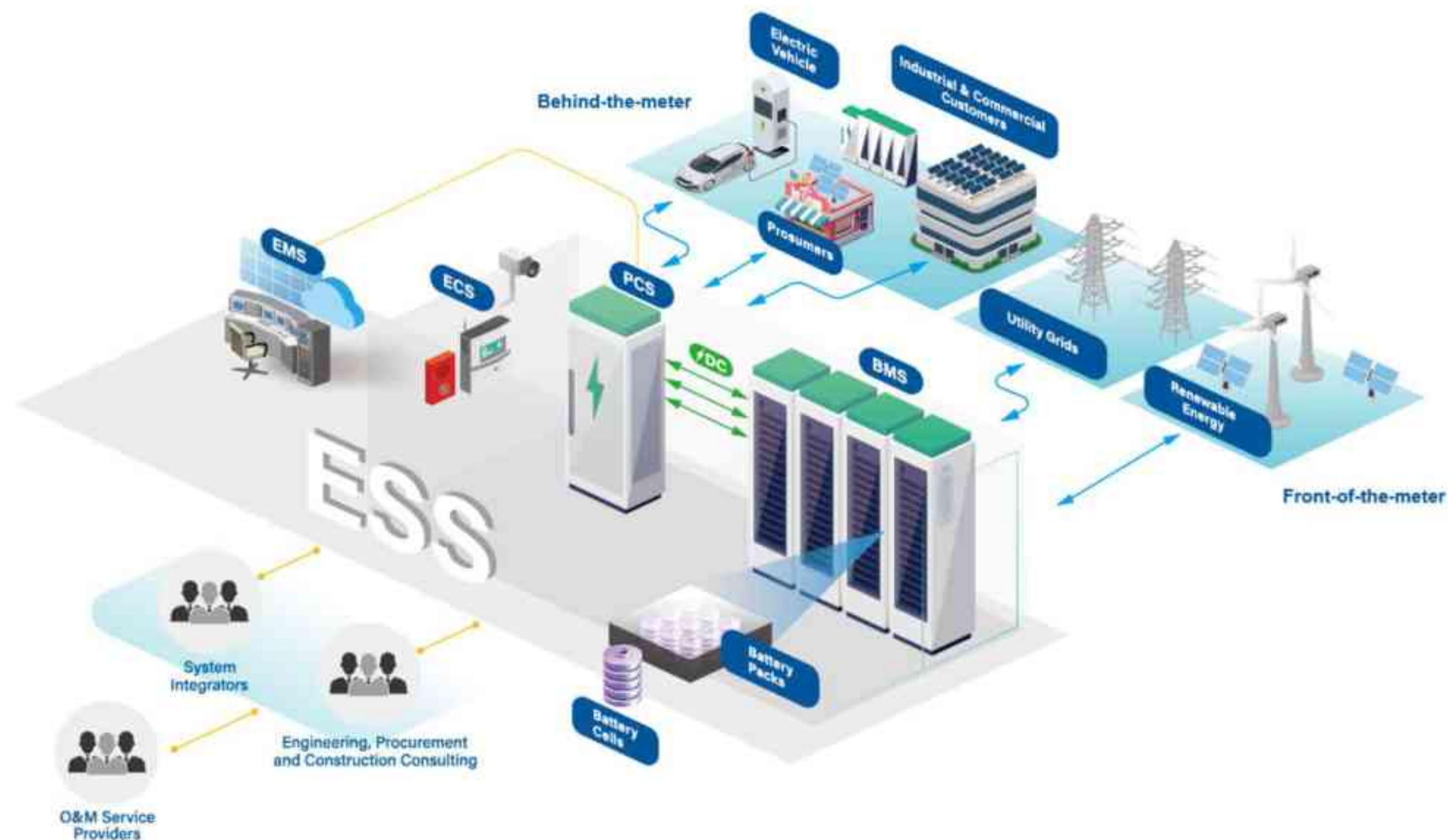
Large Scale

ECU-1370

- Cortex®-A53, Quad core, 1.3GHz
- 4GB DDR4, 32GB eMMC
- 1 x CAN, 1 x RS-232/485, 3 x GbE
- 24 DI and 6 Relay
- Operating temp. -40~80°



By intelligently monitoring and controlling BESS equipment, operators can optimize power management through load balancing and peak shaving, resulting in operations that are more efficient, economical, and environmentally sustainable.



ECU-1 Intelligent Communication Gateways

From basic communication gateways to high-performance intelligent platforms, the ECU-1 series offers scalable solutions to meet diverse industrial needs.



ECU-1251 V2 IoT Gateway

- TI Cortex A9 600MHz processor with 2G RAM
- 16GB eMMC system storage and 1 x Micro-SD Slot
- 4 x RS-232/485 isolated serial ports
- 2 x 10/100 Ethernet ports and 1x mPCIe for wireless communication expansion
- EdgeLink IoT software for data acquisition and cloud communication
- Wide operating temperature: -40°C ~ 70°C



ECU-1270 IoT Gateway

- TI AM6734 Quad-core Cortex A53 1.4GHz CPU
- LPDDR4 2/4GB up to 8GB, eMMC 32GB for system storage
- 2x isolated RS-232/485 configurable ports
- 2x 10/100/1000 Ethernet ports
- Add-on modules available for CAN FD/serial/digital I/O expansion
- Supports SD cards and OTA firmware updates



ECU-150 Compact IoT Gateway

- NXP i.MX8M Quad Core Cortex A53 1.3G CPU
- DDR4 2GB RAM, 16GB eMMC for system storage
- 2 x RS-232/485 isolated serial ports
- 2 x 10/100/1000 Ethernet ports
- 1 x Mini-PCIe for Wi-Fi/Cellular/4G
- Supports web service for remote, online monitoring
- Supports Modbus, IEC-60870-5, DNP3.0, OPC-UA, BACNet protocol



ECU-1370 High-Performance Gateway

- NXP i.MX8M Quad Core Cortex A53 1.3G CPU
- DDR4 4GB RAM, 32GB eMMC for system storage
- 1 x RS-232/485 isolated serial ports, 1 x CAN
- 3 x 10/100/1000 Ethernet ports
- 24 DI and 6 DO (Relay)
- Wide operating temperature -40°C ~ 80°C

• ECU-1 Series Key Features



Protocol Conversion and Edge to Cloud Solution

- EdgeLink bundle with protocol support for data from field devices
- No coding support for Azure, AWS, Cumulocity, Sparkplug MQTT
- OPCUA/ODBC/JDBC IT software and SQL database for data support



Open Platform and Versatile I/O

- Linux environment offers open and standard platform
- Develop applications with C, Python, or 3rd-party libraries
- Multiple communication interface
- Provides Ethernet & serial ports, versatile I/O, such as digital inputs, relay outputs, and CANbus



Industrial-Grade Design and High Reliability

- Designed with industrial grade IC with long MTBF
- IEC standard fulfills all mission critical applications
- Wide operating temperature range (-40 ~ 70°C)
- Battery powered RTC, independent WDT, and TPM support



ECU-150 Compact High-Performance IoT Gateway

A new generation CPU from NXP, the i.MX8 series.

User-friendly EdgeLink configuration tool empowers users to develop precise applications for solar and electricity generation.



ECU-150 Edge Intelligent Gateway

- NXP i.MX8M Quad Core Cortex A53 1.3G CPU
- DDR4 2GB RAM, 16GB eMMC for system storage
- 2 x RS-232/485 isolated serial ports
- 2 x 10/100/1000 Ethernet ports
- 1 x Mini-PCIe for Wi-Fi/Cellular/4G
- Support web service for remotely on-line monitoring
- Support SD card & on-line firmware update
- Support Modbus, IEC-60870-5, DNP3.0, OPC-UA, BACNet protocol (ECU-150-12A1&ECU-150-12A1U need container EdgeLink)
- Support Data logger on SD card

Flexible, Modular Design

- Modular design optimizes product size while preserving expansion flexibility
- 5G communication and dual wireless communication
- I/O expansion with iDoor modules (e.g. serial ports, CAN)

Azure and AWS Certified

- Built-in EdgeLink allows users to set up cloud solutions and manage the entire lifecycle of equipment, monitor energy consumption, and analyze renewable energy efficiency through AWS or Azure services



Remote Device Monitoring

- Control, Batch Image Update, and Recovery
- OTA orchestration and configuration
- OpenVPN Integration
- Data Correction and Pre-processing

• UNO Series Embedded Automation Computers

Ideal for diverse edge computing applications to seamlessly bridge OT and IT.



UNO-127 Pocket-Size DIN-Rail Edge IPC

- Intel® Quad core x6413E processor with 4GB/8GB DDR4 onboard memory
- Compact, robust, fanless and cable-free system
- Basic unit: 2x GbE, 2x USB, 1x HDMI
- On-board full-size mPCIe port for various expansion capability
- Built-in TPM2.0 for hardware-based security
- System ground isolation design
- Certified with IEC 61010-2-201 & Ubuntu Core 20
- Supports Windows 11 IoT Enterprise LTSC



UNO-137 V2 Small-Size DIN-Rail IPC

- Intel® Atom® x6413E & x6425RE processor with 8GB DDR4 memory
- Wide operating temp. range (-40 ~ 158 °F) & power input range (10 ~ 36 VDC)
- Onboard TPM 2.0 for hardware-based security
- Compliant with IEC 61010-1 safety requirements
- Modular design for optional iDoor extension



UNO-148 V2 Fanless DIN-Rail IPC

- Intel® Core™ processors (13th Gen) with 8GB DDR5 memory
- Port isolation for 8 x DI, 8 x DO, 4 x COM
- Supports 2 x M.2 M key 2280 NVMe SSD storage (supports RAID)
- Supports 1 x M.2 E Key 2230 wi-fi module and 1 x miniPCIe with Nano SIM card slot
- Dual 2500 BASE-T Ethernet supports Time-Sensitive Network (TSN) technology
- Modular design for optional iDoor extension
- Supports Windows 11 IoT Enterprise LTSC



UNO-2271G V3 Pocket-Size IoT Edge Gateway

- Intel Atom® x7211RE processor (Dual core) with 8GB LPDDR5 onboard memory and 64 GB eMMC
- Pocket-size, robust, fanless and cable-free system with high stability
- Optional second stack for increasing functionality including PoE, COM, wireless connectivity
- Supports Windows 11 LTSC, Ubuntu 22.04

• AMAX Automation Controllers & I/O

AMAX solutions address the growing demand for integrated, intelligent control with high-speed I/O integration and real-time performance assurance.



AMAX-7570 V2 Intel Atom® IPC Controller

- Optimized BIOS & Embedded OS for 1ms real-time control (Windows and Linux)
- 32-axis motion control with 500 μ s EtherCAT cycle time under Linux
- OPC UA and Modbus TCP/RTU as IT connectivity enabled by CODESYS
- Unlimited I/O points, fieldbus networks, and visualization variables for CODESYS
- Advantech Data Connect (ADC) Library provides flexible and efficient data connection with 3rd-party application software through symbols (PLC Handler) & shared memory (C++/C#)



AMAX-7580 V2 Intel® Core™ IPC Controller

- Optimized BIOS & Embedded OS for 1ms real-time control (Windows and Linux)
- 128-axis motion control with 500 μ s EtherCAT cycle time under Linux
- OPC UA and Modbus TCP/RTU as IT connectivity enabled by CODESYS
- Unlimited I/O points, fieldbus networks, and visualization variables for CODESYS
- Advantech Data Connect (ADC) Library provides flexible and highly efficient data connection with 3rd party application software through symbols (PLC Handler) & shared memory (C++/C#)



AMAX-5570 V2 Intel Atom® Embedded Controller

- Optimized BIOS & Embedded OS for 1ms real-time control (Windows & Linux)
- Achieves 32-axis motion control with 500 μ s EtherCAT cycle time under Linux
- OPC UA and Modbus TCP/RTU as IT connectivity enabled by CODESYS
- EtherCAT, PROFINET, Ethernet I/P, and CANopen are OT connectivity feature enabled by CODESYS
- Intel Atom® quad-core x6414RE processor
- System I/O with 2 x GbE, 2 x USB, 2 x Isolated CAN 2.0, 2 x Isolated COM, 1 x HDMI



AMAX-5570E V2 Intel Atom® Embedded Controller

- Optimized BIOS & Embedded OS for 1ms real-time control (Windows & Linux)
- Achieves 32-axis motion control with 500 μ s EtherCAT cycle time under Linux
- OPC UA and Modbus TCP/RTU as IT connectivity enabled by CODESYS
- EtherCAT, PROFINET, Ethernet I/P, and CANopen are OT connectivity features
- Intel Atom® quad-core x6414RE processor
- System I/O with 4 x GbE, 2 x USB, 2 x Isolated COM, 1 x HDMI, 1 x 5 pin terminal (dual power input)

LoRaWAN Sensing & Wireless I/O

LoRaWAN-enabled wireless communication technologies enable rapid deployment of remote data center infrastructure monitoring applications, providing low-power, long-range connectivity for reliable equipment monitoring across large facilities.

WISE-2410 LoRaWAN Wireless Vibration Sensor

- LoRaWAN wireless connectivity
- Built-in 3-axis accelerometer and temperature sensor
- 8 vibration characteristic values on board
- Compliant with ISO 10816
- IP66 with battery-powered, no wiring installation
- User-friendly interfaces on WISE Studio
- Support wide temperature -20 ~ 80 °C
- RED compliance



LoRaWAN



WISE-6610 V2 LoRaWAN Enabled Gateway

- Latest Semtech SX1302 gateway chipset; doubles packet processing speed
- Embedded Network Server for LoRaWAN® for both private and public applications
- Compatible with network servers (Actility, The Things Network, Chirpstack, AWS, etc.)
- Supports Modbus/TCP, MQTT, BacNet, OPC UA protocols
- Build-in Node-RED, LoRaWAN network server and Edgeline software packages
- Global LoRaWAN® Frequency Plans
- Backhaul 4G (by additional adapter)



LoRaWAN



WISE-6610P 16ch Industrial LoRaWAN Gateway

- Latest Semtech SX1302 gateway chipset; doubles packet processing speed
- Embedded LoRaWAN Network Server
- Compatible with network servers (Actility, The Things Network, Chirpstack, AWS, etc.)
- Supports Modbus/TCP, MQTT, BacNet, OPC UA protocols
- Build-in Node-RED, LoRaWAN network server and Edgeline software packages
- Global LoRaWAN® Frequency Plans
- IP67 with pole/wall mounting design
- IEEE 802.3af compliant from PoE equipment



LoRaWAN

EVA-2310 Temperature / Humidity Sensor

- LoRaWAN® wireless connectivity
- -20°C to 55°C temperature detection range
- 0% RH to 90% RH humidity detection range



LoRaWAN

EVA-2210 3-Phase Current Meter Sensor

- LoRaWAN® wireless connectivity
- 3 x 75A Clamp-On CT
- Battery life up till 3.5 years @ 25°C, 60 mins interval setting

Smart Meters: EVA-P200 Series

Compact, cost-effective power meters with high accuracy, Modbus RTU, and flexible wiring—ideal for monitoring and maintenance.



EVA-P220 DIN-Rail Power Meter

- Providing power parameters ; V, I, P, Q, kWh, kVarh etc.
- DIN-Rail mounting with high accuracy measurement
- Flexible phase wire connection.
1P2W/1P3W/3P3W(1/2/3CT)/3P4W(1/3CT)
- Front display with buttons for on-site operation
- CO2 emission calculation



EVA-P228 Multi-loops Power Meter

- 6 loops for main circuits; 24 loops for branch circuits.
- Flexible phase wire connection.
1P2W/1P3W/3P3W
- DIN Rail mounting achieves space saving
- Front display with buttons for on-site operation
- 2x DI, 4x Relay Output

From distributed building assets to large-scale renewable energy systems, the EVA-P Series provides the open architecture needed for precise sensing and robust wireless connectivity.



- ✓ **Open Architecture:** Precise sensing with standard Modbus RTU.
- ✓ **Wireless Backbone:** Long-range LoRaWAN connectivity without complex wiring.
- ✓ **Seamless Integration:** Cloud-ready solutions for existing EMS or public clouds.

**Empower End-to-Cloud
Distributed Asset Monitoring
for Data Centers**

Intelligent & Remote I/O Solutions

Featuring a wide range of remote I/O modules to meet diverse needs, with a robust and secure design.



ADAM-4000/4100 RS-485 I/O Modules

The ADAM-4000/ 4100 series is designed for reliable operation in industrial environments. Built-in microprocessors independently provide intelligent signal conditioning, analog I/O, digital I/O, data display, and RS-485 communication through Modbus RTU protocols.

- Universal remote I/O modules to operate the system via Modbus
- Data accuracy assured by enhanced ESD/ EFT/ Surge Protection
- Watchdog Timer enhances system stability and reduces maintenance costs



ADAM-6000/6200 Ethernet I/O Module Series

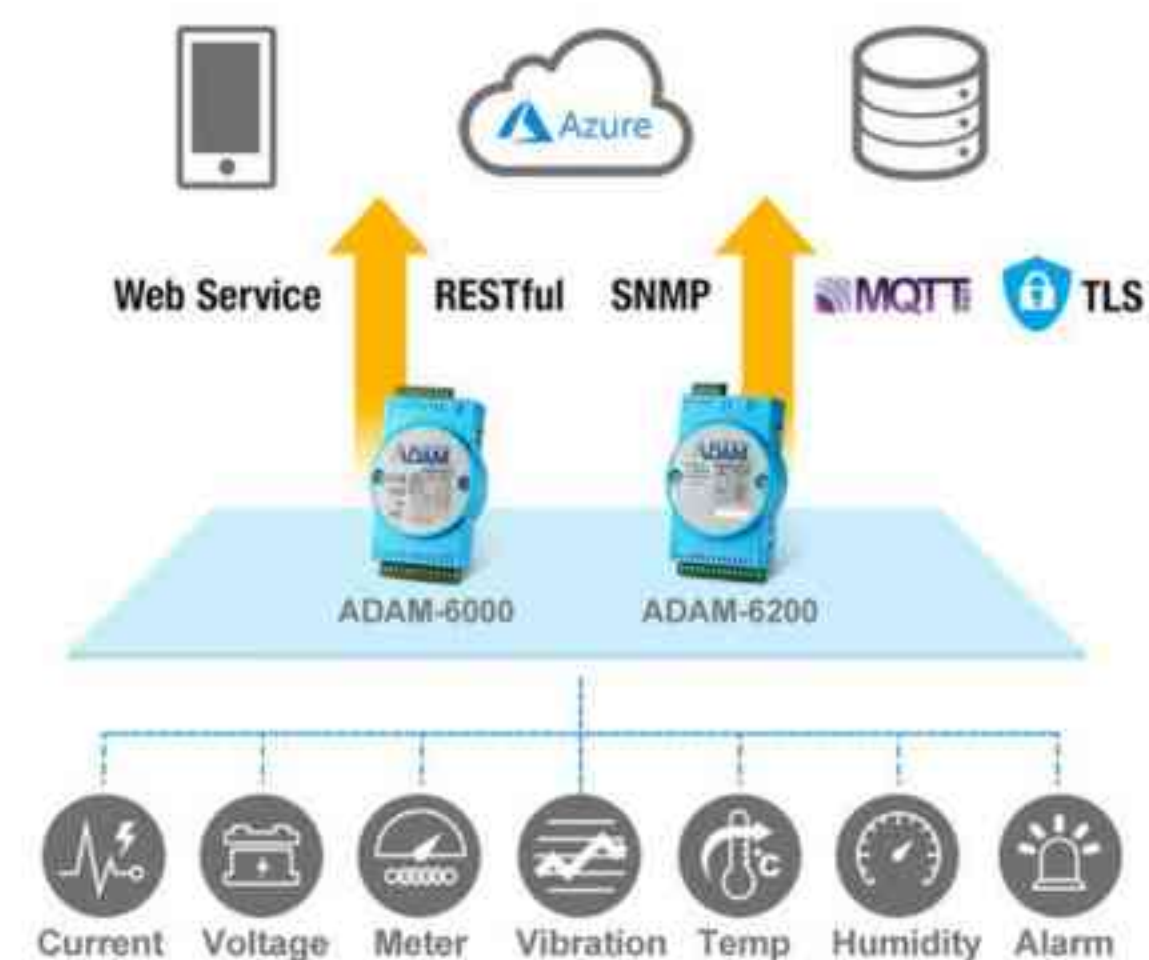
The ADAM-6000 series is empowered by Peer-to-Peer (P2P) and Graphic Condition Logic (GCL), and can perform as standalone devices for measurement, control, and automation

- GCL to perform basic logic control rules
- Watchdog timer to recover the system
- Built-in web server
- Various digital input/output options
- Some models include Cloud access: data update to Azure



ADAM-6300 OPC UA Ethernet I/O Modules

Industrial OPC UA Ethernet I/O Modules with Modbus protocol converge OT/IT with security, linking to SCADA and the cloud for remote monitoring.





ADAM-3600 Intelligent Remote Terminal Unit

Edge communication for remote maintenance, acquiring data and transmitting to higher-level management systems.

The ADAM-3600 edge sensing device-to-cloud solution provides data collection, preprocessing, and transmission forwarding.



ADAM-3600 Intelligent RTU

- Domain-focused onboard I/O -8AI / 8DI / 4DO
- High I/O flexibility with 4-slot I/O expansion
- Modbus & DNP3 protocol
- IEC 61131-3&C programming language
- Multiple wireless options for Zigbee/ Wi-Fi/ 3G/ 4G/ GPRS
- High-performance CPU Cortex A8 600MHz
- Low-power DDR3L 256MB RAM
- Wide operating temperature: -40°C ~ 70°C



Wide Array of Flexible I/Os

On-board I/O and expansion I/O modules support different acquisition requirements for a high cost performance.



Remote Firmware Updates

The ADAM-3600 can use a USB drive and an SD card to automatically update firmware so there's no need to bring a computer and execute the configuration program in the field.



Intelligent Connectivity Diagnosis Manager

Remotely monitor serial and Ethernet port status and send alarm information during communication failures to help improve intelligent monitoring.



EKI-1000 Series Wireless Device Servers

Quick, simple, and cost-effective means of bringing the advantages of remote management and data accessibility to thousands of devices that would otherwise be unable to connect to a network.



EKI-1361 Serial Device Server

- Link any serial device to an IEEE 802.11 a/b/g/n network
- Supports up to 921.6 kbps, and any baud rate setting
- Provides COM port redirection, TCP, UDP, and pair connection modes
- Allows a max. of 5 hosts to access one serial port
- Allows a max. of 4 hosts to be accessed as TCP client mode
- Supports 802.11n MIMO 2T2R
- WLAN transmission rate up to 300 Mbps
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Provides Web-based configuration and Windows utility



EKI-1361-MB Modbus Gateway

- Link any serial device to an IEEE 802.11 a/b/g/n network
- Supports Modbus TCP and Modbus RTU
- Supports up to 921.6 kbps, and any baud rate setting
- Provides Web-based configuration and Windows utility
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise
- Support 802.11n MIMO 2T2R
- WLAN transmission rate up to 300 Mbps
- Support Dual band 2.4G/5G selective



EKI-1362 Serial Device Server

- Link any serial device to an IEEE 802.11 a/b/g/n network
- Provides COM port redirection, TCP, UDP, and pair connection modes
- Supports up to 921.6 kbps, and any baud rate setting
- Allows a max. of 5 hosts to access one serial port
- Allows a max. of 4 hosts to be accessed as TCP client mode
- Provides Web-based configuration and Windows utility
- Support 802.11n MIMO 2T2R
- WLAN transmission rate up to 300 Mbps
- Supports secure access with WEP, WPA/WPA2-Personal, WPA/WPA2-Enterprise



EKI-1526 16-Port Serial Device Server

- Provides 2 x 10/100/1000 Mbps Ethernet ports for LAN redundancy
- Supports up to 976.5 kbps, and any baud rate setting
- Provides COM port redirection (Virtual COM), TCP and UDP operation modes
- Provides rich configuration methods: Windows utility, Telnet console, Web Browser, and serial console
- Built-in 15 KV ESD protection
- SNMP MIB-II for network management
- Built-in buzzer for easy location
- Automatic RS-485 data flow control

Managed Ethernet Switches

Modularized design and X-Ring enabled devices and topology redundancy help ensure maximum uptime of operations.



EKI-5000 Series Entry-Level Managed Ethernet Switch

- The EKI-5500/5600 series supports most widely adopted management features that allow users to remotely control and manage via web browser
- Economical entry-level Ethernet switch to quickly build up a reliable network environment
- Provides SNMP v1/v2c/v3, WEB GUI, standard MIB, and private MIB
- Rugged industrial-grade hardware design assures reliability and stability
- Supports Advantech IXM technology to hasten and ease deployment



EKI-7700 Series Managed Ethernet Switch

- Includes copper wire and fiber optic connections in Gigabit and fast Ethernet options with essential management and control features
- Supports 802.3at PoE+ (for PoE models)
- Gigabit X-Ring Pro (ultra high-speed recovery time <20ms)
- Compatible with WebAccess/NMS for network central management
- Embedded with IXM technology for device fast deployment



EKI-7720 Series Managed Ethernet Switch

- EKI-7720G series supports 16 Gigabit Ethernet ports and 4 SFP (mini-GBIC) ports
- Provide users abundant ports to connect IP devices, such as IP cameras, to the Internet for instant data transmission
- Ideal for applications with large amounts of IP devices requiring network communication
- IXM function enables fast deployment
- Redundancy: X-Ring Pro (ultra high-speed recovery time < 20 ms), RSTP/STP (802.1w/1D)



EKI-8510G-2FI Time-Sensitive Networking Switch

- CC-Link IE TSN Class B Certified
- 8 x Gigabit ports + 2 x Gigabit SFP ports
- IEEE 1588v2 PTP Precision Time Protocol
- Features IEEE 802.1AS Time Synchronization, IEEE 802.1Qbu Frame Preemption, IEEE 802.1Qbv Time Aware Shaper and IEEE 802.1CB Seamless Redundancy
- Fully Layer 2 managed switch function
- Management: SNMP v1/v2c/v3, WEB, Telnet, standard MIB
- Dual 12~48 VDC power input and 1 x relay output



Unmanaged Industrial PoE Ethernet Switch

Provide power and data for network devices in locations even where when electrical circuitry is not readily available.

PoE systems offer consistent power delivery and minimize the risk of outages, ensuring reliable network connection and smooth operation.



EKI-2708G-PI Unmanaged PoE Ethernet Switch

- 8 x Gigabit Ethernet ports
- Supports 8 x IEEE 802.3at/af PoE ports for PD demands
- Up to 30W output per PoE port
- Supports jumbo frame transmission up to 9k bytes
- 12~48 VDC redundant dual power input and 1 relay output
- Wide operating temperature range of -40°C~75°C
- Supports LAN surge protection up to ± 6 kV



Security Systems

PoE can be used to power IP cameras and access control systems. This allows flexible and strategic placement of security devices, enhancing the security coverage in facilities with limited power sources.



Building Automation

PoE simplifies the installation of smart building devices, such as contact detectors, humidity sensors, alarm control systems, etc, no matter the amount of electrical outlets available on site.



Environmental Monitoring

PoE allows for the smooth operation of sensors that track temperature, humidity, vibration, and other critical environmental parameters, ensuring optimal production conditions and predictive maintenance.

TPC-100WX Series of HMI Solutions

Designed specifically for energy infrastructure, the TPC-100WX Series provides comprehensive solutions for power management applications.

From energy storage systems to power distribution facilities, these rugged touch panels deliver clear visibility and stable performance.



Wide operating
temperature



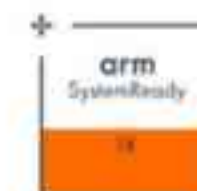
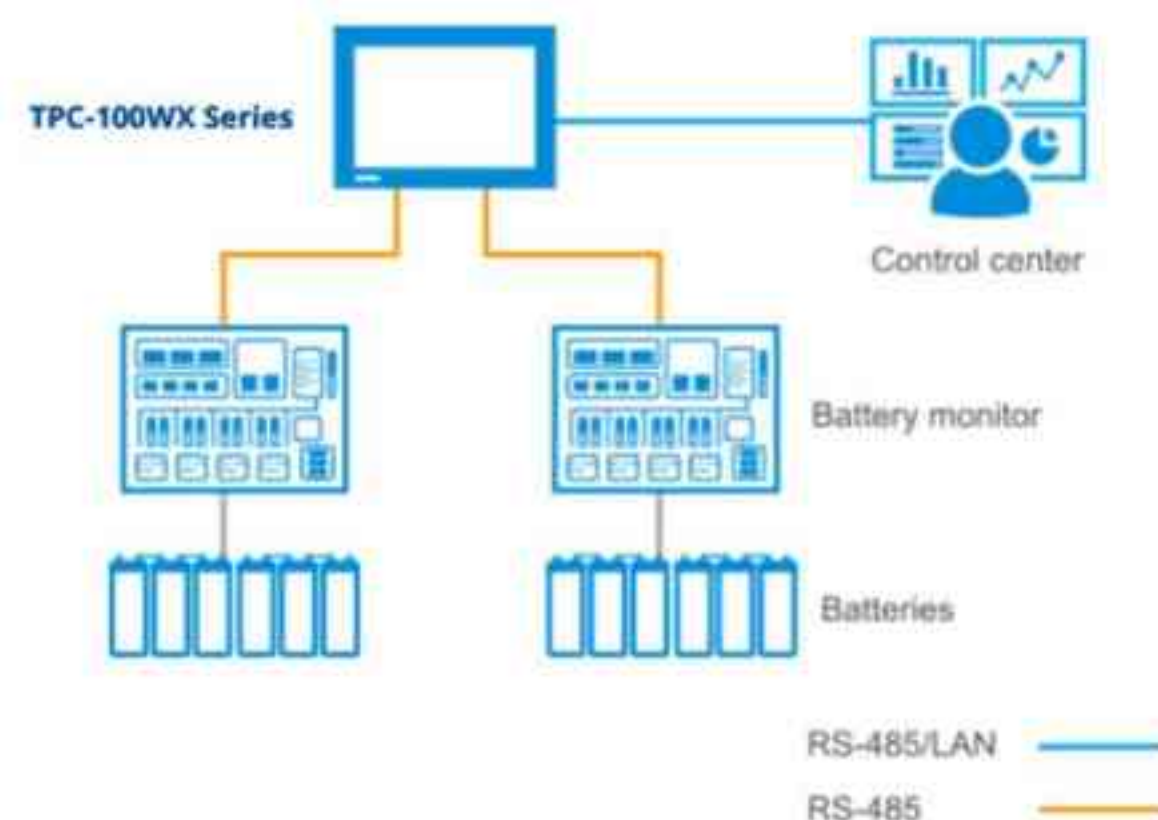
Robust
impact protection



High-Brightness
(1000-1200 nits)



Attack Prevention,
Data Access Protection



TPC-107WX 7" Touch Panel Computer

- NXP® ARM® Cortex™-A53 i.MX 8M Mini quad-core processor
- Supports Linux Yocto (with Arm® SystemReady IR certification guarantee) and Secure Boot
- True-flat IP66-rated front panel for water/dust resistance
- IK08 protection for impact resistance
- Chassis grounding protection for electrical safety
- Wide operating temperature range (-30~70°C/-22~158°F)



TPC-110WX 10.1" Touch Panel Computer

- NXP® ARM® Cortex™-A53 i.MX 8M Mini quad-core processor
- 10.1" 16:9 High brightness LCD with multi-touch P-CAP
- True-flat IP66-rated front panel for water/dust resistance
- IK08 protection for impact resistance
- Chassis grounding protection for electrical safety
- Supports Linux Yocto 4.0
- Wide operating temperature range (-30~70°C/-22~158°F)

• TPC-B Series of Modular HMI Solutions

Computing modules with processors ranging from entry-level to high-performance, featuring diverse I/O and expansion.

Modular design allows for flexibility of computing and display modules to provide various platform solutions for specific field applications.

✓ Continuously expanding display modules

✓ A range of flexible platforms to choose from



✓ Easy maintenance and rapid customization



TPC-B520 Computing Box Module

- Powered by Intel® Core™ processors (13th gen)
- Single DDR5 Memory slot supports up to 32GB
- M.2 expansions for iDoor, NVMe SSD, WiFi 6, and 5G LTE
- 1 x Type-C
- Supports fieldbus protocols/GPS/GPRS/Wi-Fi capabilities via iDoor technology
- Modular Front Panel modules ranging from 12.1" to 23.8" with P-CAP multi-touch in selection



TPC-B300 Computing Box Module

- Powered by Intel Atom® X6425E/ Intel® Celeron® J6412 with DDR4 SODIMM slot
- Multiple sized front panel module offering with P-Cap multi-touch sensor (12.1" & 19" w/ robust 5-wire resistive touch)
- 1 x Full-size mini PCIe for iDoor expansion
- 1 x M.2 Key-E 2230 for WIFI + BT module
- 1 x M.2 Key-M 2280 for SATA SSD
- 1 x 2.5" SATA SSD expansion
- 2 x 2.5Gb LAN
- Supports TPM 2.0 hardware security
- Wide Temp Support. Range -20~60 °C



WOP-200K HMI & HMINavi Open Software

WOP-200K systems are added to HMINavi software to reduce labor and improve management efficiency through visualization.



WOP-204K 4.3" WQVGA Operator Panel

- ARM9™ 32-bit RISC processor with 64 MB SDRAM working memory
- Backup memory 128KB for retaining critical data
- Modbus & DNP3 protocol
- Supports HMINavi Designer development tool free on Windows 10
- Supports HMINavi Runtime data downloads through Serial, Ethernet, USB port
- Switch application to different LCD sizes in seconds
- Easy installation and IP66-rated front panel
- Operates in both landscape and portrait mode

HMINavi Powers Unprecedented Intuitive Machine Visualization.

Supports 500+ PLC Industrial Communication Protocols

HMINavi can connect up to 90% of global PLC devices. The data exchanger function can easily exchange various types of PLC data. Its powerful connectivity makes HMINavi a perfect fit for existing or future IoT solutions.

Simple Cloud Access via MQTT Protocol

HMINavi simplifies OT/IT integration using the latest MQTT uplink communication protocol. Users can effortlessly transform legacy machinery into intelligent systems with all critical data and backups handled by cloud services.

Comprehensive Visualization Functions

- **Object-oriented:** Switch Button Object Unit, Unlimited Internal Tags, Schedule Table Control, Macros Script Control, Data Exchange, Uplink Communication
- **Data Visualization:** Lamps & Animated Display, Historic Curve & Path Trends, Bar Chart & Graphic Display, Meter & Circular Display, Pipeline & Path Display, Rotation Indicator & Radar Chart
- **Data Management:** Alarm Management, Historical Data Logger, Operation Data Logger, Recipe Management, Documentation in CSV and/or PDF Format
- **Security Protection:** Project File, Screen, Due Date, Runtime Load, User Level, and User Group Protection
- **Data Exchange:** Breakpoint Resume, OPC UA Server/Client, VB Script User Coding, JScript User Coding, Browser/Media Container

Industrial Edge AI Systems

Accelerating AI Deployment from Edge to Cloud



Sensor Peripherals Integration for Efficiency

- 2D/3D Camera
- Thermal Camera
- Lidar & IMU
- Wireless



Innovation Solution Pilot for AI Software Expertise

- NVIDIA Metropolis
- NVIDIA Isaac ROS2
- NVIDIA AI Enterprise
- NVIDIA Holoscan
- NVIDIA NIM



AI Ecosystem Support for Various Industries

- Transportation
- Safety & Security
- Manufacturing
- AMR/AGV
- Medical Imaging



Large Scale AI Deployment Support

- Remote Management
- Information Security

AMD intel. NVIDIA

- ✓ x86
- ✓ GPU
- ✓ NPU



Industrial Edge AI System

MIC, UNO & IPC



Industrial Edge AI Server

SKY, HPC



Edge AI Superchip Server (MGX)

SKY-622G4



Edge AI SKYRack

TOPS

AI Recognition 150

High Precision AI 500

Industrial Vision Language Model (VLM) 1000

AI Micro-Cloud Service 2000+

NVIDIA. Qualcomm

- ✓ Arm
- ✓ GPU
- ✓ NPU



Industrial AI Camera

ICAM



Industrial Edge AI System

MIC-AI



Industrial Edge AI Server

MIC-IGX Orin

ADVANTECH

Configurable Edge Computing

High Performance

Xeon-W/DT Core i

High Integration

Motion, Vision,
I/O, Comm, GPU
in One Box

Various Installation Space

Rackmount, Tower,
Wall-mount / Desktop

Rackmount IPC



ACP-4340



IPC-610-P

Wallmount IPC



IPC-730



IPC-7130

Compact IPC



IPC-220



IPC-240



IPC-320

Eco Partner



ATX Motherboard



AIMB-723



AIMB-788E



AIMB-788

Single Board Computers

✓ PICMG 1.0 Full / Half Size

✓ PICMG 1.3 Full / Half Size

Equipment AI AOI



Manufacturing OCR Inspection



Edge
Computing

Industrial Equipment Manufacturing



Factory Automation



Edge Server Solutions

AI Appliance



GPU Intensive Design

- AI Vision for Security
- 3D Rendering

Storage Appliance



High-Density Design

- Data Storage Management
- Enterprise IT Infrastructure

Networking & Comms Appliances



Zero Trust Security & Connectivity

- Network Edge Security
- Private 5G

Media Appliance



Low Latency & Video Processing

- Video Streaming
- Video Transcoding

Industrial Appliance



Server Grade Computing

- Warehouse Management
- AI Machine Vision

AMD

intel

NVIDIA

Micron

Edge AI



HPC



Telecom



Network Security



L11 Rack



Edge

Cloud



Diverse Product Offerings
and SI Services



Reliable Products with
Global Supply Chain Support



Flexible Technical Support
and Service



Partnerships with Key
Ecosystem Players

ADVANTECH

Advantech AIoT Marketplace Apps



The Advantech Difference

- ✓ Most Comprehensive AIoT Solution Portfolio
- ✓ Design and Manufacturing Options for TAA Compliance
- ✓ Comprehensive Customization to Meet Your Requirements
- ✓ North America-based Engineering Design Centers (EDCs) for Local Engineering and Development Teams

Design and Manufacturing Options for TAA Compliance

Made in USA	Hybrid	Engineering Front-End
U.S.-based design & manufacturing	Combination of design & manufacturing between N. America & Global Advantech HQ team in Taiwan	Local EDC completes technical front-end, design & manufacturing completed by Advantech HQ team in Taiwan

Comprehensive Customization to Meet Your Requirements

Advantech's Design To Order Services (DTOS) include a full range of customization services that integrate strong engineering knowledge with cutting edge design technology. Additionally, North America-based Engineering Design Centers (EDCs) offer local engineering and development teams with a wide range of technical, industry, and compliance knowledge.



ADVANTECH

Connect with us.



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