

Edge to Cloud Solutions

Simplify IoT Deployment, Data Visualization,
and Remote Management

✓ Solution Diagram

✓ Software Integration

✓ Vertical Focus Market

✓ Application Stories



ADVANTECH

Enabling an Intelligent Planet

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Microsoft

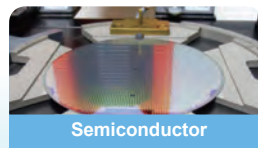
CANONICAL

Simplify IoT Deployment from Edge to Cloud

Advantech Edge to Cloud solutions facilitate IoT connectivity, light edge analytics, and cloud integration — thus simplifying IoT application deployment, visualization, and remote management. These provide an all-in-one solution packages in hardware and software integration and accommodate in-equipment connectivity, smart factory, semiconductor equipment, smart city, back-end server, and other AIoT applications.



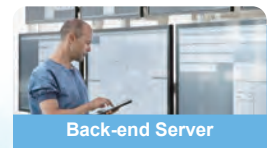
Smart Factory



Semiconductor



Smart City



Back-end Server



DeviceOn/iEdge



Protocol Integration Services



Real-time Edge Analytics



Edge Intelligence Systems



Auto Generated Dashboard



Centralized Remote Management

EDGE X FOUNDRY Modbus OPC UA ODBC



Controllers



IoT Devices



Sensors



Motors



Workstations



Robots



CNC Machines

All solutions come pre-integrated with DeviceOn/iEdge software. This provides communication protocols, data integration, real-time computing and edge analytics, remote monitoring, and centralized management via a pre-installed dashboard UI. Indeed, this ready-to-use solution helps save time and development costs.



Data Integration

- Supports industrial protocol OPC-UA/Modbus/ODBC
- Protocol plug-in SDK



Real-time Edge Analytics

- Edge data pre-processing and analysis
- Event driven rule-engine

DeviceOn/iEdge



Centralized Remote Management

- Remote management tool OTA/KVM
- Edge configuration settings and deployment



Auto Generated Dashboard

- Multiple built-in templates
- Edge dashboard for local operators



Data Visualization

Multiple built-in templates help users create dashboards for device monitoring



Edge Intelligence

Flexible data flow and edge data analysis for operation optimization and quality control



Event Notification

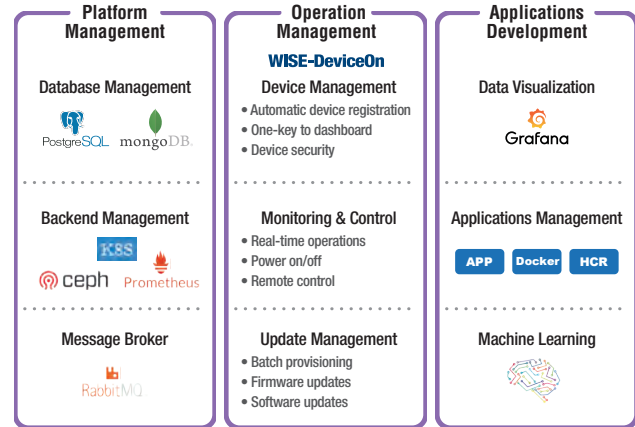
Real-time edge alerts and rule reaction enables device predictive maintenance

Edge Cloud Solution

Advantech's Edge Cloud Solution provides hardware and software integrated packages with high scalability and come pre-integrated with support for both Linux-based Kubernetes and Windows Server environments. In addition, they help with microservice deployment and management and also support a hybrid-cloud structure for connecting to public clouds like Azure or AWS and private clouds.



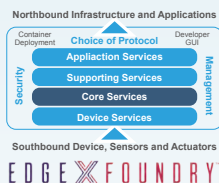
Software Stack Package



Edge Intelligence Solution

Advantech Edge Intelligence Systems provide a wide variety of IoT software solutions. These range between IoT devices operation management software and a domain-focused application industrial apps designed to help users build, manage, and deploy applications.

Sensing Device Connection & Data Acquisition



- Neutral and open platform
- Heterogeneous device connection
- Application integration and data analytics

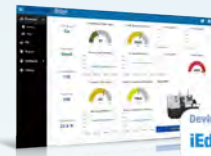
Device Remote Operation Management



WISE-DeviceOn

- Real time monitoring & control
- McAfee security & protection
- Acroins backup & recovery

Data Integration & Edge Management



- Support OPC-UA/Modbus/ODBC
- Real-time edge data pre-processing
- Centralized dashboard operation mgmt.

SECS/GEM Data Conversion



- SEMI equipment communications standard
- Data convert to SECS/GEM protocol
- Built-in GEM300 library in SECS driver

PLC Integration & Equipment Connectivity



- Supports 450+ PLC drivers
- Lightweight PLC runtime application
- Unlimited free trial tags for connectivity

Vibration Data Monitoring & Analysis



- Real-Time vibration monitoring
- Time-Frequency vibration data analysis
- Alarm management and maintenance



EIS-D620

RISC-Based Solution



EIS-D210

Device Connectivity Solution



EI-52

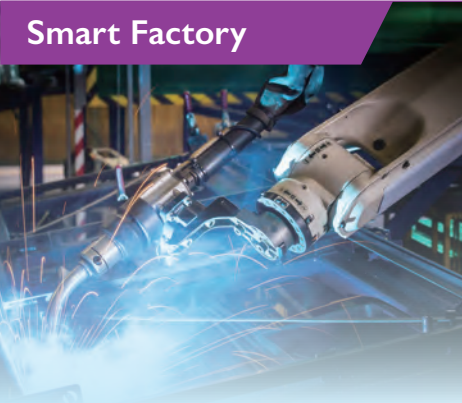
Compact High-performance Solution

Entry

High Performance

Vertical Focus and Application Stories

Smart Factory



IIoT technology delivers real-time management and operational efficiency to automated devices and machines. Advantech provides edge to cloud solution with DeviceOn/iEdge data integration and edge management industrial App built-in and helps you launch your intelligent automation project quickly.

- ✓ Seamless Equipment Data Integration(OPC-UA/ Modbus/ ODBC)
- ✓ Supports 450+ PLC drivers for equipment connectivity
- ✓ Ensure remote access, monitoring, and security



Semiconductor Equipment



In order to remain competitive, the semiconductor industry needs to keep pace with advanced processes and adopt smart manufacturing that boosts productivity and efficiency. Advantech provides iEdge/SEMI software and solution ready packages that address complicated production line problems and improve industry competitiveness.

- ✓ Collect equipment data and convert to SECS/GEM protocol for overall management
- ✓ Centralized equipment management and database supports operation stability
- ✓ Protects against unexpected equipment shutdown and conduct predictive maintenance



Smart City



Smart City applications often necessitate the deployment of multiple devices over a wide area. Advantech provides a range of sensing-edge-cloud solutions with EdgeX support, wireless IoT connectivity, and DeviceOn remote management to accelerate application deployment.

- ✓ Supports heterogeneous device connection and communication protocols
- ✓ Ensures facility remote access and real-time management
- ✓ 5G/Wi-Fi wireless connectivity and AI add-on computing



Back-end Server



Integrating substantial IoT data and devices from various system platform creates major challenges for operation managers and IT personnel. Advantech private Edge Cloud Solution is integrated with Kubernetes(K8S) micro-services and multiple databases to accelerate cross-platform integration. You can quick start back-end IoT data services.

- ✓ Easy cross-platform integration with K8s microservice structure built-in
- ✓ Pre-integrated with Azure and AWS cloud services for big data analysis
- ✓ Pre-integrated dashboard delivers real-time centralized management



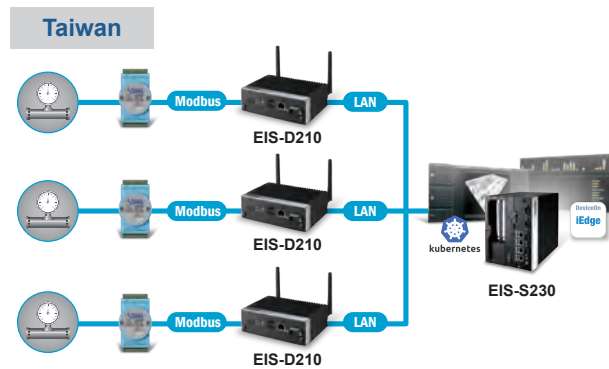
Automatic Welding Machine Monitoring with Customer-centric Demand

- Eases machine data collection with edge-to-cloud integrated system
- Customer-centric dashboard builder with development tools — NodeRed and Grafana
- Fanless, rugged, and highly-expandable product designs



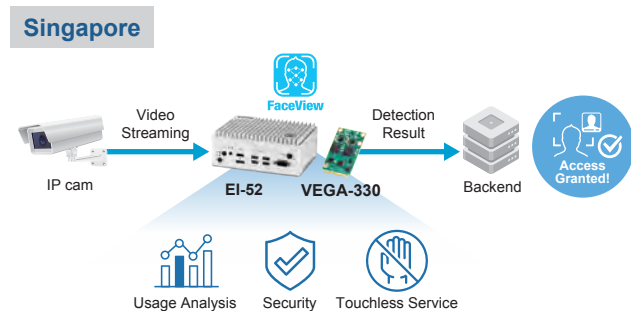
Monitor Semiconductor Production Air Pressure in Real Time

- Digitalizes analog air pressure data for collection and visualization
- Enables real-time air pressure monitoring and prompt detection
- Reduces equipment downtime risks using immediate warning notifications while boosting production capacity and improving yield rates



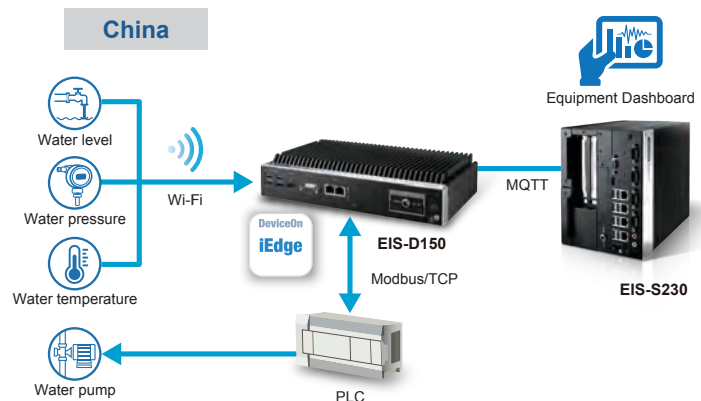
Propel the Deployment of the Touchless AI Smart Access Control Systems

- Integrated high-precision facial recognition and multiple software development tools, help system integrators deploy solutions quickly
- Integrated VEGA AI module for applications that require additional AI computing power at the edge.
- Minimizes bandwidth usage and shortens system response times, ensuring system availability and timely alarm notifications in event of abnormal event



Real-time Monitoring Water Circulation Systems

- Reduce human errors and increase efficiency via integrated monitoring system
- Supports multiple communication protocols, data collection, and dashboard visualization
- Real-time remote monitoring and control for equipment at the edge



Product Selection

Edge Intelligence System

NEW



Model Name	EIS-D620 Low Power	EIS-D210 Wireless Connectivity	EIS-D150 High Performance	EIS-D110 Ultra Compact	EI-52 Compact High Performance
CPU	Rockchip RK3399	Intel® Celeron® N3350	6 th Gen Intel® Core™ i5 6300U	Intel® Celeron® J1900	11 th Gen Intel® Core™ i5-1145G7E/Core i3-1115G4E/Celeron 6305E
RAM/Storage	2GB RAM/16GB eMMC built-in	4GB RAM/64GB SSD built-in	8GB RAM/256GB SSD built-in	Optional	8GB/16GB DDR4 RAM and 64GB SATA Slim SSD Built-in
OS	Debian	Win 10 IoT Enterprise	Win 10 IoT Enterprise	Optional	Win 10 IoT Enterprise
I/O Interface	2 x HDMI, 2 x GbE, 1 x RS-232, 1 x USB 3.0, 1 x USB 2.0	1 x VGA, 2 x GbE, 2 x RS232/422/485, 4 x USB 3.0, iDoor	1 x HDMI, 1 x VGA, 2 x GbE, 4 x RS232/422/485, iDoor	2 x HDMI, 2 x GbE, 1 x RS232/422/485	1 x HDMI, 1 x DP, 2 x GbE, 2 x RS232/422/485, 4 x USB 3.0, 2 x USB 2.0
Wireless Networking	Optional	CE RED/FCC RF Compliance	Optional		CE RED/FCC RF Compliance optional AIW-355 5G module optional EWM-W189H02E WIFI module
Dimensions (W x H x D)	135 x 130 x 29 mm; 5.3 x 5.1 x 1.1 in	133 x 46.4 x 94.2 mm; 5.2 x 1.82 x 3.7 in	260 x 54 x 140.2 mm; 10 x 2.12 x 5.5 in	133.8 x 43.1 x 94.2 mm; 5.26 x 1.69 x 3.7 in	156 x 112 x 60 mm; 6.1 x 4.4 x 2.3 in
Software Package	DeviceOn/iEdge Data Integration and Edge Management - Data Integration - Centralized Remote Management - Real-time Edge Analytics - Auto Generated Dashboard Add-on Package: - iEdgeSEMI for SECS/GEM protocol conversion - iEdgePLC support over 450+ PLC protocol drivers				WebAccess/SCADA Smart SCADA - Dashboard Editor Viewer - Widget Library & Widget Builder - Cross Browser & Device Viewing (For EIS-D150 and EIS-D210)
Development Tools	Node-RED Data Flow Logic Designer & Dashboard Builder Protocol Plug-in SDK & Configuration Tools				Edge X API and SDK
Ordering Information	EIS-D620-D1DE121	EIS-D210W-E1DS642	EIS-D150-E1DS182	EIS-D110-01D0002	EI-52-S6A1 (i5), EI-52-S2A1 (i3), EI-52-U0A1 (Celeron)

Edge Cloud Solutions

NEW



Model Name	EIS-S232 High-end Expansion	EIS-S230 High-end
CPU	Intel® 10th Gen. Xeon® W-1290TE	Intel® 7th Gen. Xeon® E3-1275 V6
RAM/Storage	32GB RAM/1TB SSD built-in	32GB RAM/512GB SSD built-in
OS	Ubuntu 20.04 (64bit)	Ubuntu 16.04 (64bit)
I/O Interface	1 x HDMI, 1 x VGA, 2 x GbEx2, 4 x USB 3.2, 4 x USB 3.0, 6 x COM, GPIO 16bit	1 x HDMI, 1 x VGA, 4 x GbE, 4 x RS-232/422/485, 8 x USB 3.0
Expansion	1 PCIe16, 2 PCI and iDoor	2 PCIe8
Wireless Networking	Optional	
Dimensions (W x H x D)	197 x 204 x 230 mm; 7.7 x 8.03 x 9 in	156 x 205 x 230 mm; 6.1 x 8 x 9 in
Software Package	WISE-DeviceOn IoT Device Operation Management - Device Management - Monitoring & Control - Update Management	
Development Tools	Kubernetes DeKvelopment Kit	
Ordering Information	EIS-S232-U20STB1	EIS-S230-U20S501

Solution Ready Package

FAB Environment Monitoring



Process Equipment Management



Equipment Health Monitoring



Solution Offerings



SECS/GEM Protocol Conversion

- Collect equipment data and convert them to SECS/GEM protocol for IT/OT integration
- Secure equipment shutdown with automated notification center



SEMI Equipment Communications Standard



Data convert to SECS/GEM protocol

GEM300

Built-in GEM300 library via SECS driver



Includes edge database and dashboard

Ordering Information

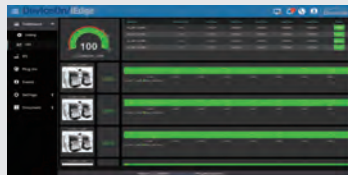
IEDGE-SEMI-21A

- 1 x EI-52-S6A1 (Intel® Core™ i5-1145G7E, w/16G RAM, 64G SSD)
- 1 x 20706WX9VM0024 Win10 image w/ iEdgeSEMI for EI-52
- 1 x 31ASE2ISEC0301 iEdgeSEMI License
- 1 x 36WSWPE21001A1 DeviceOn/iEdge Client Bundle License 1 device



PLC Equipment Management

- Supports Mitsubishi, Omron, and Siemens PLC protocols
- Centralized equipment management with user friendly dashboard



450+ PLC driver support



Lightweight PLC runtime application



Unlimited free trial tags for PLC connectivity



Easy implementation and deployment

Ordering Information

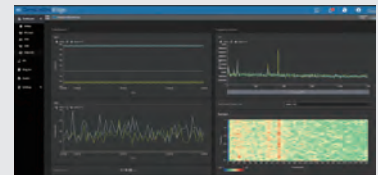
IEDGE-PLC-21A

- 1 x EIS-D210 (Intel® Celeron® N3350/4GB RAM/64GB SSD/Win10)
- Win10 image w/ iEdgePLC for EIS-D210
- 1 x 36WSWPE21001A1 DeviceOn/iEdge Client Bundle License 1 device
- iEdgePLC trial version



Vibration Data Monitoring

- Monitor rotating equipment in real time by converting sensor data to RMS/FFT/Spectrogram
- Model normal status monitoring, discover problems early, and avoid costly downtime



Real-time vibration monitoring



Time-frequency vibration data analysis



Condition monitoring



Alarm management and maintenance

Ordering Information

IEDGE-VAM-21A (by request)

- EIS-D150 x1
- 1 x 36WSWPE21001A1 DeviceOn/iEdge Client Bundle License for 1 x device
- Vibration Sensor, Vibration Software, and Vibration DAQ

Regional Service & Customization Centers

China	Kunshan 86-512-5777-5666	Taiwan	Taipei 886-2-7732-3399	Netherlands	Eindhoven 31-40-267-7000	Poland	Warsaw 00800-2426-8080	USA	Milpitas, CA 1-408-519-3898
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Worldwide Offices

Asia Pacific		Asia Pacific		Europe		Americas	
Taiwan		Japan		Netherlands		North America	
Toll Free	0800-777-111	Toll Free	0800-500-1055	Eindhoven	31-40-267-7000	Toll Free	1-888-576-9668
Taipei & IoT Campus	886-2-7732-3399	Tokyo	81-3-6802-1021	Breda	31-76-523-3100	Cincinnati	1-513-742-8895
Taichung	886-4-2372-5058	Osaka	81-6-6267-1887			Milpitas	1-408-519-3898
Kaohsiung	886-7-392-3600	Nagoya	81-0800-500-1055			Irvine	1-949-420-2500
		Nogata	81-949-22-2890			Ottawa	1-815-433-5100
				Germany		Chicago	1-888-576-9668
				Toll Free	00800-2426-8080/81	Boston	1-800-866-6008
				Munich	49-89-12599-0		
				Düsseldorf	49-2103-97-855-0		
				France			
				Paris	33-1-4119-4666		
				Italy			
				Milan	39-02-9544-961		
				UK			
				Newcastle	44-0-191-262-4844		
				London	44-0-870-493-1433		
				Spain			
				Madrid	34-91-668-86-76		
				Sweden			
				Stockholm	46-0-864-60-500		
				Poland			
				Warsaw	48-22-31-51-100		
				Russia			
				Moscow	8-800-555-01-50		
				St. Petersburg	8-812-332-57-27		
					8-921-575-13-59		
				Czech Republic			
				Ústí nad Orlicí	420-465-524-421		
				Ireland			
				Galway	353-91-792444		



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Bluecom s.r.o.

Nerudova 1034, 53701 Chrudim

Email: **sales@bluecom.cz**

Telefon: **+420 469 688 054**

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