Edge Intelligence Solution Guide

Edge+ Solutions Enabling the Future of AIoT

DeviceOn/iEdge

DeviceOn/ePaper

WISE-DeviceOn

Edge+

Edge AI Suite

AIWireless
Advantech Industrial Wireless

DeviceOn/Kiosk+

ADVANTECH

Enabling an Intelligent Planet

Edge⁺ Solutions Enabling the Future of AIoT

Unleash Edge Intelligence with AI, 5G, and the Cloud

Advantech provides Edge+ platforms that incorporate domain-focused software, AI, wireless connectivity, and cloud integration. As a result, customers benefit from shortened development times and digital transformation.

Microsoft Azure · aws · Alibaba Cloud · WISE-PaaS · Edge Cloud
Public · **Private**

Logistics · Retail/Self-service kiosks · Automation · Transportation

WISE-DeviceOn

Edge⁺

Wi-Fi 6 · 5G

AI Software and Inference
- Edge AI Suite
- FaceView AI Facial Recognition
- DevCloud for the Edge

Edge Intelligence Software and Cloud
- Remote Device Management Software
- Domain-Focused Application Software
- Microsoft/ AWS/ Ali Cloud Integration

Wireless Connectivity
- 5G, 4G, Wi-Fi 6, Bluetooth, and GPS
- AIW Wireless Module Compatible
- Wireless Design-in Services

WISE-DeviceOn

IoT Device Remote Operation Management

Empowers Edge to Cloud Applications

The market demand for remote device management has grown in unison with the edge device market. Advantech's WISE-DeviceOn IoT remote management software and I.App seres deliver real-time device and data management capabilities that meet these trends.

Data and Edge Management
DeviceOn/iEdge

Equipment Protocol Conversion
DeviceOn/CommBridge

Remote Kiosk Management
DeviceOn/Kiosk⁺

Microsoft Azure
Alibaba Cloud
WISE-PaaS
aws

ePaper Device Management
DeviceOn/ePaper

SSD/Memory Monitoring & Security
DeviceOn/SQ Manager

Industrial Display Remote Control
DeviceOn/Display

WISE-DeviceOn

Plug and Play IoT Deployment

Flexible Business Integration

Device Management   **Data Management**   **S/W Application Management**   **Cloud Platform Integration**

Star Product Selections

WISE-DeviceOn

WISE-DeviceOn Remote Management

- HW/SW/Peripherals management
- Real-time monitoring and control
- OTA Update and batch controls

DeviceOn/iEdge

DeviceOn/iEdge Protocol Conversion

- Support OPC-UA/Modbus/ODBC
- Real-time edge analytics
- Centralized remote management

DeviceOn/Kiosk⁺

DeviceOn/Kiosk+ Remote Kiosk Management

- Zero touch onboarding and remote monitoring
- Peripheral devices settings and control
- McAfee whitelisting and Acronis recovery

DeviceOn/ePaper

DeviceOn/ePaper ePaper Centralized Management

- Device management
- Image generator
- Firmware OTA

Edge AI Solutions

Edge AI Acceleration Modules and Inference Systems

Empowering Visual AI at the Edge

Advantech provides comprehensive edge AI solutions that enable deep learning for AGV robots, defect inspection, retail, medical imaging, traffic monitoring, and other diverse applications.

DevCloud for the Edge
- Remotely evaluate prototypes on Advantech's edge AI platform
- Reduce development time and costs

Edge AI Suite
- Integrated OpenVINO toolkit
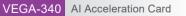- 100+ pretrained models
- Deployment wizard

AI Facial Recognition
- 99.7% high precision rate
- Face ID/face mask detection
- Historical dashboards

AI Acceleration Cards
VEGA-300 Series

Compact Inference Systems
AIR-020/100/200 Series

High Performance AI Systems
AIR-300 Series

Star Product Selections

VEGA-340   AI Acceleration Card
- 4x/8x Intel® Movidius™ Myriad X VPUs
- PCIe x4, 28W power consumption
- 32 TOPS high performance

AIR-101   Din-Rail AI System
- 2 x Intel® Movidius™ Myriad X VPUs
- 12 ~ 28V wide-range power input
- Edge AI Suite and OpenVINO toolkit

AIR-020   High Performance AI System
- 6 core ARM v8.2 and NVIDIA NVIDIA Jetson™ Xavier embedded
- Supports 5G and Wifi6 connectivity
- Supports high speed &capacity NVMe SSD

FaceView   Facial Recognition I.App
- 99.7% Accuracy rate
- Mask recognition
- Human temperature screening

Edge to Cloud Solutions

Integrated Solution with Software-enabled Services

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 predictive maintenance. These servers provide an all-in-one solution packages that reduce waste in hardware and software integration.

Microsoft Azure aws
Alibaba Cloud WISE-PaaS

Edge Cloud

DeviceOn/iEdge

Protocol Integration Services

Real-time Edge Analytics

Edge Intelligence Systems

Auto Generated Dashboard

Centralized Remote Management

Modbus OPC UA ODBC

Controllers   IoT Devices   Sensors   Motors   Workstations   Robots   CNC Machines

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Star Product Selections

EIS-D620	Ei-52	EIS-S230	DeviceOn/iEdge
Low Power Edge Intelligence System	High Performance Edge Intelligence System	On-premise Edge Cloud	Protocol Conversion I.App

EIS-D620 Low Power Edge Intelligence System
- RISC-based Rockchip RK3399
- Debian with 2GB/ 16GB eMMC
- Support Wi-Fi and 4G wireless connectivity

Ei-52 High Performance Edge Intelligence System
- 11th Gen Intel® Core™ i5/i3/Celeron
- Pre-installed Edge X with data acquisition API
- Compatible with AI and 5G modules for AIoT applications

EIS-S230 On-premise Edge Cloud
- Intel® Xeon® E3-1275 V6
- Multiple DB connections
- Built in Kubernetes and on-demand microservices

DeviceOn/iEdge Protocol Conversion I.App
- Support OPC-UA/Modbus/ODBC
- Real-time Edge Analytics
- Centralized Remote Management

AIoT Edge Computers

WISE-DeviceOn
Real-time devices/peripherals and software monitoring and control

DeviceOn/iEdge
Industrial protocols and data integration in smart automation

DeviceOn/Kiosk⁺
Kiosk remote management in multiple locations

Edge AI Suite OpenVINO
AI model deployment and performance optimization

Empowerd Edge Computing Solutions

Advantech's ARK Fanless Intelligent Edge Computers provide hardware and software integrated solutions that support multiple I/O and expansions — including AI analytics, wireless connections, and peripheral devices. These computers accommodate factory automation, self-service kiosk, equipment connectivity, computer vision, and other AIoT applications.

Wireless Connectivity
- 5G, LTE, Wifi, BT, GPS
- Certified wi-fi kit available (Selected models)

Scalable, Expand
- Motion/vision/frame grabber cards
- Industrial cameras

AI Analytics Built-in
- Supports NVIDIA GPU cards
- Supports Intel Movidius VPUs & OpenVINO toolkit

Star Product Selections

ARK-1220 Din Rail
- One side I/O — 2 x GbE, 2 x COM, and 4 x USB
- 12 ~ 28V wide range power input
- Supports -30 ~ 70 °C/-22 ~ 158 °F operating temperatures
- Supports VEGA-320/330 edge AI modules

ARK-1551 Ultra Slim
- 8th Gen Intel® Core™ i ULV CPU
- Up to 2 x GbE, 4 x USB, 4 x COM, and 12 ~ 24VDC power input
- Supports VEGA-320/330 edge AI modules

ARK-3531 Diverse I/O
- 9th Gen Intel® Core™ i 35W CPU
- Up to 4 x GbE, 8 x USB, 8 x COM, 9 ~ 36VDC power input
- Supports VEGA-320/330 edge AI modules

ARK-3532 High Performance
- 10th Gen Intel® Xeon® and Core™ i3/i5/i7/i9 65W
- Supports 23+ I/O connections
- Supports up to 4 x PCI/PCIe slot expansions

Industrial Wireless Solutions

Certified Wireless Kit, 5G, Wi-Fi 6, and Design-in services

ADVANTECH
AIWireless
Advantech Industrial Wireless

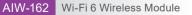### Meet the Next Generation of Wireless Technology

Advantech delivers performance and reliability to industrial applications. Our solutions meet industrial application requirements, and adhere to RF certifications for industrial wireless communication antennas.

Flexible Logistic Supply

Longevity Support

Reliable and Secure

Industrial Grade

BLE 5.0/BLE 5.1

AIW 400 Series

Wireless Design-in Services

FC CE GCF PTCRB

Wi-Fi 5 / Wi-Fi 6

AIW 100 Series

GPS
GNNS / GPS

AIW 200 Series

lte 5G
LTE Cat.1/4G/5G

AIW 300 Series

Star Product Selections

AIW-162 Wi-Fi 6 Wireless Module	**AIW-355** 5G Wireless Module	**EWM-W192K1/K2** Wi-Fi Wireless Kit	**EWM-C186K1** LTE Wireless Kit
• Wi-Fi 6 802.11AX and Bluetooth 5.0	• 5G NR/LTE/WCDMA	• Wi-Fi 5 and BT 5.0	• LTE CAT16 + GNSS
• Ultra compact 22 x 30 mm (.07 x .09 in) M.2 A+E key	• Ultra compact 30 x 52 mm (1.18 x 2.04 in) M.2 B key	• M.2 2230 Key AE	• M.2 3042 Key B
• 2T2R MU-MIMO antenna	• USB 3.1 bus interface	• Certification ready set included	• Certification ready set included
• Up to 1.2Gbps	• GNSS: GPS/GLONASS/Beidou/Galileo	• 1 x module, 2 x cables, and 2 x antenna	• 1x module, 3 x cables, and 3 x antennas

Wireless ePaper Solutions

Domain-focused Solution Suites and Integrated Software

Centralized Management Accelerates ePaper Implementation

This solution empowers smart factory, building, wardroom, and public signage applications. DeivceOn/ePaper software management system enables users to update information automatically improve efficiency, and reduce human errors.

DeviceOn/ePaper

Remote Device Management | Service Management | IEEE 802.15.4 | UHF | NFC | Wi-Fi | Bluetooth | Lte | Image Generator | 2-Way Communication

Smart Factory — Inventory Management | Production Cart

Smart Building — Instruction Signage | Scheduling Card

Smart Hospital — Clinic Information Board | Bedside Card

Smart City — Bus Stop | Smart Lighting

Star Product Selections

DeviceOn/ePaper

2.9"

EPD-210/230/232 | Digital Lebal

- 2.9" EPD in red/black/white
- Excellent roaming and transmission performance
- NFC/ZigBee-like technology

5.6"

EPD-332 | Scheduling Card

- 5.6" EPD in red/ black/ white
- Excellent roaming and transmission performance
- ZigBee-like technology

13.3"

EPD-660/662 | Clinic Information Board

- 13.3" EPD red/black/white
- Great power management: up to 8 months for 3 updates per day
- 2.4G Wi-Fi

DeviceOn/ePaper | ePaper Management I.App

- Device management
- Image generator
- Firmware OTA

Edge Visualization Solutions

Visualize Your Applications

Advantech develops edge visualization solutions. Our products comprise 4K digital signage players, edge servers, and management software that accommodate applications in retail, transportation, quick-service restaurants, and education.

eMenu

KIOSK

Conference Signage

Access Control

FIDS

Hybrid Cloud / Customer Server

Edge Cloud

WISE-DeviceOn
Device Management

WISE-PaaS/SignageCMS
Content Management

FaceView
AI Facial Recognition

Star Product Selections

DS-085 | Ultra Slim
- 11th Gen Intel® Core™ i3/i5/i7 and Celeron
- 4 x HDMI 2.0
- Supports DASH

DS-082 | Ultra Slim
- AMD Ryzen V1000/R1000 CPU
- 4 x HDMI 2.0
- 19 mm thickness

DS-580 | High Performance Graphics
- Integrated NVIDIA® GeForce® GT 1030 graphics
- Intel® E3950 processor
- 2 x HDMI 2.0 and 2 x HDMI 1.4

DS-211 | Open Pluggable Specification(OPS)
- Powered by Rockchip RK3399
- Supports dual displays (UHD+FHD)
- Expandable via M.2 2230 E key and miniPCIe slot

Smart Transportation Solutions

Railway/ In-vehicle/ Roadside Surveillance

Roadside Surveillance

Fleet Management

Passenger Infotainment

Vehicle Diagnostics

AI-Enabled Driver Behavior Detection

WISE-DeviceOn

Real-time Remote Fleet Management

Transportation Solutions (TS) computers combine AI facial recognition with video and WISE-DeviceOn vehicle diagnostics, maximizing the usage rates of railway, in-vehicle, and roadside surveillance applications. These computers help produce analysis reports, and monitor vehicle/driver statuses in real-time.

Star Product Selections

WISE-DeviceOn

TS-206 | In-vehicle

- Intel® Core™ i7-6600U/i5-6300U
- EMARK, ISO 7637-2 certified
- Supports -20 ~ 60 ˚C/-4 ~ 140 °F operating temp
- Supports 4 x PoE function

ARK-2250R | Rugged Railway

- Intel® Core™ i7-6822EQ/i5-6442EQ
- -40 ~ 70 °C/-40 ~ 158 °F EN50155 TX
- Extension 72 ~ 110V voltage range
- Stackable extension layers

ARK-2250V | In-vehicle

- Intel® Core™ i7-6822EQ/i5-6442EQ
- EMARK, ISO 7637-2 certified
- Supports -20 ~ 70 °C/-4 ~ 158 °F operating temp
- Stackable extension layers

WISE-DeviceOn | Remote Control Software

- Real-time vehicle monitoring and tracking
- Remote vehicle diagnostics analysis
- Power delay control

Edge+ Solution High-lights

Edge Intelligence Software and Cloud
WISE-DeviceOn improves management, enables real-time remote access, and facilitates efficient operation. It leverages the Cloud and integrated domain-focused application software

AI Software and Inference
Empower AI at the edge and realize real-time intelligence in AGV/drones, defect inspection, traffic monitoring, and medical imaging applications

Wireless Connectivity
Wi-Fi 6 5G
Demystify AIoT and leverage 5G/Wi-Fi 6 to enjoy faster speeds, millisecond latency, and reduced network congestion

Regional Service and Customization Centers

China | Kunshan 86-512-5777-5666
Taiwan | Taipei 886-2-2792-7818
Netherlands | Eindhoven 31-40-267-7000
Poland | Warsaw 00800-2426-8080
USA | Milpitas, CA 1-408-519-3898

Worldwide Offices

Asia Pacific

Taiwan
Toll Free	0800-777-111
Taipei & IoT Campus	886-2-2792-7818
Taichung	886-4-2372-5058
Kaohsiung	886-7-392-3600

China
Toll Free	800-810-0345
Beijing	86-10-6298-4346
Shanghai	86-21-3632-1616
Shenzhen	86-755-8212-4222
Chengdu	86-28-8545-0198
Hong Kong	852-2720-5118

Middle East and Africa
Israel	072-2410527
Turkey	90-212-222-0422
Turkey-Bursa	90-224-413-3134

Asia Pacific

Japan
Toll Free	0800-500-1055
Tokyo	81-3-6802-1021
Osaka	81-6-6267-1887
Nagoya	81-0800-500-1055
Nogata	81-949-22-2890

Korea
Toll Free	080-363-9494/5
Seoul	82-2-3660-9255

Singapore
Singapore	65-6442-1000

Malaysia
Kuala Lumpur	60-3-7725-4188
Penang	60-4-537-9188

Thailand
Bangkok	66-02-2488306-9

Vietnam
Hanoi	84-24-3399-1155
Hochiminh	84-28-3836-5856

Indonesia
Jakarta	62-21-751-1939

Australia
Toll Free	1300-308-531
Melbourne	61-3-9797-0100

India
Bangalore	91-94-4839-7300
Pune	91-94-2260-2349

Europe

Netherlands
Eindhoven	31-40-267-7000
Breda	31-76-523-3100

Germany
Toll Free	00800-2426-8080/81
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

Americas

North America
Toll Free	1-888-576-9668
Cincinnati	1-513-742-8895
Milpitas	1-408-519-3898
Irvine	1-949-420-2500
Ottawa	1-815-433-5100
Chicago	1-888-576-9668

Brazil
Toll Free	0800-770-5355
São Paulo	55-11-5592-5367

Mexico
Toll Free	1-800-467-2415
Mexico City	52-55-6275-2777