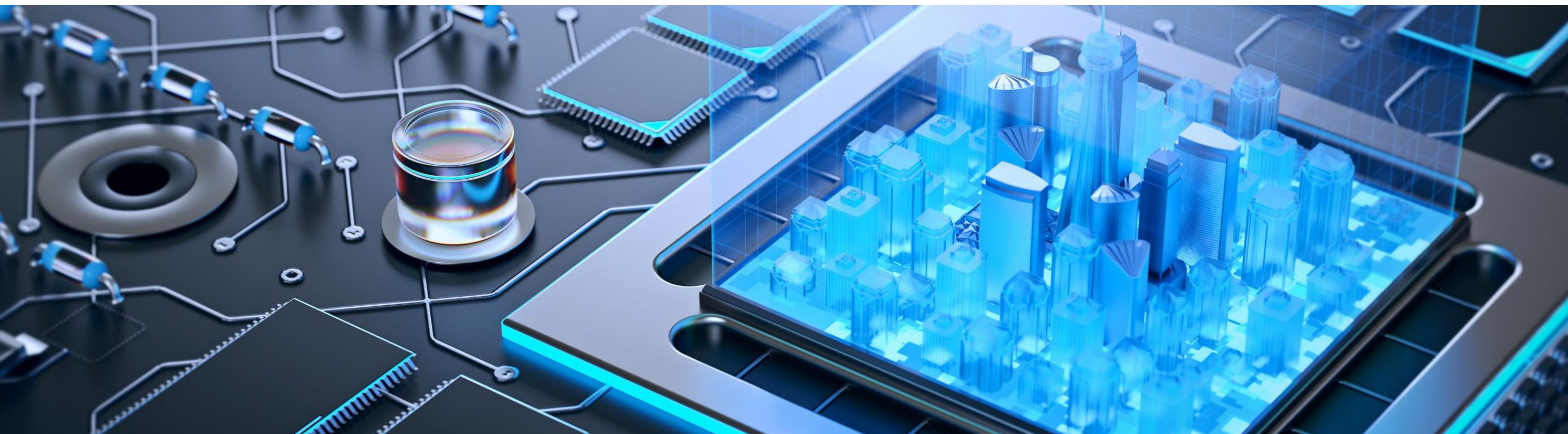


**ADVANTECH**

*Enabling an Intelligent Planet*

**intel**



# ADVANTECH INTEL SOLUTIONS EBOOK

Your Guide to Advantech's EIoT Computing Platforms based on the Latest Intel CPUs Designed Specifically for Rugged Environments

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# ADVANTECH

Enabling an Intelligent Planet



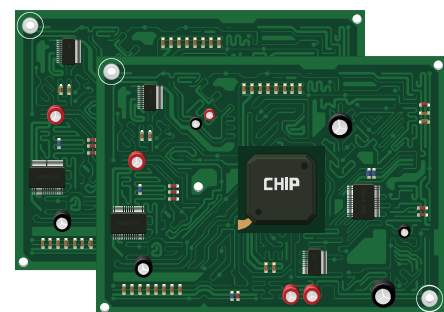
Est. **1983**

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

## INDUSTRY SERVED



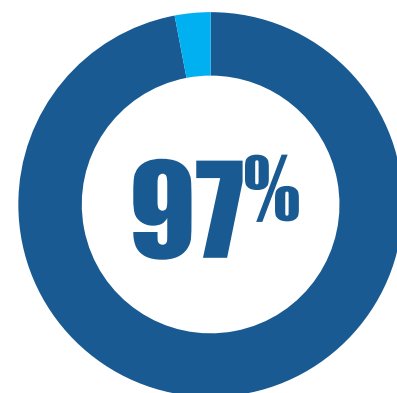
Telecom, Industry 4.0, IoT, Gaming, Retail, iLogistics, Mil/Aero, Broadcasting, Agriculture, Healthcare  
**(We work with 27 of the top 30 healthcare companies worldwide)**



**2000+**  
STANDARD PRODUCT OFFERINGS

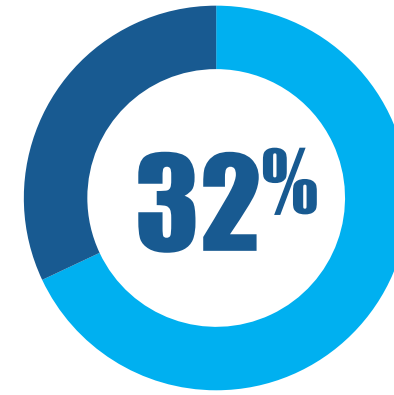
## CUSTOM PRODUCT CAPABILITY

97% of what we build is “the brand behind the brand” for our partners



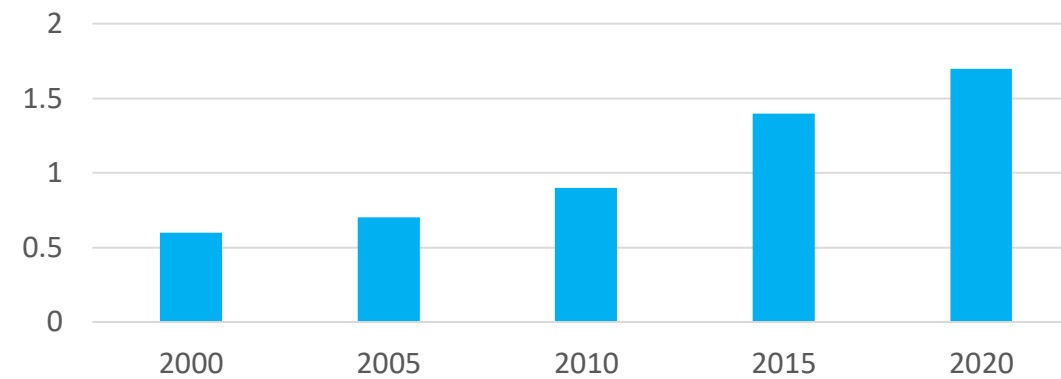
## WORLDS LARGEST IPC COMPANY

32% market share



● Advantech ● Other IPC Companies

**\$2.11B** 2021 REVENUE



## KEY ECO-SYSTEM PARTNERS

Intel Titanium Partner/Microsoft Gold



## QUALITY SYSTEMS IN PLACE

- ✓ OHSAS 18001
- ✓ ISO-17025
- ✓ IECQ QC 080000
- ✓ Sony GP

**1 MILLION+ sq. ft.**

Two in-house manufacturing sites backing up each other



Linkou, Taiwan



Kunshan, China

## MANUFACTURING PLANTS

- ✓ Vertically Integrated manufacturing (Self contained)
- ✓ Full Manufacturing redundancy (Risk Mitigation)
- ✓ Full BOM and lifecycle control (End-to-End control over quality)



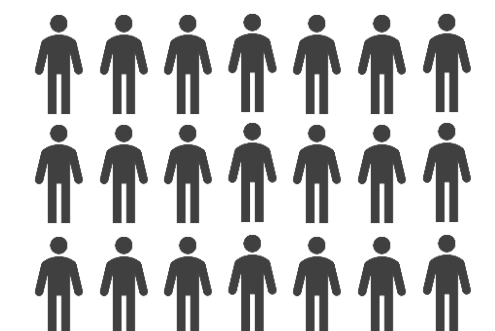
**\$10.5B** MARKET CAP  
Jan 2022

## WORLDWIDE OFFICES



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

**8000+**  
EMPLOYEES



# WHY ADVANTECH

Advantech is a leading provider of innovative products, services, and solutions. We offer comprehensive system integration, hardware, software, customer-centric design services, embedded systems, automation products, and global logistics support. We work closely with our partners to provide complete solutions for a wide range of applications in different vertical segments.

As an Intel Titanium Partner, Advantech is well-aligned with Intel in many fronts – excellent product designs, target vertical segments, marketing, and sales engagement.

# ADVANTECH

# SECTOR BASED BUSINESS

## Embedded-IoT

### Embedded and Edge Computing

- Computer on Modules
- Single Board Computers
- Industrial Motherboards
- ARM-based Computing
- Fanless Embedded Computers
- Edge Intelligence Solutions
- Edge AI Solutions
- DeviceOn Software Solutions
- Industrial Display Solutions
- Industrial Flash & Memory Solutions
- Industrial Wireless Solutions
- Gaming Platform Solutions

### Applied Computing DMS

- Medical Equipment Builder
- Panel Computing & Automation
- IoT Appliance Services
- ARM & Portable Computing
- ATJ-DMS(Japan) & AKTC DMS (China)
- Modular Board Design Services

## Industrial-IoT

### Industrial Automation

- Industrial I/O & Controllers
- Automation Computing & HMI
- Motion Controls & Machine Vision
- Remote IoT Devices (WISE)
- WebAccess+ Software
- iFactory (Industry 4.0) Solutions
- Energy & Environment Solutions

### Intelligent Systems

- Industrial Computers
- Industrial Servers & Storage
- Transportation Solutions

### iConnectivity

- Industrial Switches
- Industrial Wireless Devices
- Industrial Cellular Routers

## Services

### WISE-PaaS & WP.SENSE IoT

- Edge Intelligence PaaS & Solution Enabling Services

### IAPS

- Industrial Allied Procurement Services

### AGS

- Global & Regional Customization Services

## Cloud-IoT

- Industrial Blade Platforms
- Enterprise Network Platforms
- Industrial Private Cloud
- Medical Video & Image Solutions
- Broadcasting & IP Video Solutions
- Data Center Video Solutions

## Service-IoT

### Intelligent Healthcare

- Intelligent Hospital & Medication Solutions
- Medical Edge Computing

### Intelligent City Service

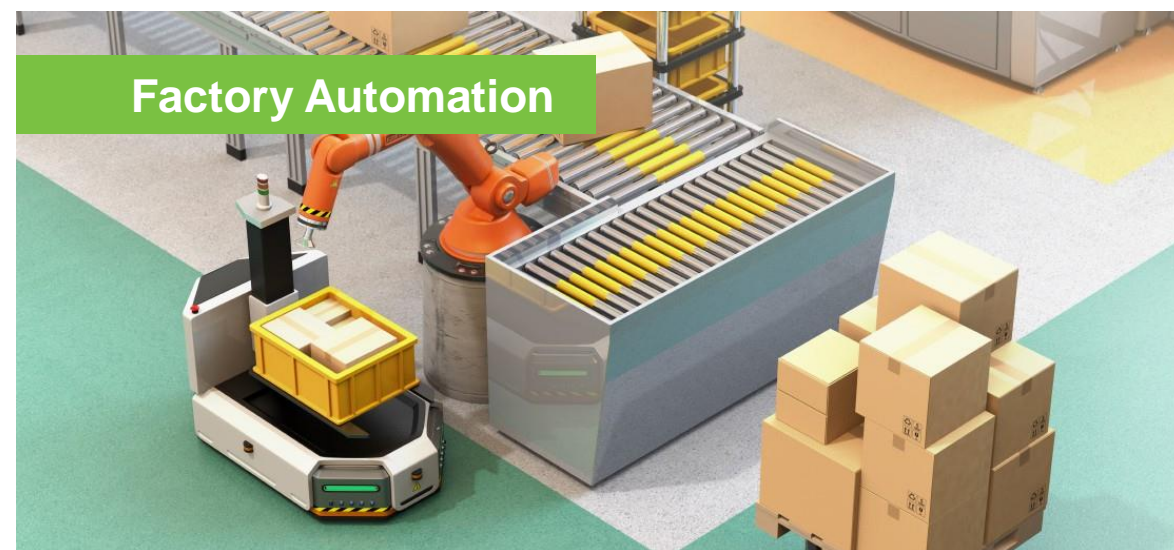
- Intelligent POS & Self-Service Solutions
- Digital Signage Solutions

### Intelligent Logistics

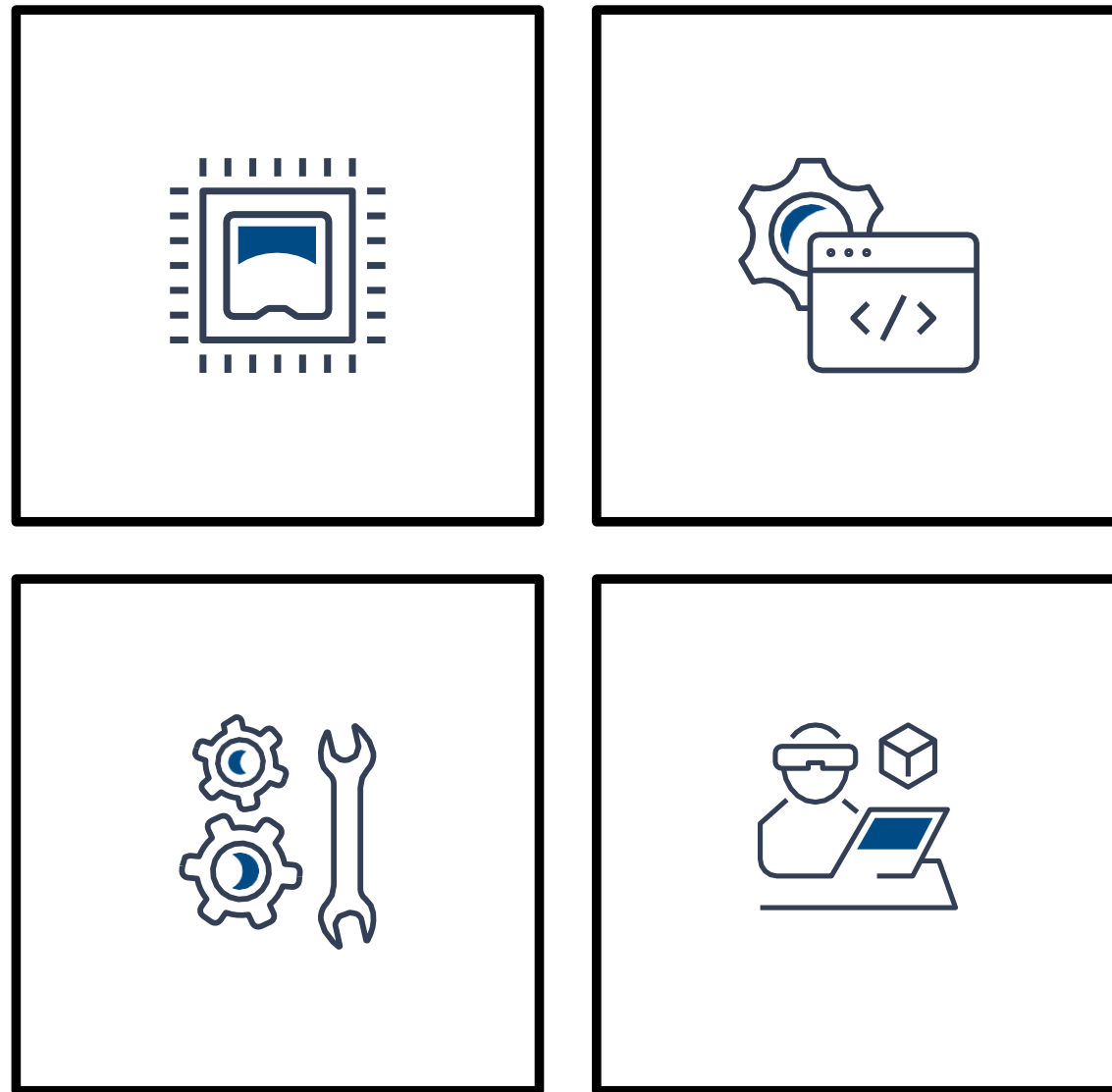
- Driving Safety & Cold Chain Solution
- Warehouse & Fleet Management Solutions

### AIM Industrial Mobile Computers

# VERTICAL MARKET DRIVEN



# GROWTH ENGINES



01

## Embedded Hardware

Scalable Boards & Systems  
X86 Commercial Off-the-shelf to Design & Manufacturing Services

02

## Software

Embedded Software Distribution & Services  
Embedded BIOS, API & Software Design-in Services

03

## System Integration

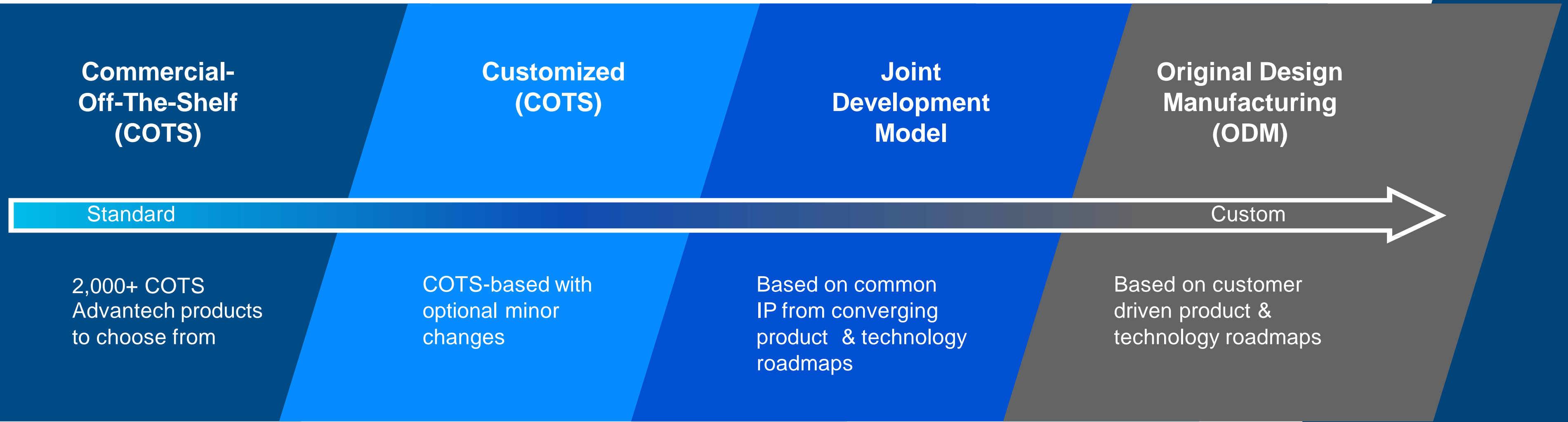
Configure to Order Services  
Wide and Flexible System Solutions, Vendor Management, One-stop-Shop, Assembled in USA

04

## Operational Services

Reduce Operation Complexity  
FDA, Fulfillment, Buffer Stock, Refurbishment, Extended Warranty, Product Life Extension

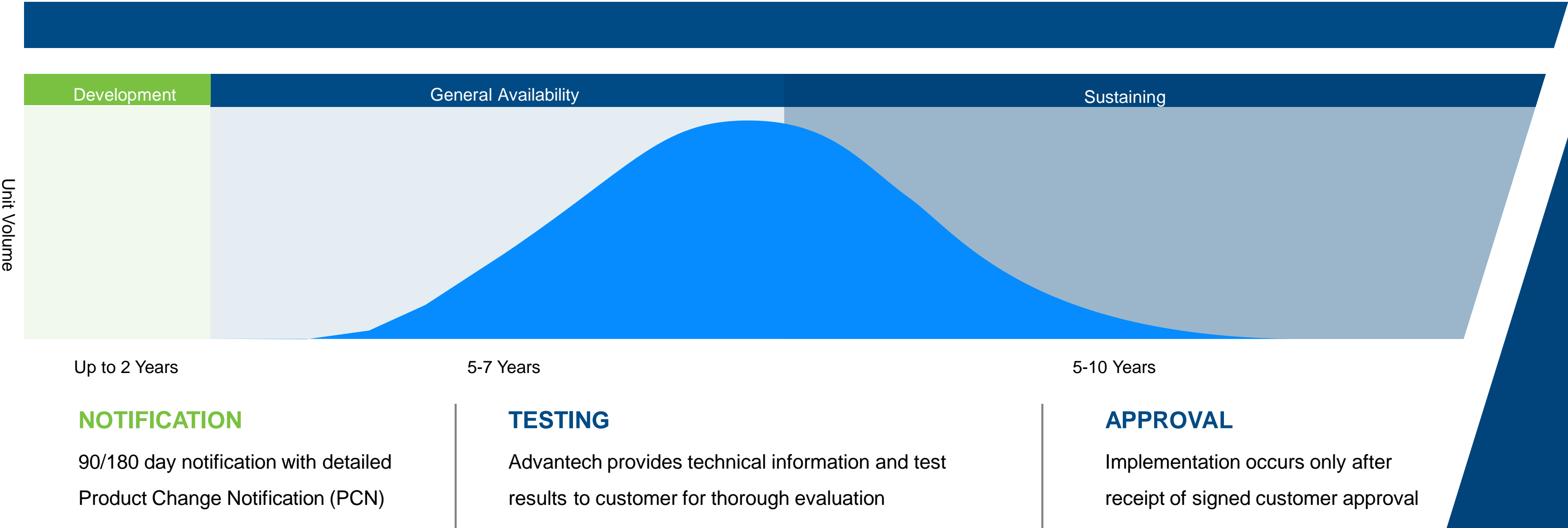
# PRODUCT OFFERINGS



Advantech's relationship and collaborative work model can adjust to unique customer needs.



# LONG LIFE & REVISION CONTROL



Advantech manages all stages of a product's lifecycle to ensure long term availability.

# FULL VERIFICATION AND VALIDATION

## IN-HOUSE CAPABILITIES

- HALT test
- High/low temp. operating test
- Temp. & humidity test
- Temp. cycle test
- Temp. & humidity storage test
- Power On/Off Test
- Cold start test
- Four corner test
- Power consumption test
- Voltage regulation test
- Power DIP test
- ESD test
- Surge test
- Random operating vibration test
- Sine vibration non-operating test
- Bump test
- Shock test
- Drop test
- Water ingress test
- Dust ingress test
- MTBF test
- Thermal profile test



Advantech utilizes a combination of in-house testing and independent 3rd party test labs for system stress testing, regulatory compliance and design validation. We operate an ISO 17025 accredited test laboratory in Taiwan and maintain various test equipment throughout our global engineering locations.

# ADVANTECH GLOBAL CERTIFICATIONS



		HQ	ATMU Donghu	ATMU Linkou	ATMU CTOS	AKMC	ACSC	AASC	AESC	APSC	ABR
ISO9001	General Quality	•	•	•	•	•	•	•	•	•	•
ISO13485	Medical Quality	•	•	•	•	•	•	•	•	•	
TL9000	Telecom Quality	•	•	•	•	•	•				
ISO14001	Environment	•	•	•	•	•	•	•			
OHSAS18001/ ISO 45001	Health & Safety	•	•	•	•	•	•	•			
ISO27001	Information Security		•	•	•	•		•			
ISO17025	Laboratory	•		•		•					
IECQ QC080000	Hazardous Substance					•					
SONY GP	Green Partner		•	•		•					
IPC QML	PCBA Manufactured Process			•							
AEO	Authorized Economic Operator					•					
C-TPAT	Custom-Trade Partnership Against Terrorism			•				•			
IECEX QAR	Explosive Atmosphere Application		•	•				•			
ITAR Registration	International Traffic in Arms Regulations							•			
FDA Registration	Food and Drug Administration							•			
CDPH Registration	California Department of Public Health							•			

# GLOBAL DESIGN & MANUFACTURING SERVICES (DMS)

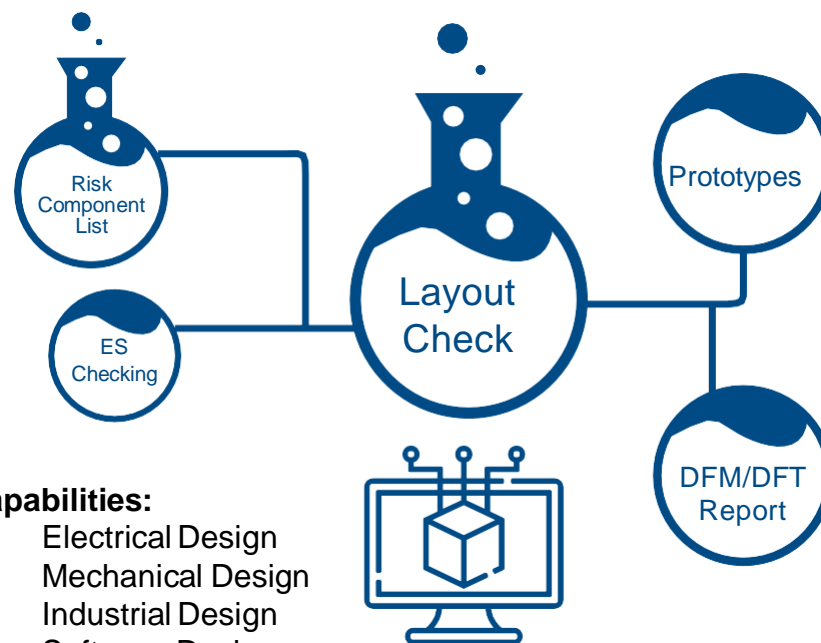
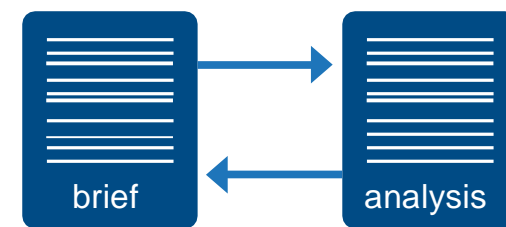


**Concept & Planning**  
Use the latest technology, cost analysis, key components breakdown and lead time evaluation

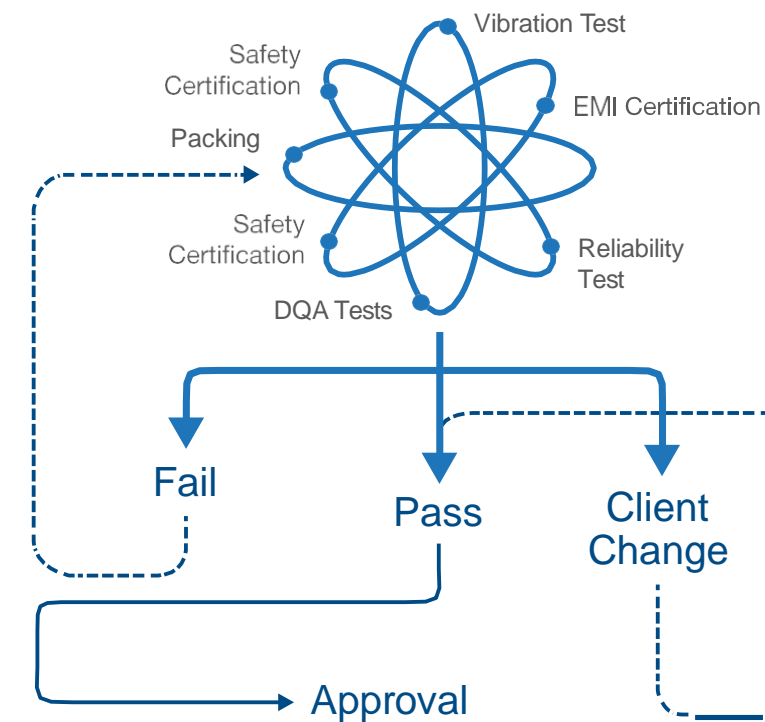
**Design to Quality**  
Comprehensive quality support team ensures every element in the project cycle is carefully managed.



**Design to Manufacture**  
Task oriented team composed of engineering, fulfillment, quality, and manufacturing experts



- Capabilities:**
- Electrical Design
  - Mechanical Design
  - Industrial Design
  - Software Design
  - System Design



## Vertical Expertise

Medical – Deeper & Broader  
AI-integrated IoT Solution  
Automation & Transportation  
Smart Display & Tablet

## Latest Technology

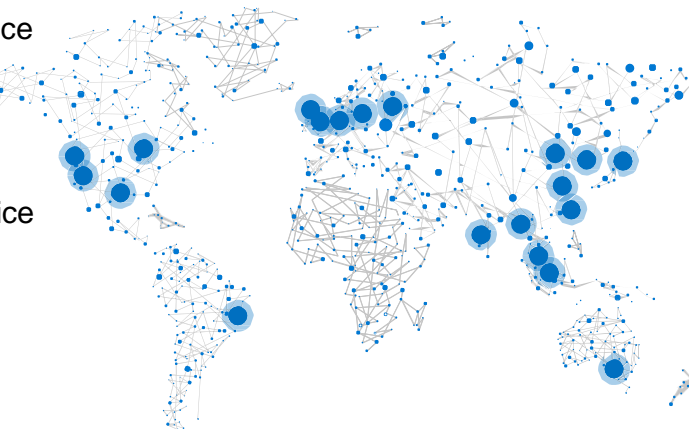
Demo/Evaluation Kits  
Working Prototypes  
DMS Early Access Program

## Countless Product & Platform

Global Top Share  
Cross Sector / BG Edge to Cloud Service

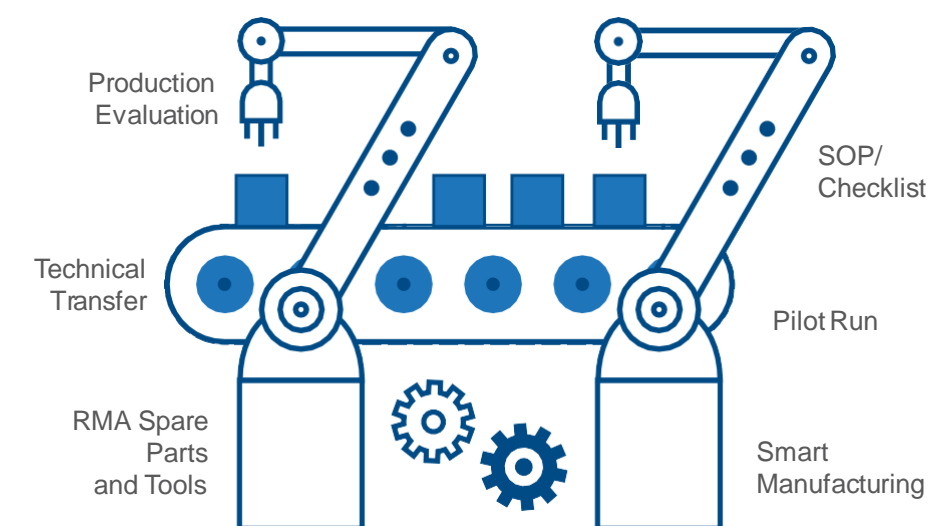


- Extended Warranty Service
- Online Service
- Advanced Replacement Service
- Health Checkup Service
- Technology Update Service
- Pick Up Service
- Upgrade Service
- Fast Repair Service



**Worldwide Service Networks**  
We are the only IPC supplier with comprehensive worldwide service centers conveniently located to serve our customers.

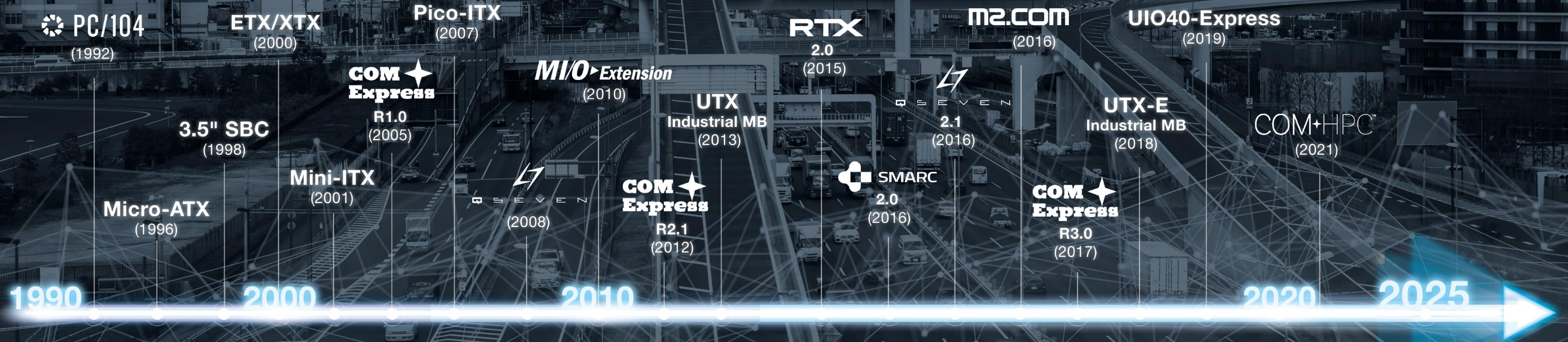
**Certified Quality System**  
The most complete ISO certification in the IPC industry



### Applied Computing Group (ACG)

North America <b>ANA</b>	<b>D</b> Development Center
Europe <b>AEU</b>	<b>D</b> Development Center
China <b>ACN</b>	<b>D</b> Development Center <b>M</b> Manufacturing Site
Taiwan <b>ACL</b>	<b>D</b> Development Center <b>M</b> Manufacturing Site
Japan <b>ATJ</b>	<b>D</b> Development Center <b>M</b> Manufacturing Site

# Edge+ Embedded Platform Innovation



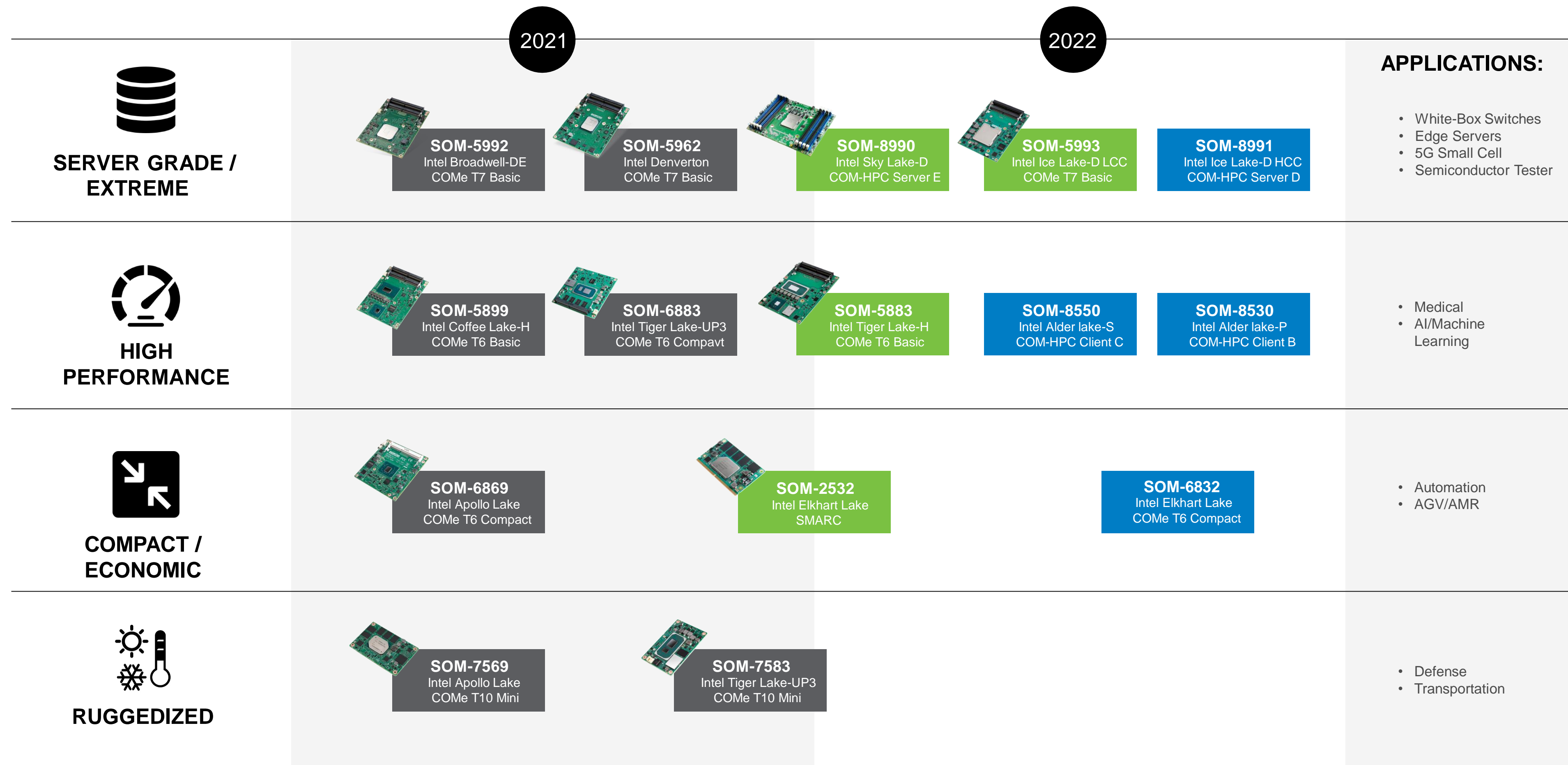
**RUGGED MISSION CRITICAL**

**HIGH PERFORMANCE EDGE PLATFORM**

**VISUAL AI SOLUTION**

# COMPUTER ON MODULES ROADMAP

- AVAILABLE
- DEVELOPING
- PLANNING



## APPLICATIONS:

- White-Box Switches
- Edge Servers
- 5G Small Cell
- Semiconductor Tester
- Medical
- AI/Machine Learning
- Automation
- AGV/AMR
- Defense
- Transportation

# SOM-8990, SOM-5993

STAR PRODUCTS



## Intel® Xeon® D-2183IT

16 cores, 32 threads, 22M Cache, up to 3.0 GHz



## Intel® Xeon® ICX-D LCC

10 cores, 20 threads, 1.5M/core Cache



## Intel® Xeon® ICX-D LCC

8 cores, 16 threads, 1.5M core Cache



## Intel® Xeon® ICX-D LCC

4 cores, 8 threads, 1.5M/core Cache

PHASE IN 2021 / 2H

LONGEVITY 2025 / 2035

## Server Grade Extreme Performance

Up to 16Core Multi-core processor  
Max. 512GB DDR4 LRDIMM with COM-HPC;  
Max. 128GB DDR4 SODIMM with COM Express  
Modular & Standard & Powerful computing unit

## Rich & Super Speed I/O Throughput

32pair PCIe on SOM-5993, up to PCIe Gen4 (16GT/s) 45  
pair PCIe on SOM-DB8900, better expansion  
4 ports 10GBASE-KR interface with both Copper and Fiber media support

## Reliable Design for Edge Computing

Multi-level security with TPM2.0 and BIOS secure boot Anti-  
vibration with Rugged SODIMM on SOM-5993  
Wide temperature (Standard: 0~60oC, Extend: -40~85oC)



**SOM-8990**  
COM-HPC Server  
Size E (200x160mm)

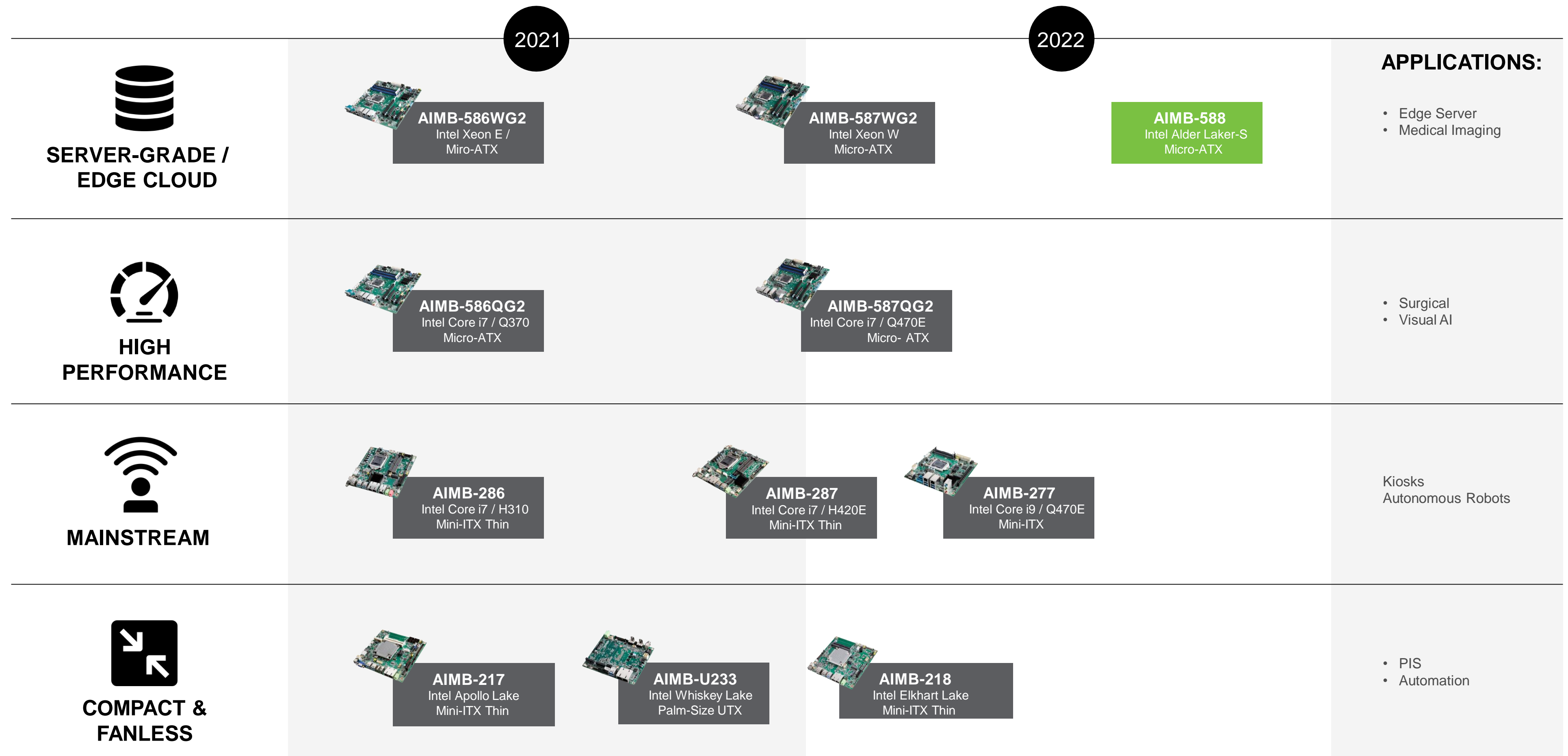


**SOM-5993**  
COM Express Type7  
Basic Module  
(125x95mm)



# AIMB INDUSTRIAL MOTHERBOARD ROADMAP

- AVAILABLE
- DEVELOPING
- PLANNING





# AIMB-218, SOM-2532, MIO-5152

STAR PRODUCTS



## Intel® Atom® x6413E Processor

4 cores, 4 threads, 1.5MB Cache, up to 3.00 GHz



## Intel® Celeron® Processor N6211

2 cores, 2 threads, 1.5MB Cache, up to 3.00 GHz



## Intel® Pentium® Processor J6426

4 cores, 4 threads, 1.5MB Cache, up to 3.00 GHz



## Intel® Celeron® Processor J6413

4 cores, 4 threads, 1.5MB Cache, up to 3.00 GHz

PHASE IN 2021 / JULY

LONGEVITY 2035 / Q4

### Improved Performance

+40% CPU Performance  
2X graphics performance  
improvement DDR4-3200

### Software Service

Yocto BSP support  
Advantech WISE-DeviceOn Remote  
management Tool

### Rugged Multi-Functional & High Reliability Design

DC-in 12V operation 6x UART  
-20~70°C / -40~85°C operating temperature available  
Pass IEC61000-4-2 Lv4 8kV/15kV ESD Criteria A (MIO-5152)



Mini-ATX



SMARC

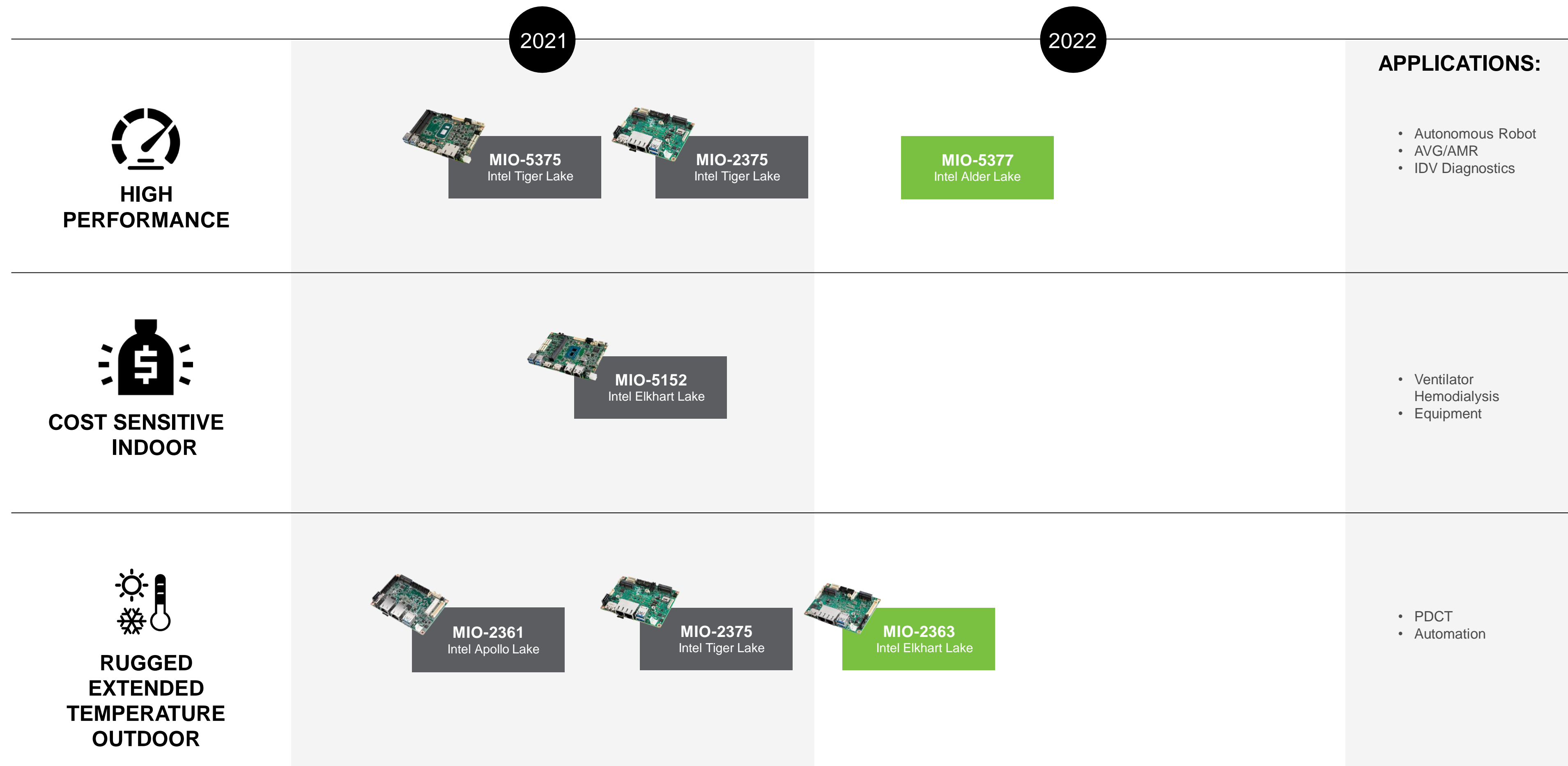


3.5" SBC



# SINGLE BOARD COMPUTERS ROADMAP

AVAILABLE  
 DEVELOPING  
 PLANNING



# MIO-2375/ MIO-5375, SOM-5883/ SOM-6883/SOM-7583

**STAR PRODUCTS**



**11th Gen Intel® Xeon® W-11865MRE**  
8 cores, 16 threads, 24M Cache, up to 4.70 GHz



**11th Gen Intel® Core™ i7-1185G7E/ i7-1185GRE**  
**11th Gen Intel® Core™ i7-11850HE**  
4 cores, 8 threads, 12M Cache, up to 4.40 GHz 8  
cores, 16 threads, 24M Cache, up to 4.70 GHz



**11th Gen Intel® Core™ i5-1145G7E/ i5-1145GRE**  
4 cores, 8 threads, 8M Cache, up to 4.10 GHz



**11th Gen Intel® i3-1115G4E/ i3-1115GRE**  
2 cores, 4 threads, 6M Cache, up to 3.90 GHz



**11th Gen Intel® Celeron 6305E**  
2 cores, 2 threads, 4M Cache, up to 1.80 GHz

PHASE IN 2021 / Q3

LONGEVITY 2035 / Q4

## Rugged Multi-functional & High Reliability Design

7/24 reliability, OOB Monitor, Real time recovery  
On board DDR4 memory/ Anti-vibration thermal solution 8-24V  
DC wide range power input  
-45~85°C of operating temperature

## Rich I/O, Easy Integration

GbE LANs, USB3.2, USB Type-C/COM port, multiple display  
Extension slot for Wireless conn., CAN Bus, GbE LANs, UART, DIO  
Supports 4 x 2.5" SATA III hard drive bays with Intel Raid solutions

## Equipment Management Built-in

AI Performance Evaluation & Simplified implementation  
Supports industrial protocols for integration  
Remote monitoring via a pre-installed dashboard



**MIO-5375**



**MIO-2375**



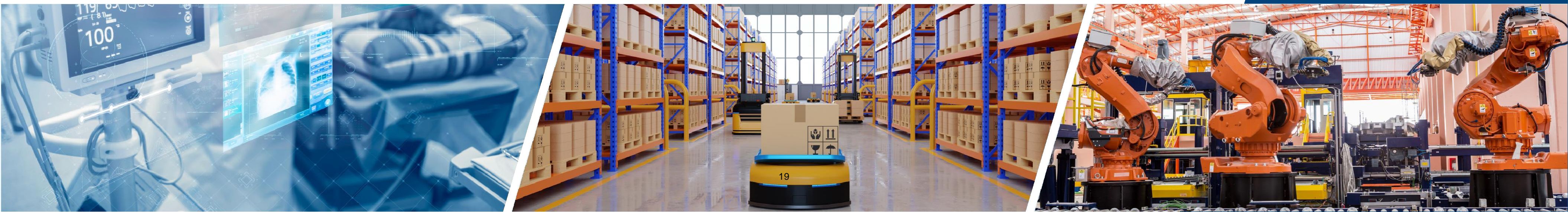
**SOM-6883**



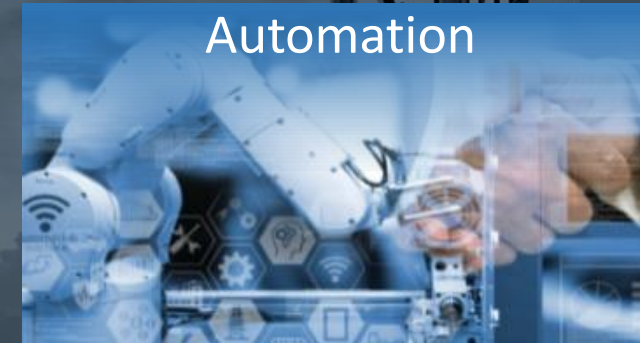
**SOM-7583**



**SOM-5883**



# Edge+ Solutions Enabling the Future of AIoT



Edge AI Software & Inference

Edge Intelligence Software & Cloud

Wireless Connectivity

Domain-focused Solutions

# Edge+



ePaper Controller



Edge Computers



Edge Intelligence Servers



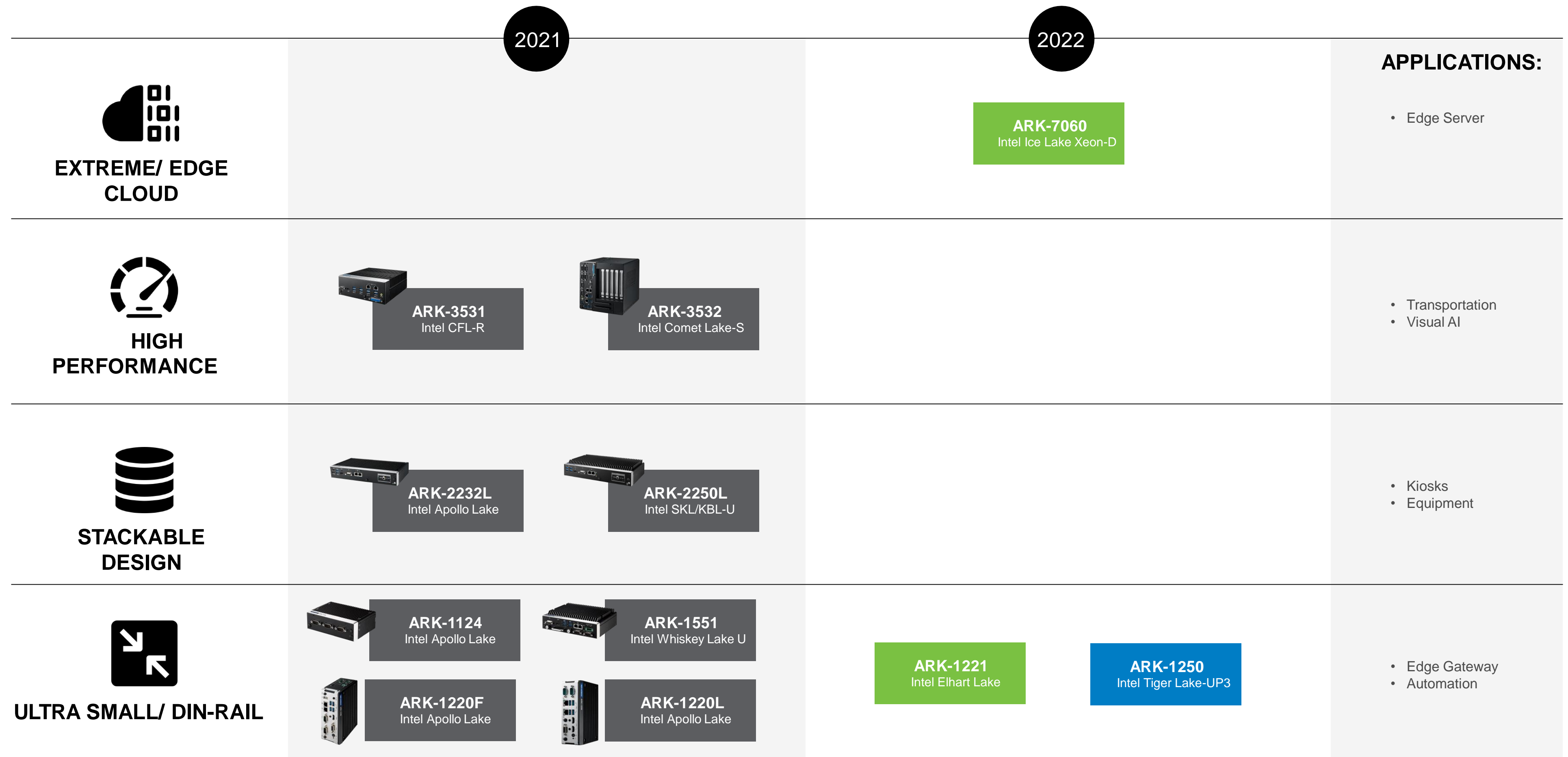
Edge Visualization Solutions



Edge AI Systems

# ARK EDGE COMPUTERS ROADMAP

- AVAILABLE
- DEVELOPING
- PLANNING



# ARK-3532

STAR PRODUCTS



**Intel® Xeon® W-1290TE Processor**  
10 cores, 20 threads, 20M Cache, up to 4.50 GHz



**10th Gen Intel® Core™ i9-10900E**  
10 cores, 20 threads, 20M Cache, up to 4.70 GHz



**10th Gen Intel® Core™ i7-10700E**  
8 cores, 16 threads, 16M Cache, up to 4.50 GHz



**10th Gen Intel® Core™ i5-10500E**  
6 cores, 12 threads, 12M Cache, up to 4.20 GHz



**10th Gen Intel® i3-10100E**  
4 cores, 8 threads, 6M Cache, up to 3.80 GHz

PHASE IN 2021 / Q1

LONGEVITY 2027 / Q4

## Rugged, High Expansibility Design

- 2/ 3/ 4 slot expansion slot options with PCI/PClex4/PClex16 interfaces for GPU, data acquisition & serial communication cards
- 9-36VDC wide range power input
- -20~60°C of operating temperature

## Versatile I/O, High Capacity Storage

- 4GbE, 4 USB3.2, 4 USB3.0, 6COM, 16bit DIO
- 4 x 2.5" SATA III drive bays with Intel RAID support

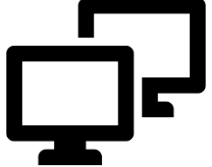






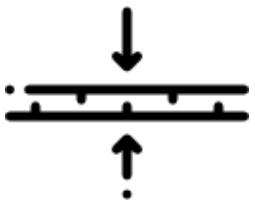






## Equipment Management with Built-in **DeviceOn/iEdge**

- Supports Modbus, OPC UA, and other PLC base protocol for data integration
- Remote monitoring via a pre-installed dashboard
- Real-time computing and edge analytics



# EDGE VISUALIZATION SOLUTIONS ROADMAP

- AVAILABLE
- DEVELOPING
- PLANNING

	2021	2022	APPLICATIONS:
 <b>HIGH PERFORMANCE/ MULTIPLE DISPLAYS</b>	 <b>DS-580</b> Intel Apollo Lake  <b>DS-780</b> Intel Skylake		<ul style="list-style-type: none"> <li>• eMenu Board</li> <li>• Video Wall</li> </ul>
 <b>OPS/ SDM</b>	 <b>DS-280</b> Intel Skylake  <b>DS-200</b> Intel Coffee Lake H	 <b>DS-202</b> Intel Elkhart Lake	<ul style="list-style-type: none"> <li>• Passenger Information</li> <li>• Corporate/ Whiteboard</li> </ul>
 <b>ULTRA SLIM</b>	 <b>DS-066</b> Intel Bay Trail  <b>DS-081</b> Intel Kaby Lake	 <b>DS-085</b> Intel Tiger Lake	<ul style="list-style-type: none"> <li>• Self-Service Kiosks</li> <li>• Smart Retail</li> </ul>
 <b>ENTRY LEVEL</b>	 <b>DS-370</b> Intel Bay Trail	 <b>DS-380</b> Intel Elkhart Lake	<ul style="list-style-type: none"> <li>• Retail</li> <li>• Production Line</li> </ul>

# DS-085

## STAR PRODUCTS



**Intel® Celeron 6305E In Processor**  
2 cores, 2 threads, 4M Cache, up to 1.80 GHz

PHASE IN 2021 / Q2

LONGEVITY 2026 / Q4



**11th Gen Intel® Core™ i3 1115G4E**  
2 cores, 4 threads, 6M Cache, up to 3.90 GHz

### Ultra Slim, Ultra Powerful

4 independent 4K outputs via HDMI 2.0 x 4  
High performance computer vision and AI acceleration  
Slim design with only 19mm thickness



**11th Gen Intel® Core™ i5 1135G7**  
4 cores, 8 threads, 8M Cache, up to 4.20 GHz

### Easy Installation & Maintenance

Supports wall mount, VESA, and DIN-rail mounting  
Fanless and cableless design  
Energy Star® certified for cutting edge energy efficiency



**11th Gen Intel® Core™ i7 1165G7**  
4 cores, 8 threads, 12M Cache, up to 4.70 GHz

### Remote Management Built-in **WISE-PaaS/SignageCMS WISE-DeviceOn**












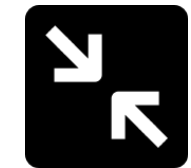



Seamless content editing, scheduling and dispatch Device monitoring and OTA functions  
McAfee whitelist and Acronis recovery tools integrated





# EPC EDGE COMPUTERS ROADMAP

AVAILABLE  
 DEVELOPING  
 PLANNING

	2021	2022	APPLICATIONS:	
 <b>ULTIMATE SERVER-GRADE</b>	 <b>EPC-P3066</b> Intel Coffee Lake	 <b>EPC-B5586</b> Intel Coffee Lake	 <b>EPC-B5587</b> Intel Comet Lake	<ul style="list-style-type: none"> <li>• Medical Imaging</li> <li>• Machine Vision</li> </ul>
 <b>ULTIMATE HIGH PERFORMANCE</b>	 <b>EPC-B2275</b> Intel SKY Lake	 <b>EPC-B3277</b> Intel Comet Lake	<ul style="list-style-type: none"> <li>• Surgical Robotics</li> <li>• Machine Vision</li> </ul>	
 <b>1U SLIM DESKTOP</b>	 <b>EPC-T1217</b> Intel Apollo Lake	 <b>EPC-T2286</b> Intel Coffee Lake	 <b>EPC-T4218</b> Intel Elkhart Lake	<ul style="list-style-type: none"> <li>• Kiosks</li> <li>• 1U Data Server</li> </ul>
 <b>PALM-SIZED &amp; FANLESS</b>	 <b>UTX-3117</b> Intel Apollo Lake	 <b>EPC-U2117</b> Intel Apollo Lake	 <b>EPC-U3233</b> Intel Whiskey Lake U	<ul style="list-style-type: none"> <li>• Industrial Gateway</li> <li>• AGV/ AMR</li> </ul>

# EPC-B5587 MEDICAL PACS WORKSTATION

STAR PRODUCTS



**Intel® Xeon® W-1290E Processor**  
10 cores, 20 threads, 20M Cache, up to 5.20 GHz



**10th Gen Intel® Core™ i9-10900E**  
10 cores, 20 threads, 20M Cache, up to 4.70 GHz



**10th Gen Intel® Core™ i5-10500E**  
6 cores, 12 threads, 12M Cache, up to 4.20 GHz



**10th Gen Intel® i3-10100E**  
4 cores, 8 threads, 6M Cache, up to 3.80 GHz

PHASE IN 2021 / Q4

LONGEVITY 2028 / Q4

## GPU Compatibility

1200W PSU with 80+ GOLD Efficiency Level  
Both Industrial & Residential Level EMC Protection Vibration 1Grms

## Highly Reliable Functionality

Up to 6 SATA SSD with RAID 0/1/5/10 Up to 4 ECC Memory  
Dual BIOS Socket for Redundancy  
2 10GbE Ports for High Speed Communication TPM2.0













## Comprehensive Certifications

CE / FCC / CB & UL 62368-1 / CCC / BSMI



# EIS EDGE INTELLIGENCE SYSTEM ROADMAP

- AVAILABLE
- DEVELOPING
- PLANNING

	2020	2021	APPLICATIONS:
 <b>EDGE CLOUD</b>		<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">   <b>EIS-S230</b>                      Intel Xeon® E3-1275                 </div> <div style="text-align: center;">   <b>EIS-S232</b>                      10th Generation Intel® Core™ i7                 </div> </div>	<ul style="list-style-type: none"> <li>• Cloud Integration</li> <li>• Edge Server</li> </ul>
 <b>EDGE COMPUTING</b>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">   <b>EIS-D110</b>                      Intel® Celeron® J1900 SoC                 </div> <div style="text-align: center;">   <b>EIS-D210</b>                      Intel® Celeron® N3350/ E3940 SoC                 </div> <div style="text-align: center;">   <b>EIS-D150</b>                      6th Generation Intel® Core™ U-series i5                 </div> </div>	<div style="text-align: center;">   <b>EI-52</b>                      11th Gen Intel® Core i5/ i3/Celeron                 </div>	<ul style="list-style-type: none"> <li>• Kiosks</li> <li>• Equipment</li> <li>• Automation</li> </ul>
 <b>EDGE SOFTWARE</b>	 <b>DeviceOn/iEdge</b> Intelligent Edge Management	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">   <b>iEdge PLC</b>                      +100 PLC protocols support                 </div> <div style="text-align: center;">   <b>iEdge SEMI</b>                      Semiconductor UI API mgmt. tool                 </div> </div>	<ul style="list-style-type: none"> <li>• Semiconductor</li> <li>• Automation</li> </ul>

# EI-52 COMPACT HIGH PERFORMANCE EDGE INTELLIGENCE SYSTEM

STAR PRODUCTS



**11th Gen Intel® Core™ i5-1145G7E**  
4 cores, 8 threads, 8M Smart Cache, up to 4.1 GHz



**11th Gen Intel® Core i3-1115G4E**  
2 cores, 4 threads, 6M Smart Cache, up to 3.9 GHz



**11th Gen Intel® Celeron 6305E**  
2 cores, 2 threads, 4M Smart Cache, up to 1.8 GHz

PHASE IN 2021 / JUNE

LONGEVITY 2027 / Q4

## Plug & Play System Design

Easy start-up and configuration for IoT deployment  
11th Gen Intel® delivers powerful computing in compact package with built-in SSD/memory

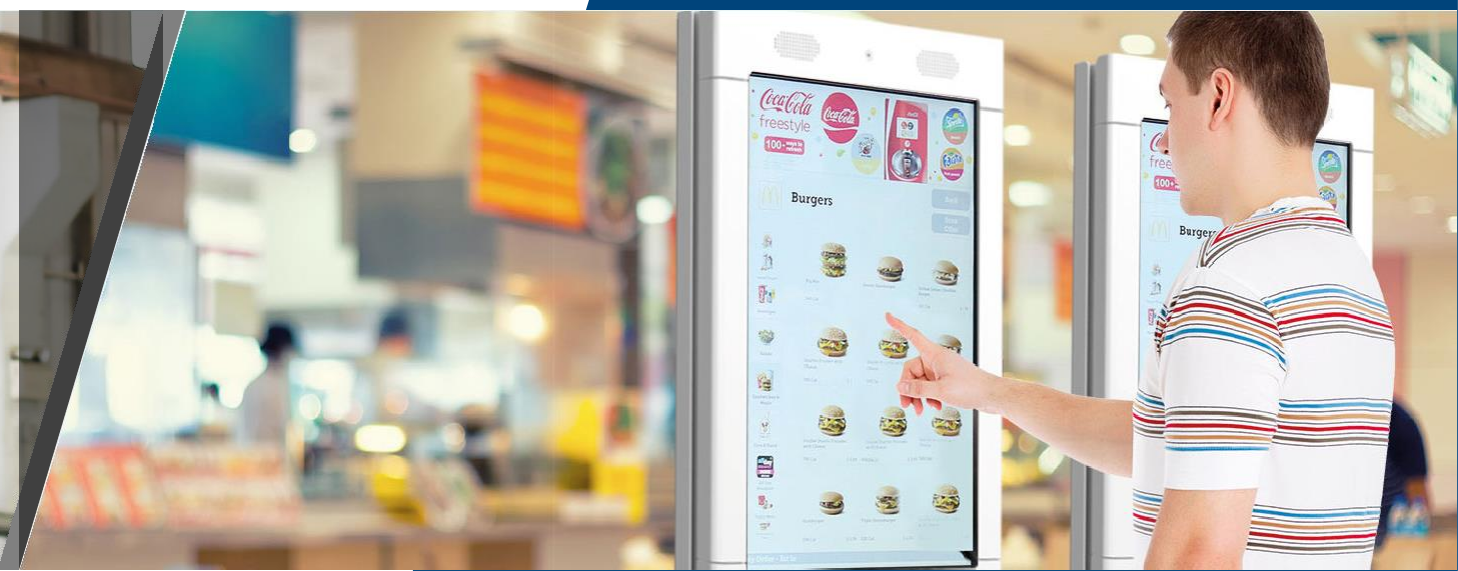
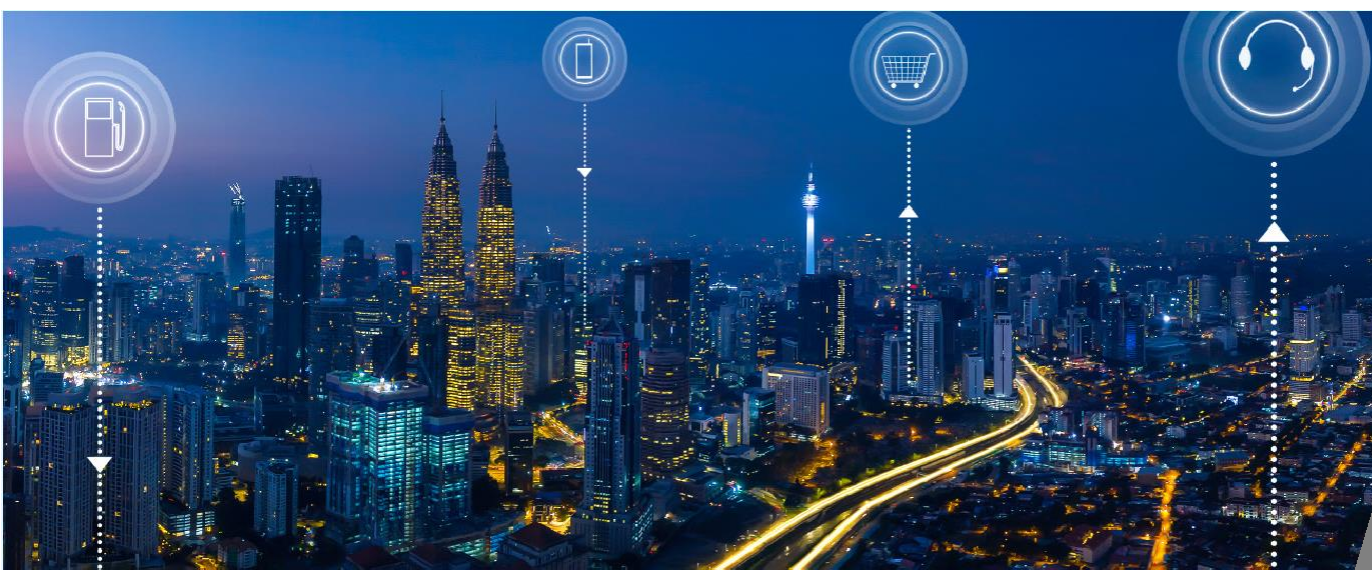
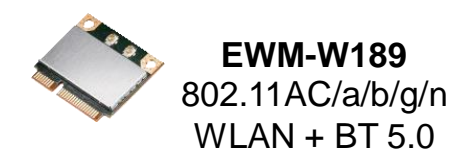
## Edge-to-Cloud Interconnection

Integrated software architecture and low-code integration  
Sensing data integration and built-in remote device management software

EDGE X FOUNDRY WISE-DeviceOn

## 5G WiFi and AI Platform Ready

Compatible AI acceleration module with Intel® Movidius™ Myriad X VPU  
Compatible WiFi and 5G modules achieve faster throughput and higher traffic capacity



# USE CASES

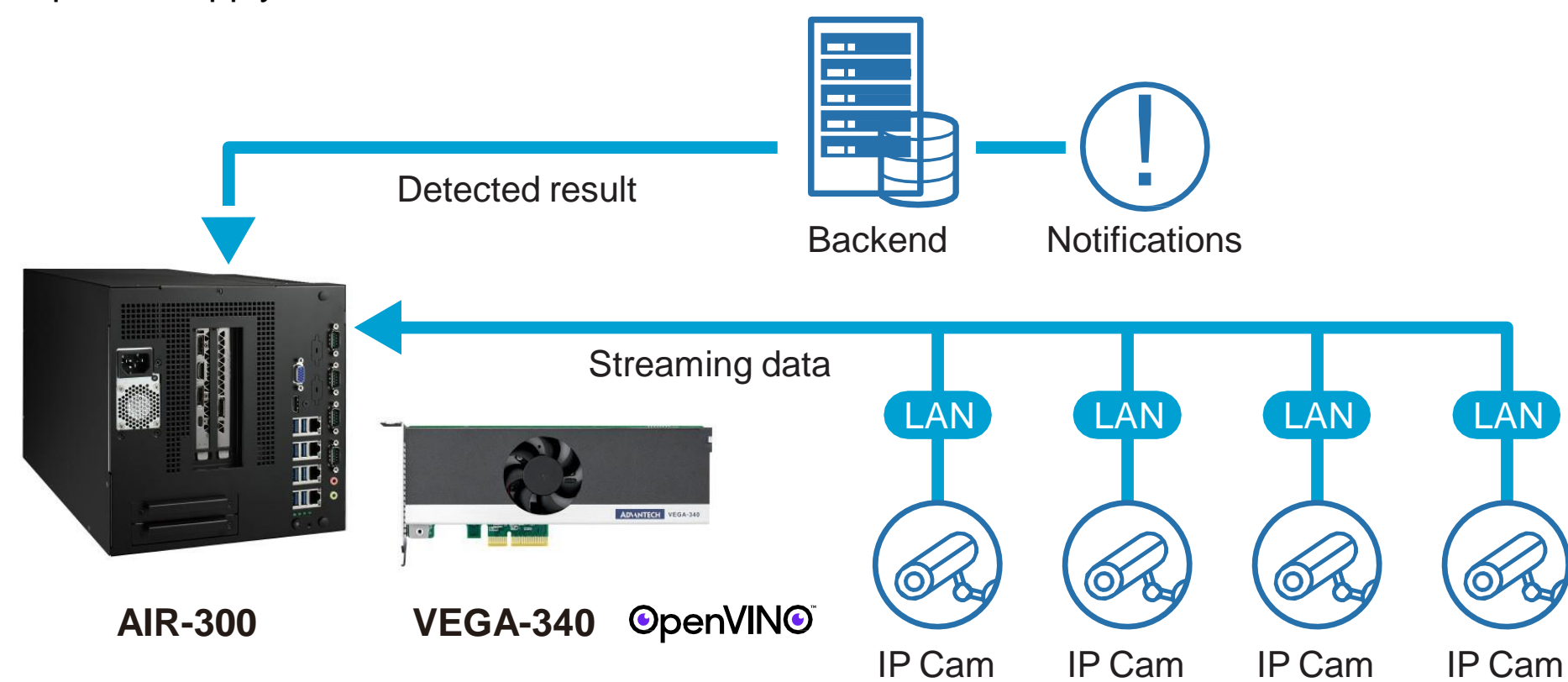
Advantech supplies and deploys several advanced and scalable IoT systems across several market segments



# AI-ENABLED ON-SITE PRODUCTION LINE MONITORING

## USE CASE

- **Configuration:**  
AIR-300 + VEGA-340
- **Requirements:**  
An edge AI inference system with IP cameras that monitor operators' movements on factory floors and detect abnormal behavior — such as lingering or working without gloves.
- **Benefits:**
  1. High performance inferencing capability with Intel® Xeon® CPU
  2. AI acceleration with power efficient Intel® Myriad™ X VPUs
  3. High bandwidth 4 x GbE and max. 20TB storage capacity
  4. Equipped with a built-in 850W power supply, so the customer didn't need to add an external power supply



# EMPOWERING AUTONOMOUS MOBILE ROBOTS

## USE CASE

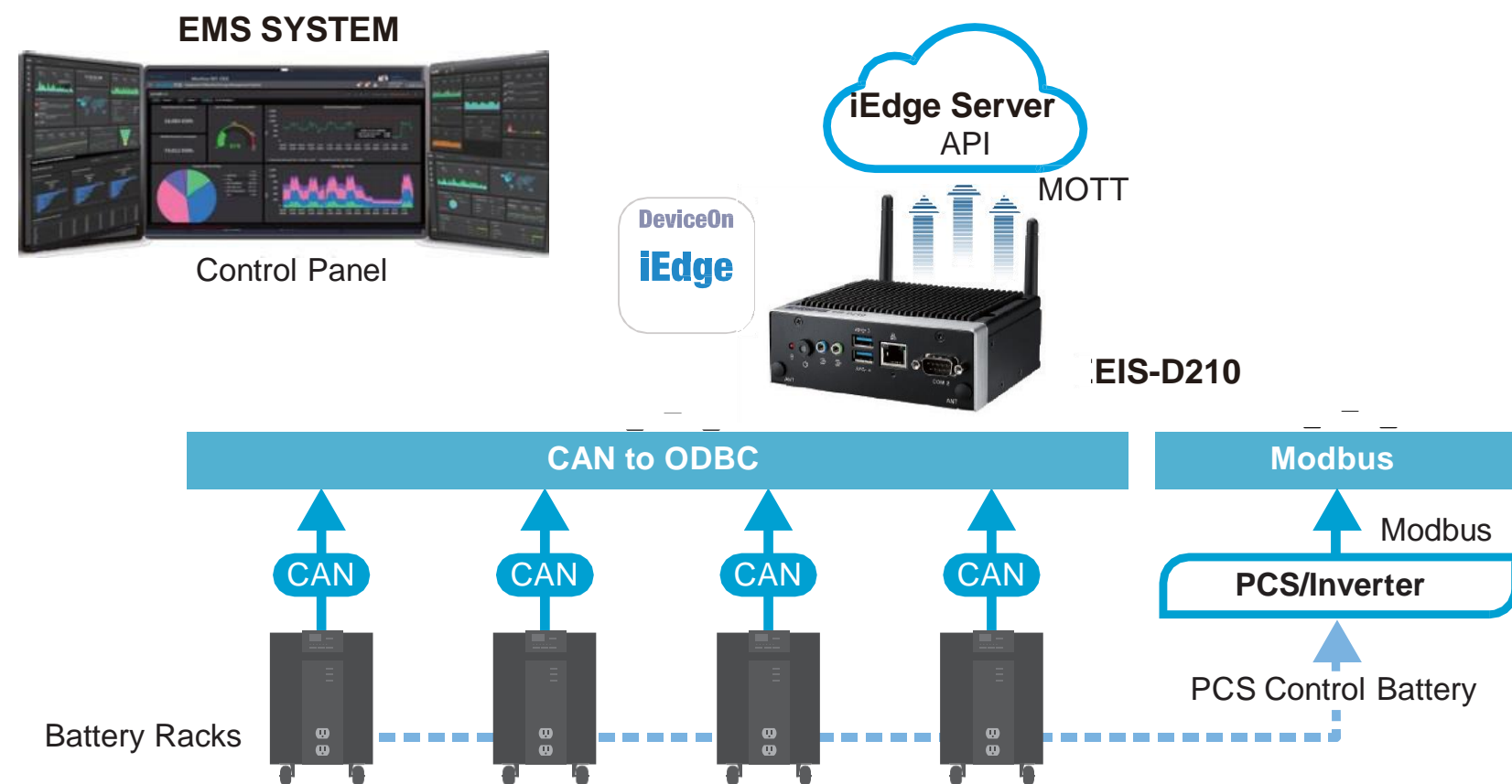
- **Solution:**  
MIO-5375
- **Requirements:**  
AMR devices need powerful embedded single board computers with multiple I/O interfaces for cameras, sensors, control boards, displays, and other end devices connections
- **Benefits:**
  1. 11th Gen. Intel® Core™ Processors with Quad/Dual Cores increase performance by 40%
  2. Fanless for low power consumption design (15W)
  3. Expansion for up to 6x high-definition input cameras
  4. Onboard CAN Bus interface for motion control



# CENTRALIZED MANAGEMENT SMART ENERGY STORAGE SYSTEMS

## USE CASE

- **Solution:**  
EIS-D210 & iEdge industrial app
- **Requirements:**  
A centralized management system that supports different communication protocols in different IT environments.
- **Benefits:**
  1. Pre-configured system: Intel® Celeron® N3350 SoC, Win 10 Ent, 64 GB SSD and wireless networking
  2. Reduces the implementation barriers with hardware and software integrated solutions
  3. Remotely monitor and analyze power consumption in real time
  4. Reduced electricity costs by 15 ~ 20% by analyzing power usage during peak/off-peak hours

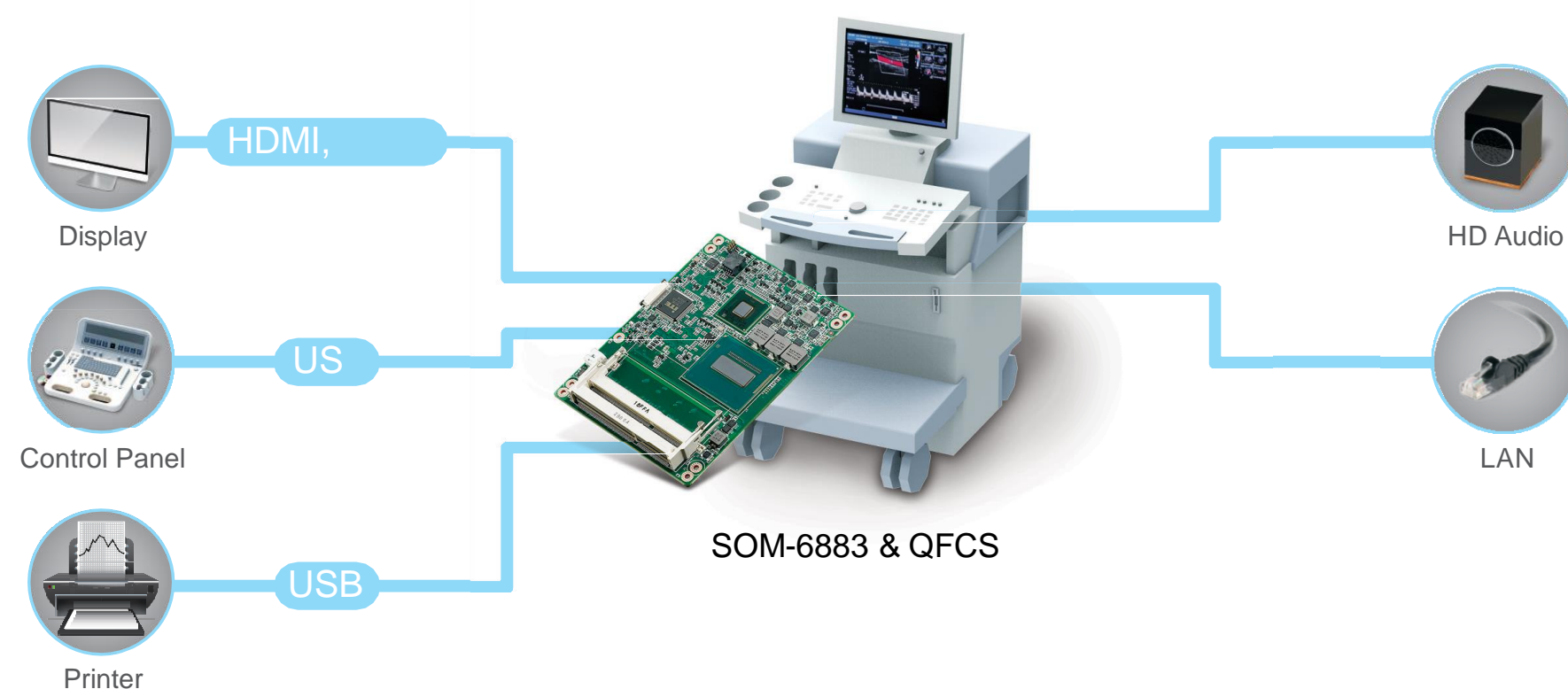




# DELIVERS EXCELLENT GRAPHICS AND AI PERFORMANCE TO ULTRASOUND DEVICES

## USE CASE

- **Configuration:**  
SOM-6883 and QFCS
- **Requirements:**  
Ultrasound machines require extreme processing performance and graphics rendering to enhance diagnostic accuracy, and instantly acquire precise images.
- **Benefits:**
  - Fast processing performance for high-resolution, real-time imaging powered by 11th Gen. Intel® Core™ Processors and Intel iRIS® Xe graphics
  - Advantech QFCS (Quadra Flow Cooling System) technology with low profile and low noise features
  - Low profile board with anti-vibration memory down design
  - Four independent 4K displays (up to two 8K)



# INDOOR NAVIGATION SYSTEM WITH DEEP LEARNING ENHANCES TOURING EXPERIENCES

## USE CASE

- **Solution:**  
AIMB-U233
- **Requirements:**  
An edge computer that is capable of indoor positioning facilities, sophisticated triangulation algorithms, AI smart guidance for reliable 24/7 operation.
- **Benefits:**
  1. Intel 8th Gen Core processors ideal for deep learning inference computing
  2. Supports Wi-Fi/BT and 4G LTE modules
  3. Dual GbE ports for smart devices communication
  4. Supports Intel® vPro (For i5 and i7 CPU)



# RELIABLE IN-VEHICLE SYSTEMS IMPROVE ROAD SAFETY

## USE CASE

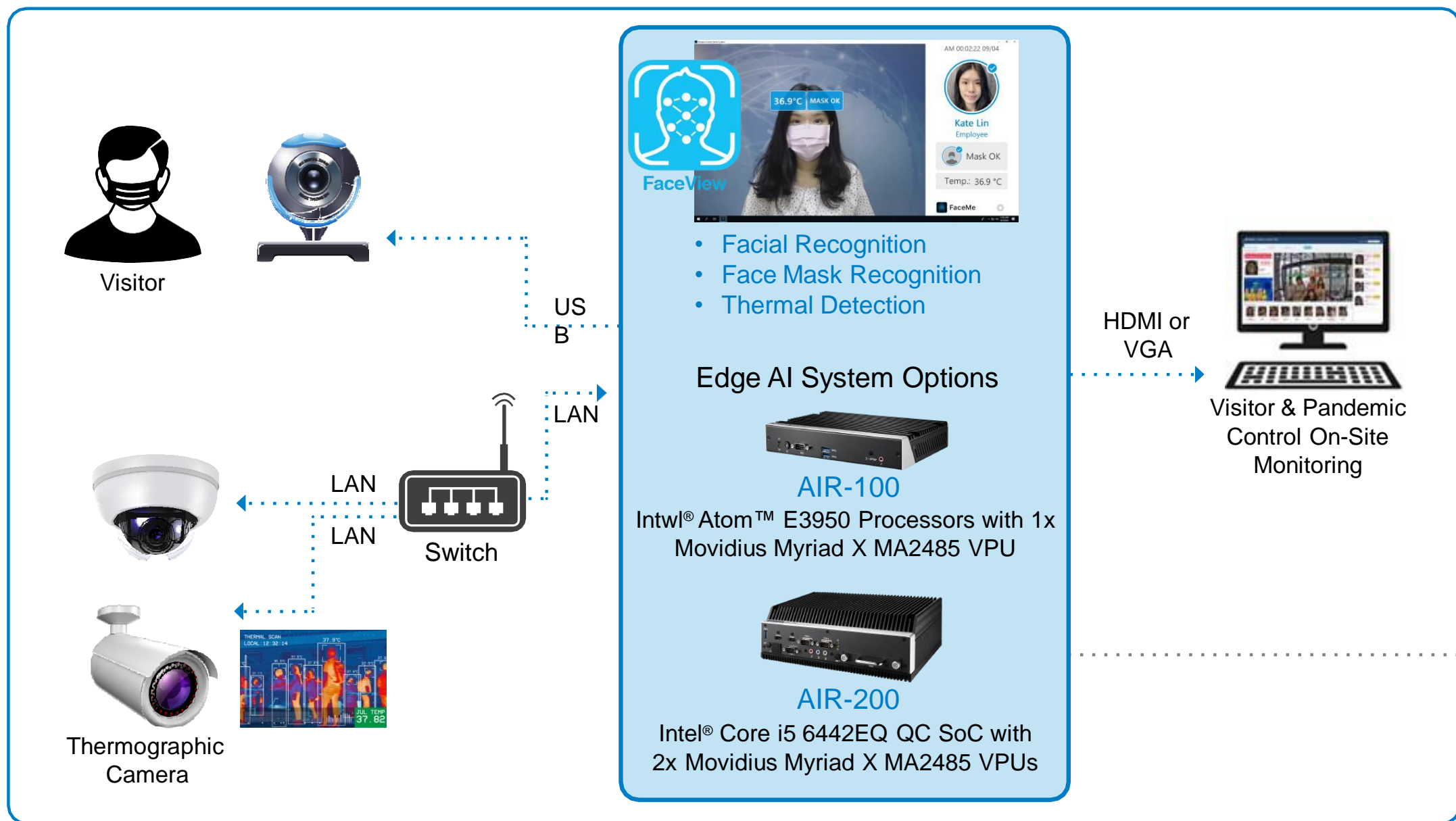
- **Solution:**  
ARK-2250R
- **Requirements:**  
A ruggedized, reliable, and internationally certified In-vehicle surveillance system
- **Benefits:**
  1. High-performance Core i processors that ensure real-time video transcoding and processing with 8ch x 1080p @30fps IP camera connection
  2. Adheres to EN50155, EN50121, IEC61373 certifications
  3. Supports dual LTE Cat6 300/50Mbps bandwidth & dual Wi-Fi extension as hot spot point
  4. Ultra wide operating temp. -40 ~70 °C (-40 ~ 158 °F)



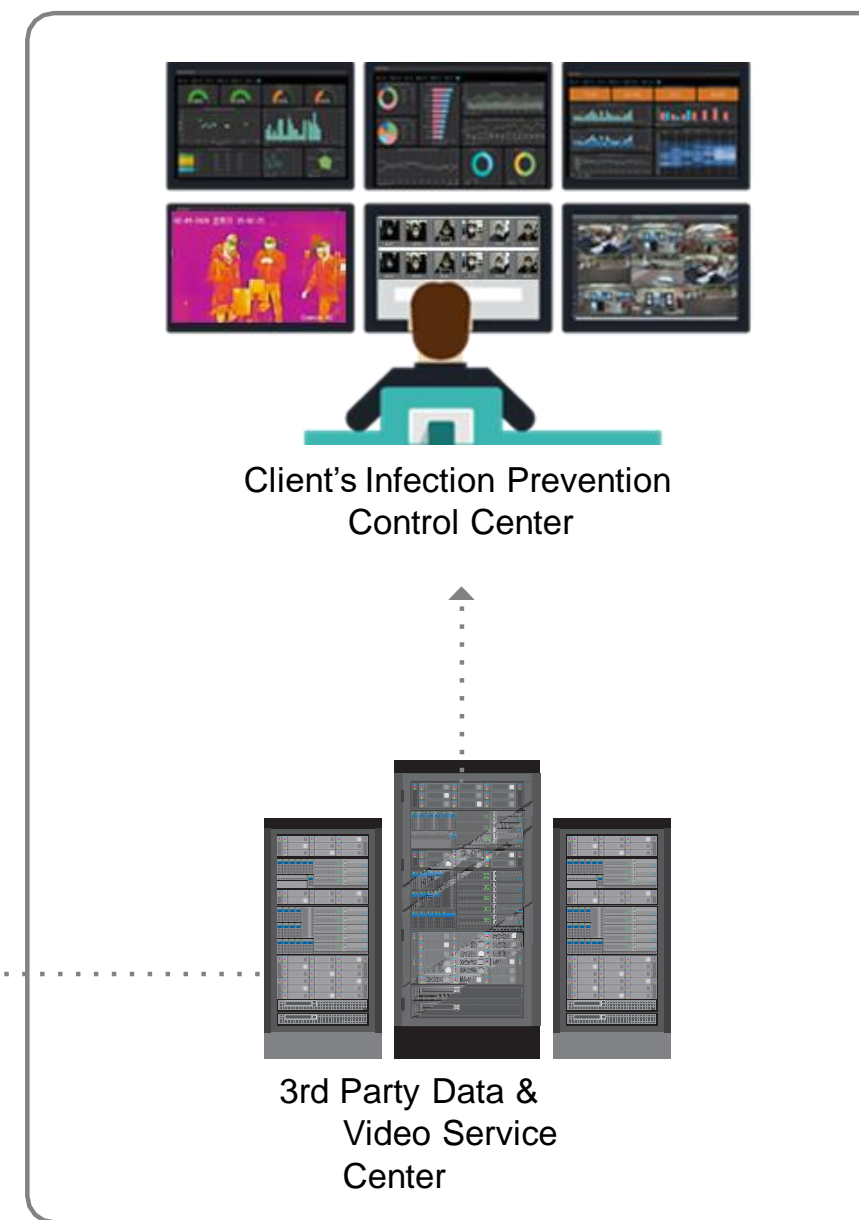
# AI FACIAL MASK DETECTION & BODY TEMPERATURE SCREENING SOLUTIONS

## USE CASE

### Visitor Facial Recognition & Thermal Detection Site



### Security & Management Department





# Edge<sup>+</sup> AI Solutions

Accelerating Vision AI Deployment at Scale

## AI Acceleration Cards



VEGA-320

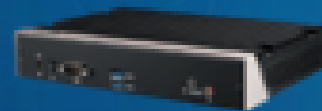


VEGA-330



VEGA-340

## Edge AI Systems



AIR-100



AIR-101



AIR-200



AIR-300

## AI Facial Recognition



FaceView



OpenVINO™

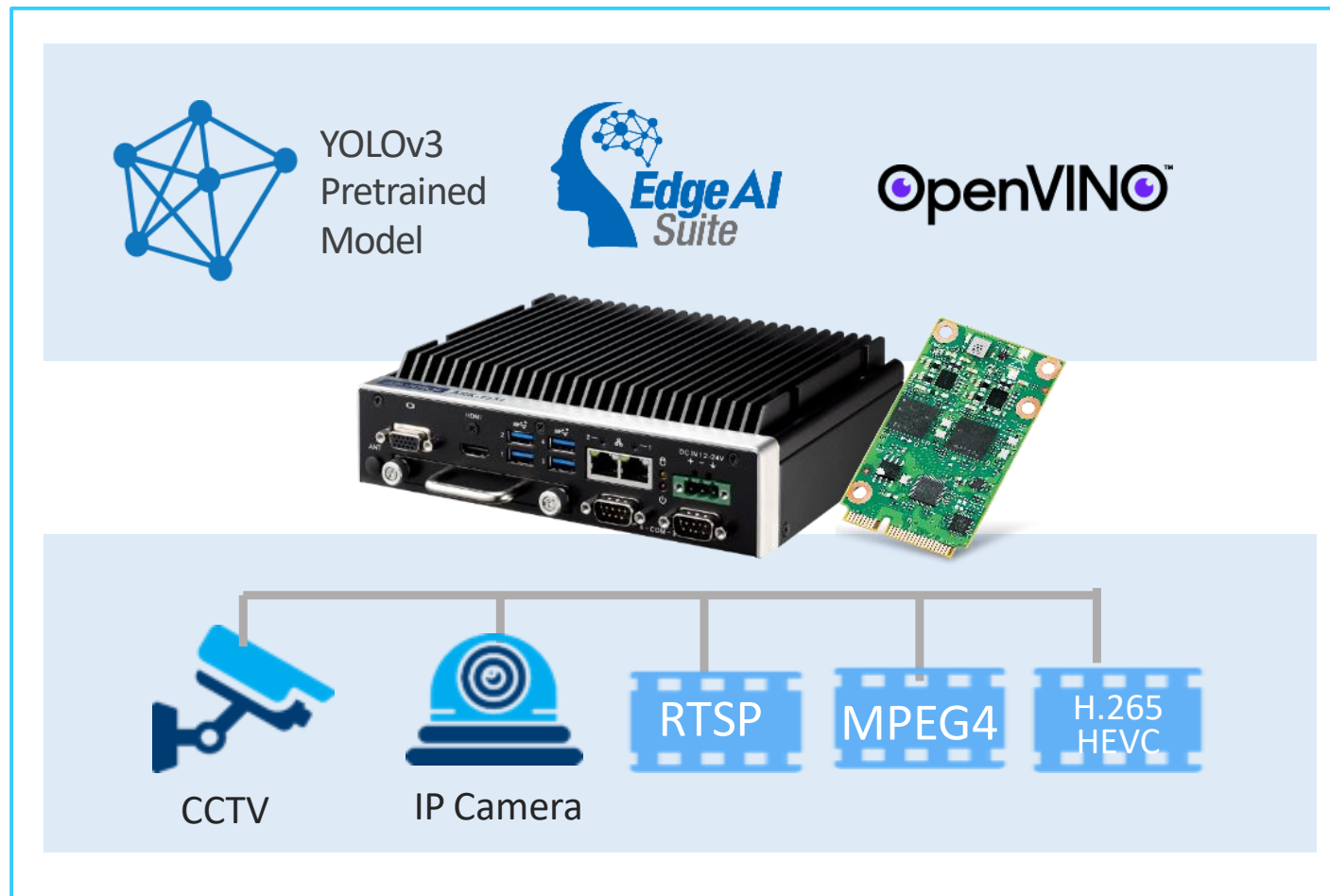


Intel® DevCloud  
FOR THE EDGE



# INTEL® IoT RFP READY KITS

## ADVANTECH ARK-1551 + VEGA-330 VISION AI READY PLATFORM FOR VIDEO SECURITY AND PUBLIC SAFETY



### Kit Introduction

Video security and public safety solutions for transportation and government scenarios help create safer environments for passengers and facilitate remote management and monitoring. The Advantech ARK-1551 + VEGA-330 Vision AI Ready Platform for Video Security and Public Safety solution is powered by Intel technology and Advantech's YOLOv3 AI model on Edge AI Suite for object detection and inferencing to develop crowd heatmaps and object detection.

### How It Works

Cameras and CCTV are equipped with Intel® Core™ i5 Processors and Intel® Movidius™ Myriad™ X to deliver high-performance machine vision at ultra-low power. The Advantech Edge AI Suite with YOLOv3 AI model optimizes video streaming using analytics and object detection applications. The Advantech Edge AI Suite connects to CCTV and IP cameras to process video data in real-time. Then, the YOLOv3 algorithm analyzes the video data to detect objects of interest like vehicle license plates. The Intel® Distribution of OpenVINO™ toolkit facilitates and optimizes the framework and development of the YOLOv3 model. Together YOLOv3 and the Edge AI Suite improve frame per second performance with fast detection speeds and high accuracy.

Imagine the  
Possibilities



### License Plate Recognition

SIs can utilize the ARK-1551 kit to support customers deploying license plate recognition for safe and secure traffic management. Object detection and AI inference track objects with great speed and accuracy.



### Crowd Management

The ARK-1551 kit can allow SIs to develop crowd heatmaps in observed spaces with AI inferencing for customers wanting to measure capacities and areas of high traffic.

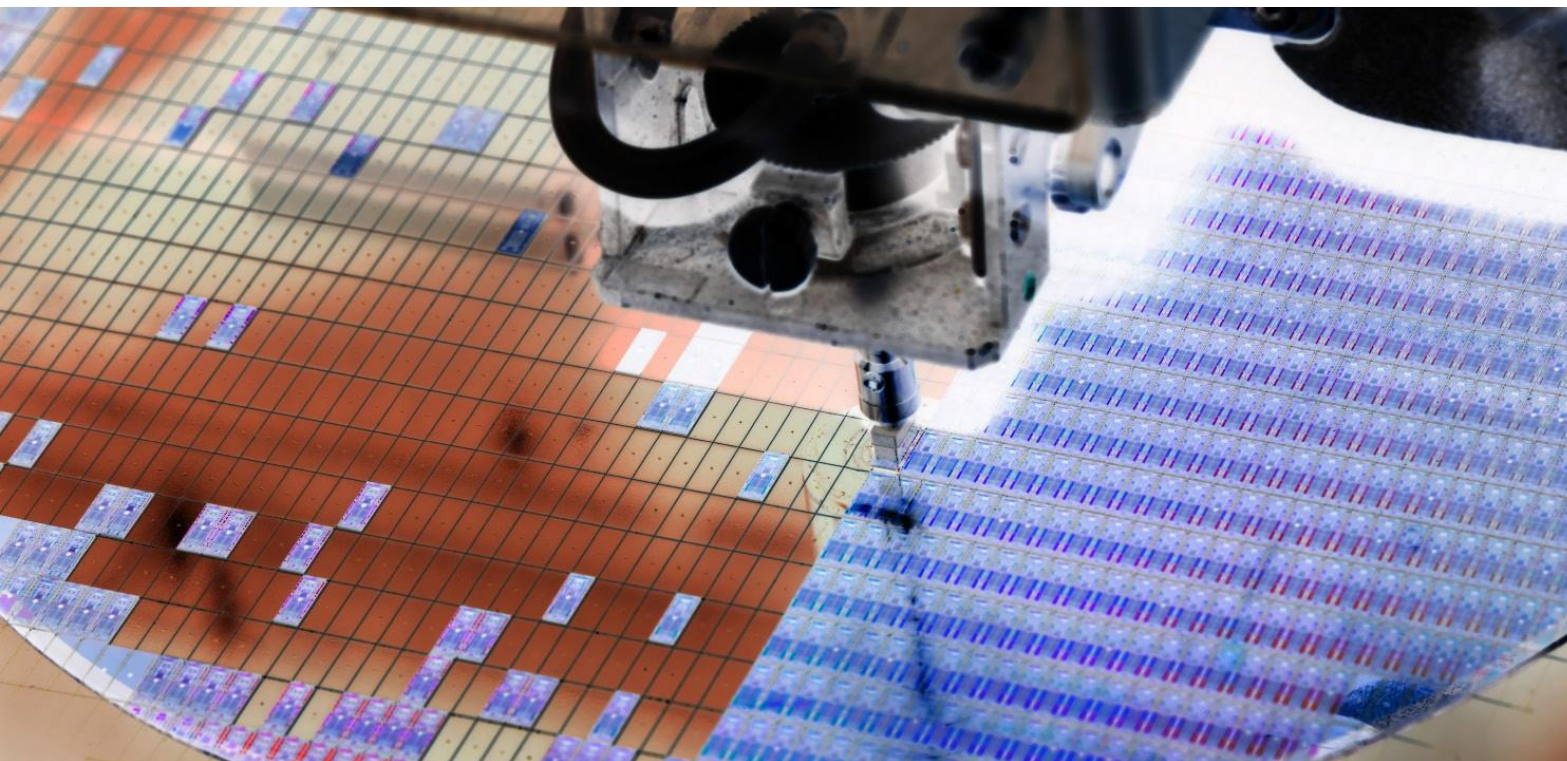


### Transit Safety

SIs can use the kit as a foundation for situational monitoring solutions deployed on trains, busses, and ships in harsh conditions.

# INTEL® IoT MARKET READY SOLUTIONS (MRS)

## EQUIPMENT VIBRATION MONITORING SOLUTION



Advantech's Equipment Vibration Monitoring Solution is an integrated solution-ready package that facilitates real-time vibration monitoring, time-frequency vibration data analysis, and alarm maintenance. This can reduce equipment maintenance costs and provide a predictive maintenance mechanism, ensuring a high return on investment.

### 3rd Party Vibration Software



## Solution Packages

EIS-D150 6th Generation Intel® Core™ U-series i5, Win 10 with 8GB RAM, 256 GB SSD DeviceOn/iEdge Intelligent Edge Management Software and equipment status dashboard Optional Vibration Software

1. AnCAD Vibration Analysis Monitoring
2. GOOD TECH VMS-ML

## Feature Highlights



### Real-Time Vibration Monitoring

Vibration sensor data collection and pre-processing for real-time monitoring and response at the edge



### Vibration Data Analysis

Various algorithm for vibration analysis, including spectral analysis, time, frequency



### Condition Monitoring

Pre-loaded equipment status dashboard with remote monitoring, threshold alarms, and predictive maintenance intelligence

# EMBEDDED SOFTWARE SERVICES

## DeviceOn/iEdge

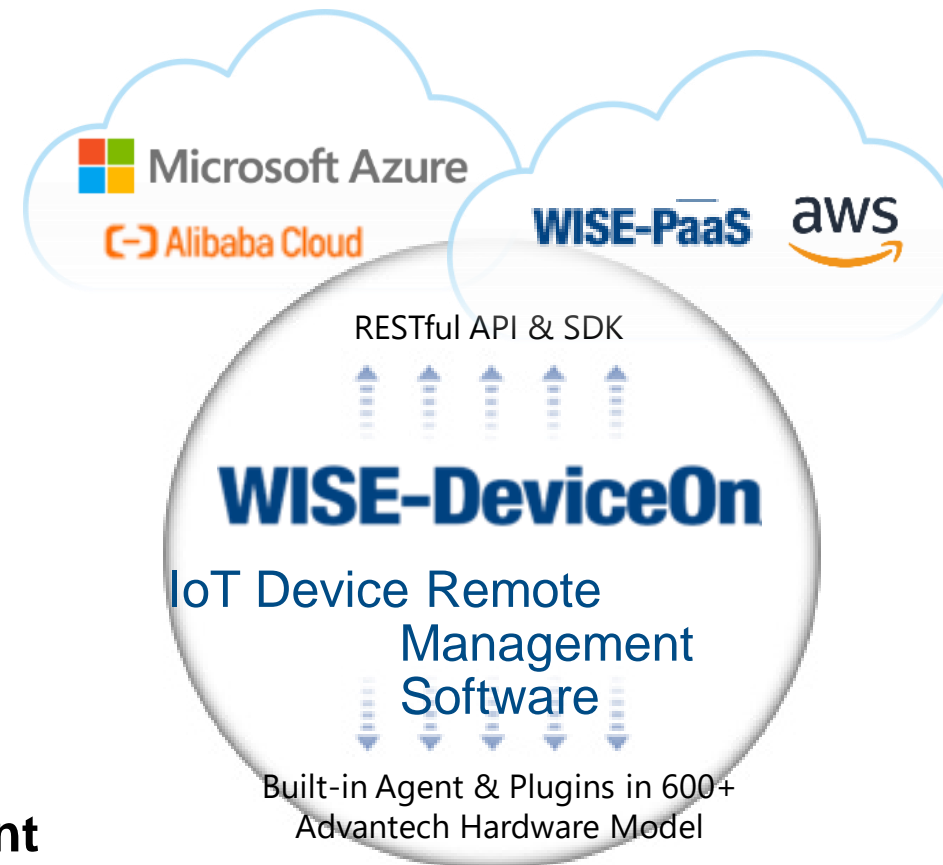
Data & Edge  
Management

## DeviceOn/CommBridge

Equipment Protocol  
Conversion

## DeviceOn/Kiosk+

Remote Kiosk  
Management



## DeviceOn/Display

Industrial Display Remote  
Control

## DeviceOn/ePaper

ePaper Device  
Management

## DeviceOn/SQ Manager

SSD/Memory Monitoring &  
Security

### Plug & Play IoT Deployment

Device Management

Data Management

### Flexible Business

Software Application  
Management

Cloud Platform  
Integration

## Embedded BIOS Services

### Multi-Layered Security

- Storage Security
- Booting Management
- Compliant to TCG OPAL 2.0, Boot Guard, BIOS Guard, Secure Boot, Top-Swap
- One-Click System Recovery

### Customization Services

- Domain-focused Design
- Expert Consulting
- Customization Utilities

### BIOS Utilities

- Logo Change
- DMI Editor
- Configuration Tool
- EC Update Tool



# WE ARE AN AUTHORIZED MICROSOFT EMBEDDED DISTRIBUTOR

YOUR ONE STOP SOLUTION PARTNER FOR IoT



Windows 10



Windows Server



Office 365

Acronis



McAfee



## Global MS Embedded License Distributor

Achieve centralized global logistics and pricing, streamlining the license procurement process.



## Global HW & SW Engineering Support

Advantech has offices in the United States and worldwide to provide real-time local support.



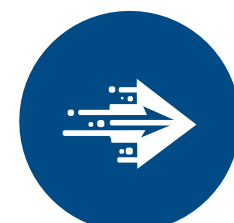
## Windows 10 IoT Enterprise

Windows 10 IoT Enterprise is a full version of Windows 10 that delivers enterprise manageability and security to intelligent devices. It provides license cost discount based on CPU performance and offers flexible activation methods



## Vendor Consolidation

One stop shop for embedded computing needs: boards, systems, long-life SSDs, long-life RAM, NVIDIA GPUs, Microsoft products and supply chain services.



## Off-the-Shelf Board Support Package

Advantech hardware has prebuilt OTS base image for different Windows OS platforms for faster time to market.



## Windows Server IoT 2022

With secured, hybrid and flexible features, customers can run Windows server IoT 2022 to enable new hybrid cloud scenarios, and modernize their applications to meet evolving business requirements.

# ADVANTECH NORTH AMERICA LOCATIONS



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Jay Liston – [jay.liston@advantech.com](mailto:jay.liston@advantech.com)