

Breakout Session

# Intel 12<sup>th</sup> Gen. Core Processors Embedded Platforms

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**ADVANTECH**

*Enabling an Intelligent Planet*

# Accelerating I/O Transition by Intel 12<sup>th</sup> Gen. Core Processors

*16 Cores Alder Lake-S*

*8 Cores Alder Lake-P*

**DDR5**

**1.8x** Bandwidth (vs. DDR4)

**12<sup>th</sup> Core i9**

**1.9x** Graphics Performance (vs. 10<sup>th</sup> Gen)

**PCIe Gen. 5**

**2x** I/O Throughput (vs. PCIe Gen. 4.0)



**AIMB-288E**

*THIN Mini-ITX Extended*



**AIMB-588**

*MicroATX*



**MIO-5377**

*3.5" SBC*

# Advantech IT/OT Total Security

Comprehensive cybersecurity solution to prevent attacks, stop damage and restore operation

## Extended Detection & Response (XDR)



Anti-phishing & malware protection



Secure email attachments/links



Device Monitoring and Management



Network segregation & protection

IT



OT

**WISE-DeviceOn**

## Endpoint Detection & Response (EDR)

Container and software updates



Secure Device Identity Protection



OT behavior analysis & threat detect



Ransomware Protection & Recovery



OOB Management & control



# Edge AI Suite

Instant User Experience & Fast AI DevOps



People/Pose Detection



Face Detection



Object Detection



Image Classification

Empower ADVANTECH Device at Edge AI

**5 Times** ↑

Intel CPU  
computing power

**+AI Chips**

High coverage support  
on more AI accelerators

**5 Mins** ↓

90% time reduced  
to build up settings

**1 Click**

Edge AI inference  
benchmark and demo

# Game-changing Linux IoT Experience

**ubuntu**  Desktop

Full-blown graphic UI OS,  
Rich application support

 Core

Light-weight command-line OS,  
Optimized for IoT sensor devices

**Certified**

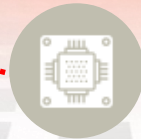
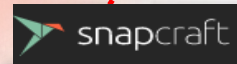
Each licensed hardware must pass  
Canonical certification process



**Secure**

Tri-weekly Security Update to fix  
critical/embargo & regular CVEs  
with long-term support

**ubuntu**



**X86 & RISC**



Upsell Hardware-only Customers

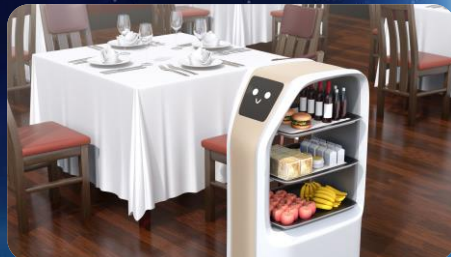


Expand to new Business Landscape

# Target Applications



**High-Medical  
Imaging Equipment**



**GPU-Accelerate  
Service Robot**



**Standard & Rapid  
EV-charger/Kiosk**



**Outdoor Rugged  
Service Robot**

# AI-Assisted Medical Imaging



**AIMB-588**



## Intel 12<sup>th</sup> Gen. Core

*High Performance and Efficiency*

## PCIe Gen. 5 x16 slot

*Latest throughput technology enable data analytics*

## DDR5 Memory

*High bandwidth accelerate data delivery*

## Four Ethernet Ports

*x3 2.5GbE and x1 GbE ports*

## AI Demo Utility and Remote Management

*Advantech Edge AI Suite & WISE-DeviceOn*

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# GPU-Accelerated Edge Computing

## Intel 12<sup>th</sup> Gen. Core

*High performance and efficiency computing core*

## DDR5 Memory

*High bandwidth accelerate data delivery*

## MXM Integrated

*MXM integrated kit delivers Graphics Performance*

## Compact & THIN

*All-in-One slim design simply deployment*

*\*Dimension 190 x 170mm*

## Optimized Thermal Design

*Future-proof for high computing workload*



AIMB-288E



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# More than Sufficient for Service KIOSK



MIO-4370



## 12<sup>th</sup> Intel Gen. Core Desktop

*Hybrid Architecture up to 16-Core (8P+8E)*

## Multiple & High-Quality Displays

*eDP 4K@60/5K@120, Dual HDMI1.4 for Dual-Side*

## High-Speed Storage & Redundancy

*Dual NVMe (Gen.4/Gen.5) w/ Intel VMD Support  
Reduce Maintenance Effort (NVMe RAID)*

## Advantech iManager Reliability

*Out-of-Band Watchdog, Temperature, & Power  
Manageability*

## OS Bundled & Remote Management

*Window10 IoT Certified & WISE-DeviceOn*

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# Rugged Outdoor Robot Application-Oriented



**MIO-5377**



## 12<sup>th</sup> Intel Gen. Core Mobile

*Hybrid Architecture up to 12-Core under TDP= 28/15W*

## Huge Sensor I/O Coverage for Robot

*4 UART, 3 I2C, 2 CANBus @ 1Mbps w/ Software APIs*

## Low Latency Connectivity

*Readiness on WiFi6E & 5G Support & Modules*

## Rapid I/O for Machine Vision

*2.5GbE, USB3.2 Type-C & Thunderbolt, PCIe Gen4 NVMe*

## Reliable Design for Various Scenes

*-40~85 °C Op. Temp., IPC-A-610 Class3 Assembly*

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# Advantech Product Offering



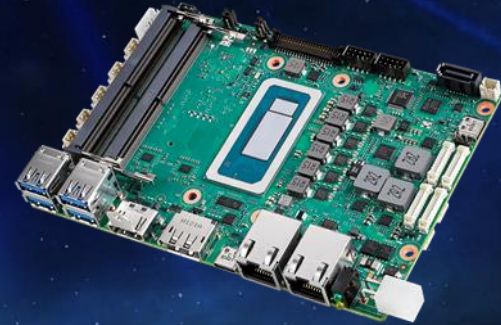
**AIMB-588**



Contact Expert



Learn More



**MIO-5377**



Contact Expert



Learn More

The background features a complex, abstract pattern of glowing, overlapping lines in shades of blue, purple, and orange. These lines create a sense of depth and movement, resembling a digital or fiber-optic network. A solid dark blue rectangular box is positioned on the left side of the image, containing the text.

Thank you  
for watching!

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