Partner Presentation

Accelerating Vision Application Development with AAEON

Owen Wei and
Daniele Cleri, AAEON Technology
Challenges in Today’s Edge Solution Development

- Development time: 12 month+
- Cost effective: Linux-based?
- A platform from prototype to production?
- Customization & industrialization?
- H/W+ S/W compatible kit?
- Scalability in AI/ connectivity(5G)/ IO?
- Necessary frameworks?
- Get started with advanced tool suite and optimize solution?
Solving Challenges for Edge Solution Development

- **Accelerate**
  - Time to Market
  - Development-ready, reusable containerized SW package

- **Reduce**
  - Development Cost
  - Pre validated and optimized HW platforms
  - Ready to use embedded system for rapid customization

- **Scale With**
  - Robust Edge Portfolio
  - Edge use case-specific reference offerings
  - Complimentary AAEON and ecosystem partner offering

**AAEON Edge Solution Foundation Kit**

Focus • Agility • Competitiveness

www.aaeon.com
<table>
<thead>
<tr>
<th>AAEON Edge Solution Offering</th>
<th>ECO Partner (ISV)</th>
<th>SOLUTION</th>
<th>Vertical Market</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connectivity</td>
<td>Riddletag</td>
<td>Traffic Control</td>
<td>Smart City</td>
</tr>
<tr>
<td></td>
<td>TTTech</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MYItec</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MOVii</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Software</td>
<td>WAHTARI</td>
<td>Anomaly Detection</td>
<td>Retail</td>
</tr>
<tr>
<td></td>
<td>aim²</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>oneAPI</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>OpenVINO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EDGE SW HUB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compute &amp; AI</td>
<td>sightcorp</td>
<td>People Detection</td>
<td>Industrial</td>
</tr>
<tr>
<td></td>
<td>SAIMOS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Focus • Agility • Competitiveness

www.aaeon.com
**EPIC-ADS7-PUC**

**Powerful & Fast:**
- Performance Improvement
- Hybrid Core Technology: P Core + E Core
- Supports next-gen, ultra-speed DDR5 (up to 64GB at 4800 MHz)
- USB4 (up to 20Gbps), *PCIe x 8 Gen 5 (up to 32GT/s)
- Wi-Fi 6E, 5G Connectivity

*Optional for project*

**Industrial & Expandable:**
- Intel® Time Coordinated Computing (Intel® TCC (3pin TCC GPIO), Time-Sensitive Networking (TSN))
- Industrial I/O: 2x RS232/422/485
- ECC
- Multiple M.2 expansions (M.2 2230, M.2 2280, M.2 3052) to serve different purposes *

*Optinal to add AI module through M.2 2280 slots*

**Enhanced Vision Capabilities:**
- Intel® UHD Graphics 770 (up to 32 EUs)
- 1x HDMI (2.0b), 2x DP1.4a (DP++), 1x eDP (internal)
- Intel® Gaussian and Neural Accelerator 3.0 (Intel® GNA)
- Intel® Deep Learning Boost (Intel® DL Boost)

*Datasheet will be available soon*

**Focus • Agility • Competitiveness**

www.aaeon.com

---

*Optional for project*
Intel Edge Insights for Vision

In EPIC-ADS7-PUC kit package

Intel® Edge Insights for Vision (including Intel® Distribution of OpenVINO™ Toolkit)

Ubuntu Desktop

Linux kernel

AAEON UEFI BIOS

User Applications

AAEON EPIC-ADS7-PUC AI & Vision Solution

Connectivity

Intel® Edge Insights for Vision

AI & Robotics Core
Drivers:
Standard Linux Drivers

Software Included:

- Intel® Distribution of OpenVINO™ Toolkit
- Intel® Media SDK
- Intel® Deep Learning Boost (Intel® DL Boost)
- Docker
- RTSP server
- MQTT service
- TensorFlow Bridge
Drivers:
Standard Linux Drivers

Software Included (Middleware):
• ROS2 software stack
• Intel® Distribution of OpenVINO™ Toolkit
• Intel® oneAPI Base Toolkit
• Intel® RealSense™ GStreamer
Vertical Markets

**INDUSTRIAL AUTOMATION**
- Enables Massive Machine-Type Communication (mMTC)
- Ultra-Reliable Low Latency Communication with Enhanced Mobile Broadband (eMBB) via 5G

**Logistics**
- High computing and graphic capability with low power consumption, perfect for AMR
- Next-generation 5G enabled robotics achieving low latency and seamless solutions
- Workload Consolidation using advanced robotic applications

**Healthcare**
- Future of healthcare with 5G for remote patient monitoring and telemedicine appointments
- IoT with healthcare via wearable devices

**SUREVEILLANCE & VISION**
- 5G enabled for future Smart Homes and Cities
- Powerful CPU and GPU
- Improved applications in AR and 3D Vision performance engines with faster GPU
- OpenVINO™ for improved AI in Object/intrusion detection, and monitoring

**RETAIL**
- Faster and more efficient video analytics to leverage end user’s shopping capabilities
- 5G enabled low latency communication for Drone deliveries
- AI and IoT enabled for better logistical operations with automated gateways/kiosks

**Smart City**
- Future of smart city with 5G to connect all devices to enable orchestration among each connected device and bring disruptive application.
- 5G and AI enable new application such as drone or robots to bring new revenue stream.

**EPIC-ADS7-PUC**
Vision Applications: Defect Detection

Web cam
Cloud network
Vision Application: Smart Surveillance

1. Crowd Detection
2. Car Counting
3. Object Left Detection
4. License Plate Recognition

👍 Intelligence  👍 Surveillance  👍 Security

Network
For more information on AAEON EPIC-ADS7-PUC Developer Kit, please refer to the following links:

• Product landing page: https://up-board.org/epic-ads7-puc/
• Explore more details our products, visit: www.aaeon.com
• Send your additional questions to: Owenwei@aaeon.eu

Explore this page to find out more Developer Kits powered by 12th Generation Intel® Core™ Processors:
Spreading intelligence throughout a digital world
Thank you for watching!
Intel is committed to respecting human rights and avoiding complicity in human rights abuses. See Intel’s Global Human Rights Principles. Intel’s products and software are intended only to be used in applications that do not cause or contribute to a violation of an internationally recognized human right.

Intel technologies may require enabled hardware, software or service activation.

Intel does not control or audit third-party data. You should consult other sources to evaluate accuracy.

No product or component can be absolutely secure.

Your costs and results may vary.

© Intel Corporation. Intel, the Intel logo, and other Intel marks are trademarks of Intel Corporation or its subsidiaries. Other names and brands may be claimed as the property of others.
Intel Global Human Rights Principles

Human rights are the fundamental rights, freedoms, and standards of treatment to which all people are entitled. Respect for human rights is rooted in our values and applies wherever we do business. Intel’s Global Human Rights Principles (the “Policy”) formalizes Intel’s commitment to respect human rights and embodies common principles reflected in the United Nations (UN) Global Compact, the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights, core International Labour Organization Conventions, the Organization for Economic Co-operation and Development Guidelines for Multinational Enterprises, and the laws of the countries in which we operate. At Intel, we are committed to maintaining and improving systems and processes to avoid complicity in human rights violations related to our own operations, our supply chain, and our products. Intel has established an integrated approach to managing human rights across our business. In addition to board-level oversight and senior-level Management Review Committees, we have established a cross-functional human rights steering committee. Multiple teams across the organization are responsible for conducting due diligence and implementing policies and procedures to address our salient human rights risks and support our adherence to the policy.