



IRIDA LABS

Renesas Ready Ecosystem Partner Solution

Irida Labs Smart Cities Vision Sensor



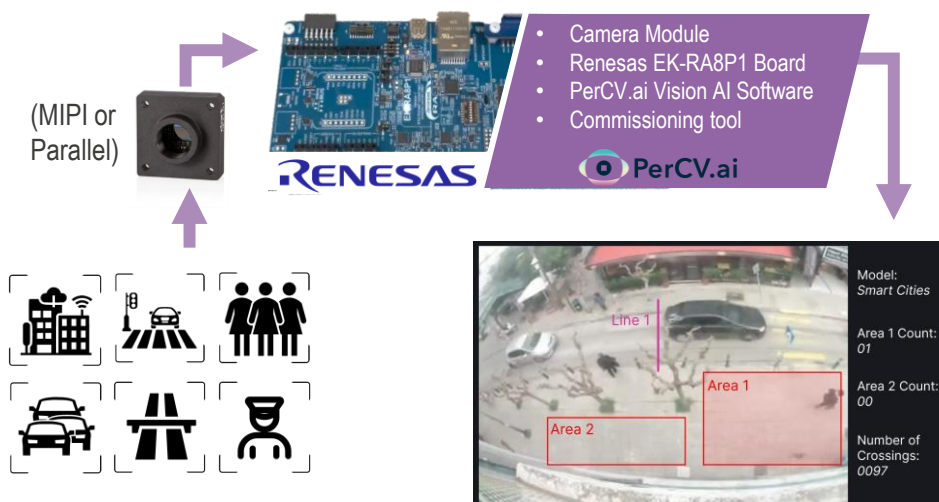
Solution Summary

Irida Labs' Smart Cities solution delivers Vision AI-powered traffic and pedestrian monitoring using computer vision on [Renesas RA8P1](#) platform. The solution leverages the Ethos-U55 custom accelerator to manage the AI workload for robust real-time vehicle and people analytics, while ensuring edge-based processing privacy. Cities benefit from reduced congestion, improved parking utilization, enhanced safety response, and significant cost savings versus traditional sensors. The solution integrates seamlessly with existing traffic infrastructure for cost-effective, scalable deployments.

Features/Benefits

- **AI-Powered Detection:** Real-time vehicle and pedestrian detection with advanced computer vision algorithms
- **Privacy-Preserving Edge Processing:** On-device AI inference with no cloud dependency, ensuring data privacy and low latency
- **Multi-Modal AI Analytics:** Traffic flow monitoring, people counting, curb management, and parking occupancy detection
- **Cost-Effective:** Reduce installation and operational costs compared to magnetic sensors or other algorithms
- **Energy Efficient:** Low-power design ensures operation with reduced energy consumption

Diagrams/Graphics



Target Markets and Applications

- Smart Cities

www.irdalabs.com/smart-cities-vision-sensor-ra8p1/

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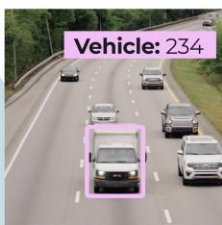
Powering Vision AI Sensors & Solutions

[Irida Labs](#) is a global leader in edge computer vision software, transforming cameras into intelligent AIoT sensors. Through our game-changer platform, [PerCV.ai](#) (pronounced "Perceive AI"), we empower organizations with Vision AI sensors and solutions that convert visual data into actionable metadata and streamline operations, enhance automation, improve efficiencies, and increase safety at scale.

We work with Fortune 500 companies and top innovators across diverse markets, from smart factories and logistics to smart buildings and city surveillance, providing intelligent, adaptable, and scalable Vision AI sensors and solutions worldwide.

Going beyond AI models, our unique approach delivers end-to-end, deployment-ready systems paired with a robust development infrastructure for quick time-to-market and future-proof scalability. Our mission is to make Vision AI accessible and impactful, empowering businesses to solve real-life challenges by transforming how cameras see the world.

PerCV.ai Smart Cities & Spaces Suite



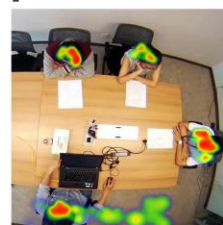
Traffic Analytics



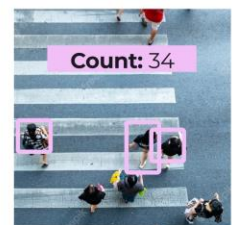
Smart Parking



Number Plate Recognition



People Counting & Heatmapping



Pedestrian Flow Monitoring

PerCV.ai Industry 4.0 Suite



Warehouse Monitoring



Packaging Quality Inspection



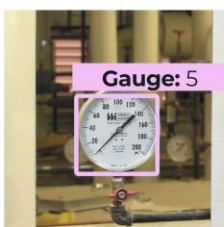
Product QR Scanning



People Presence Detection



Product Counting



Analogue Gauge Digitization



Vehicle Recognition



Personnel Safety PPE Monitoring

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