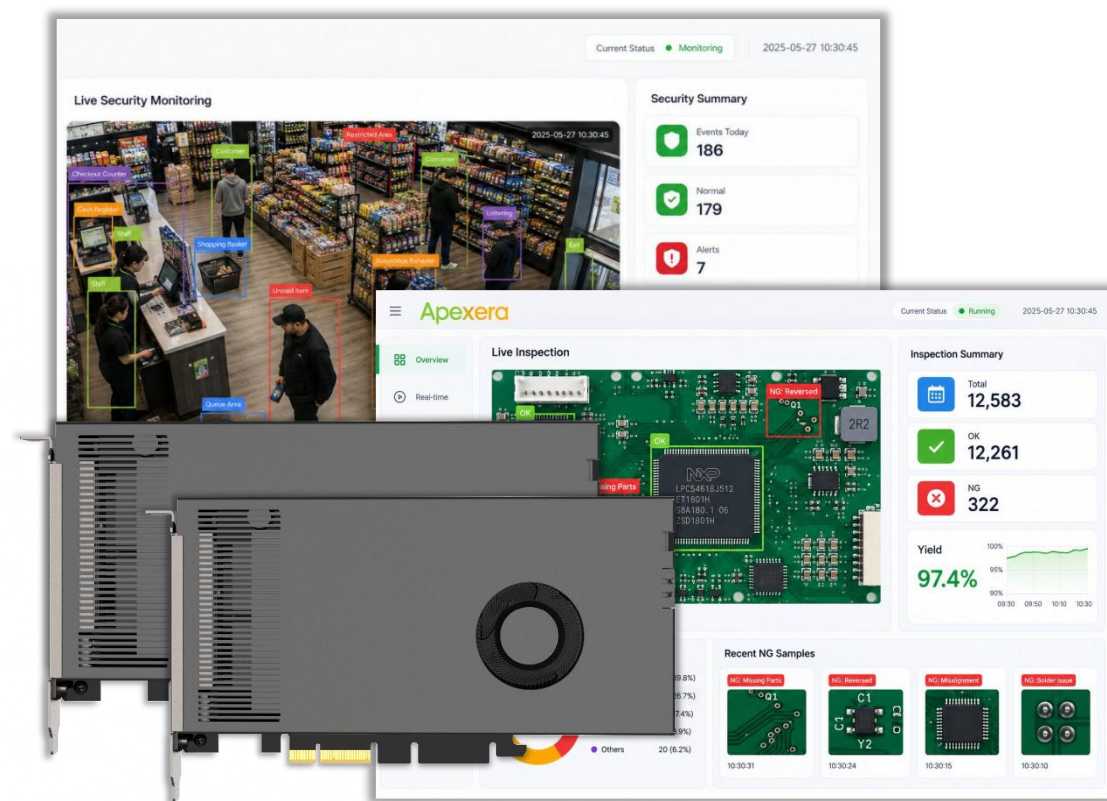


APEXERA

Edge AI Vision & Automation

Solutions & Product Guide

- Apexera Solution
- Apexera Card
- Apexera Vision
- Applications



Apexera Solution, From Vision to Action



Apexera delivers AI vision and automation solutions that make visual intelligence easier to build, deploy and put into action.

✓ Integrated Software & Hardware

Apexera Vision and edge AI hardware work together as one connected solution.

✓ Edge AI Processing

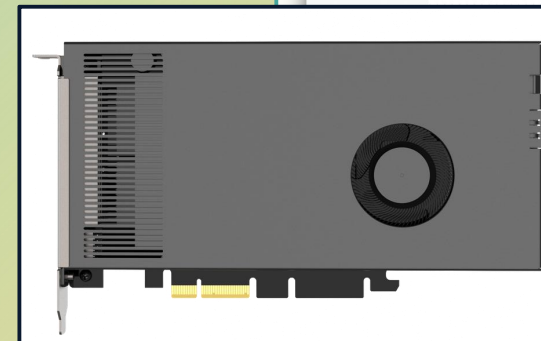
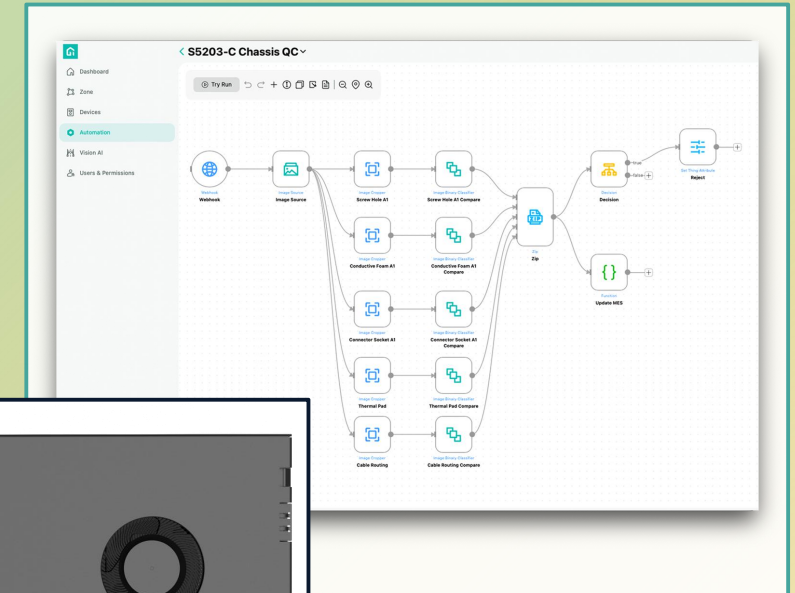
Process visual data closer to the source for responsive applications.

✓ Flexible Vision Automation

Build AI-powered vision workflows for inspection, monitoring, detection, verification, and more.

✓ Built for Deployment

Connect cameras, AI intelligence, workflows, and external systems in one deployment-ready architecture.



One Integrated Vision Stack



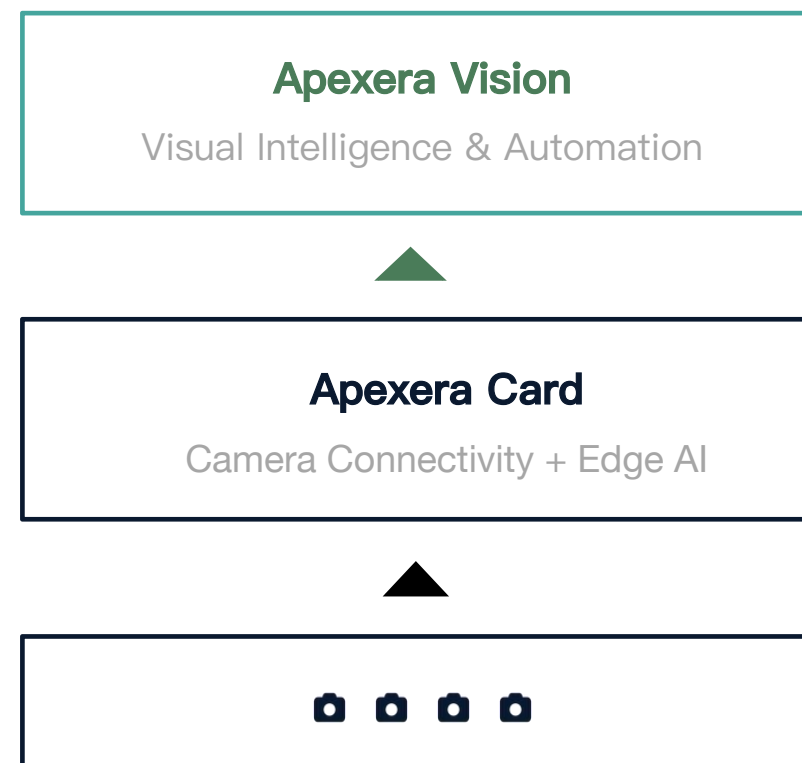
Apexera combines camera connectivity, edge AI acceleration and visual automation software into a flexible architecture. It helps reduce integration complexity, simplifies deployment and ongoing system management.

Vision Software: Apexera Vision

Build, deploy, and automate AI-powered vision workflows with minimal coding.

Edge AI Hardware: Apexera Card

Combine multi-camera connectivity and AI acceleration on a single PCIe card.



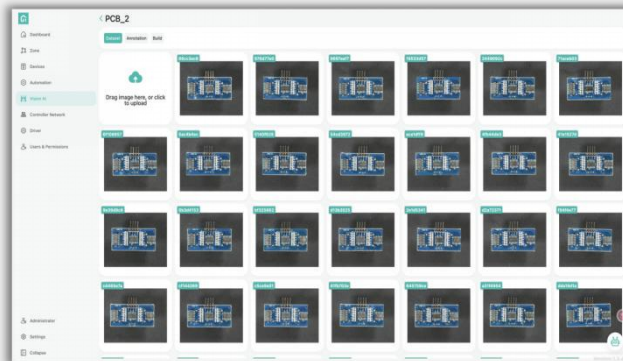
Apexera Product Ecosystem



Apexera Vision and Apexera Card-4PE bring software intelligence and edge AI computing together in a purpose-built product ecosystem for vision automation.

Apexera Vision

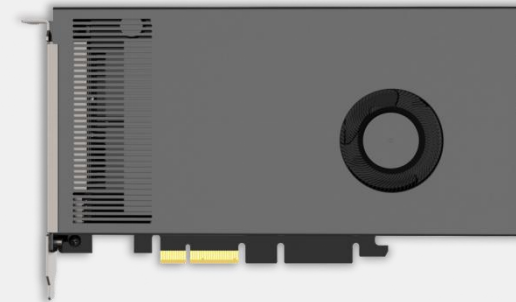
AI Vision & Automation Software



- Visual Workflow Creator
- Local Data and Model Management
- Few-shot Learning
- Text-to-Automation

Apexera Card-4PE

Edge AI Vision Hardware



- 4 × PoE+ Camera Connectivity
- Dual-NPU AI Acceleration
- Industrial-grade Design
- Secure Boot and A/B OTA support

Features of Our Solution



Feature	Traditional Machine Vision	Traditional Deep Learning	Manual Inspection	Apexera Solution
Implementation Difficulty	Requires professional programming	Requires expert team	Low	No programming required
Sample Requirement	Medium	Large volumes of labeled data	Few samples	Few to medium samples
Integration Complexity	High	Medium	No integration	Integrated software & hardware
Cost	High (hardware + development)	Highest (hardware + algorithms + ops)	High labor cost	Low
Hardware Requirement	High-performance CPU, high compute needs	High-end GPU, high hardware cost	No special hardware	Integrated hardware-software, on-board AI acceleration
Maintenance Difficulty	Medium	Highest	High	Low (integrated deployment)
Detection Speed	Fastest	Fast	Slowest	Fast
Accuracy	Relatively high	Highest	Low and inconsistent	High

From Pilot to Production Value



FASTER TIME TO DEPLOY

Reduce application development, model adaptation, and system integration effort to realize AI vision applications faster.

LOWER UPFRONT INVESTMENT

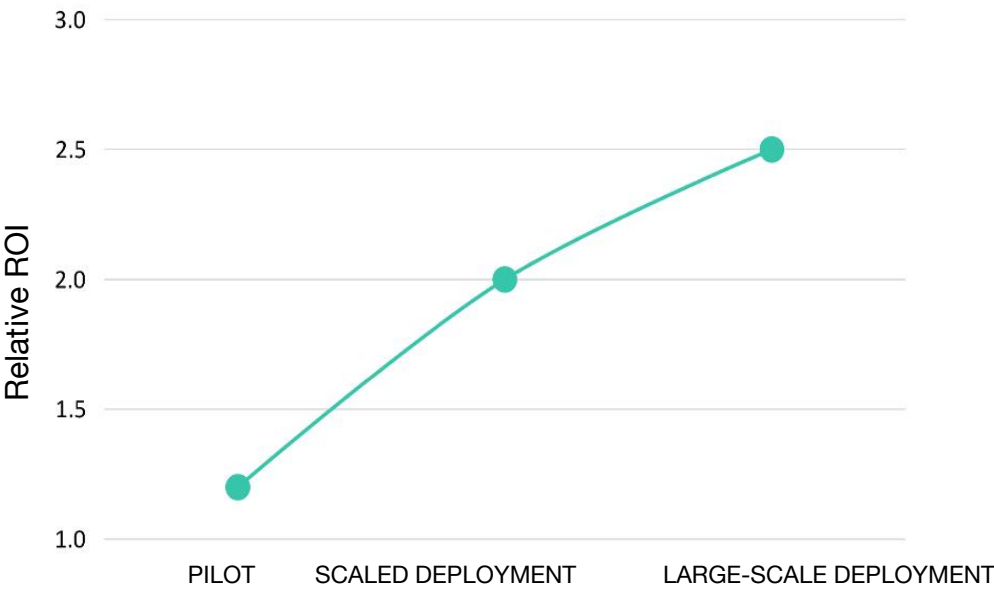
Integrate with existing cameras, computing infrastructure and automation systems, avoiding extensive hardware replacement and deployment costs.

LESS ENGINEERING EFFORT

Reduce repetitive coding, data preparation and reconfiguration through reusable workflows, pre-trained models and integrated AI tools.

METRIC	TRADITIONAL APPROACH	APEXERA SOLUTION	IMPROVEMENT
Labeling Effort	100%	10%	-90%
Commissioning Time	Weeks	Days	Much Shorter
Overall Yield	Baseline	+15%	+15%
Payback Period	18–24 Months	6–9 Months	~60% Shorter

ROI ACROSS DEPLOYMENT SCALE

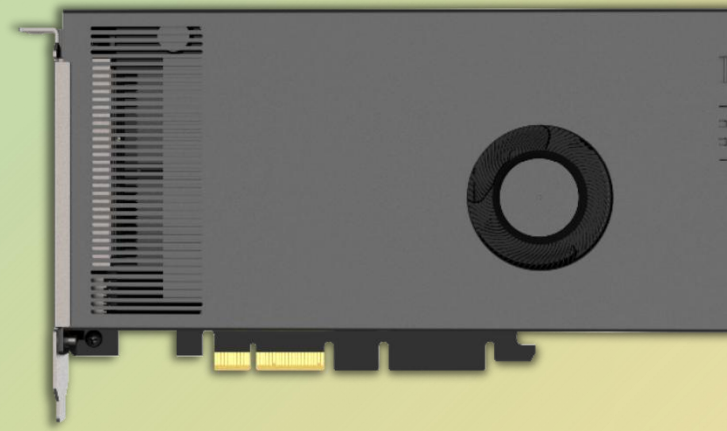


Apexera Card-4PE

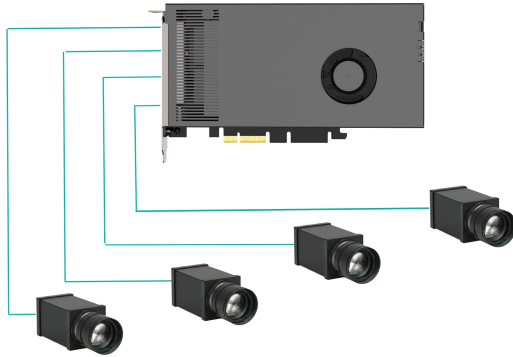
Apexera

Edge AI Vision on One Card.

An edge AI device combines image acquisition and AI inference on a PCIe card — eliminating the need for an external AI server and reducing latency from off-board data transfers.

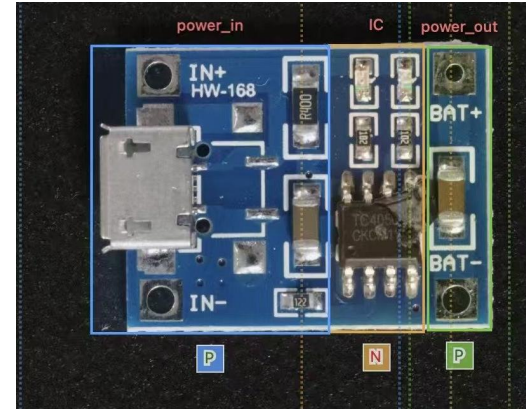


Key Capabilities



4-Camera Acquisition

Capture and process up to four GigE Vision camera streams simultaneously for multi-view and multi-station vision applications.



On-Card AI Inference

Run AI models directly on the card, reducing data transfers and the need for separate AI compute.

Fleet-Ready Security & OTA

Secure Boot, full-disk encryption, and A/B OTA updates support secure, reliable deployment and fleet management.

Industrial-Grade Reliability

Designed for continuous edge operation in demanding environments.

On-Card AI Performance



End-to-end measurements on production 4PE hardware. No marketing TOPS.

RESNET-50 v1.5 — INDUSTRY CNN BASELINE

7.59 ms	971	~8
P99 Latency	SPS Offline Throughput	Passes / Frame @ 4 Cams × 30 fps

FOUNDATION MODELS — FP16, NO QUANTIZATION

Model	Latency	Throughput
DINOv3-ViT-S/16 (224)	22 ms	290 fps
DINOv2-ViT-S/14 (224)	27 ms	268 fps
DINOv3-ViT-B/16 (224)	60 ms	114 fps

Vision-language and edge-RAG pipelines run on-card, with no cloud round-trip. Internal benchmark on production 4PE hardware — LoadGen v5.1, MLPerf Inference Edge methodology. CNN: INT8 w8a8. Foundation models: FP16. End-to-end measurements include PCIe, DMA, and host-side overhead. Not an MLCommons submission.

Technical Specifications

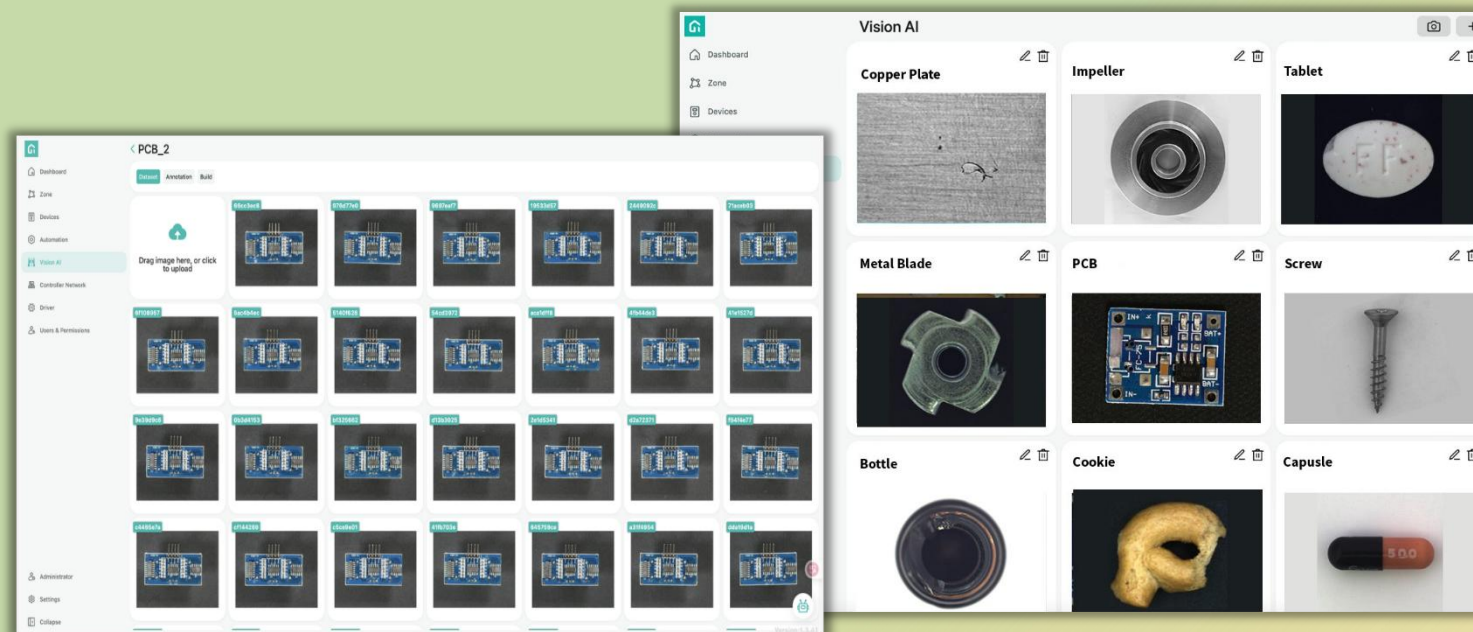
Product Model	Apexera Card-4PE		
Memory	8 GB	Serial Port	1 × RS-232, 1 × isolated RS-485
eMMC	64 GB	Software Platform	Apexera Vision platform (with deep learning)
Bus Interface	PCIe x4	Power Supply	12 V DC
PoE	4 × IEEE 802.3at PoE+ (25.5 W / port, 50 W total)	Dimensions	227.7 mm (W) × 111 mm (H)
Ethernet	4 × 2.5 G Ethernet	Temperature	Operating 0 ° C – 60 ° C Storage 0 ° C – 60 ° C
Supported Camera Type	GigE Vision cameras	Humidity	10% – 90% non-condensing
Supported Camera Number	4	Operating System	Windows, Linux
I/O Interface	1 × CAN · 1 × Gigabit Ethernet · 1 × USB 2.0 · 1 × USB Type-C · 1 × DisplayPort		

Apexera Vision



Easy-to-Use & Full-stack AI Vision Platform

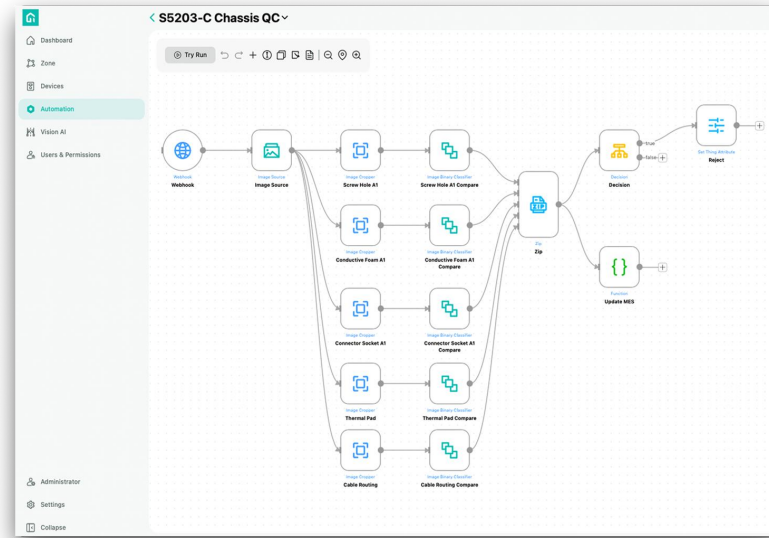
A unified AI vision software platform for building, deploying, and managing intelligent vision workflows with minimal coding. From model adaptation to workflow automation, Apexera Vision helps turn visual intelligence into practical, deployable applications.



Build AI Vision with Less Complexity

Minimal Coding

Configure common vision and automation tasks through reusable modules and visual tools instead of developing every function from scratch.



Drag-and-Drop Creator

Build vision applications by connecting reusable functional modules in an intuitive drag-and-drop workspace.

Text-to-Automation

Use natural-language to accelerate workflow creation, configuration, and iteration through AI Copilot.

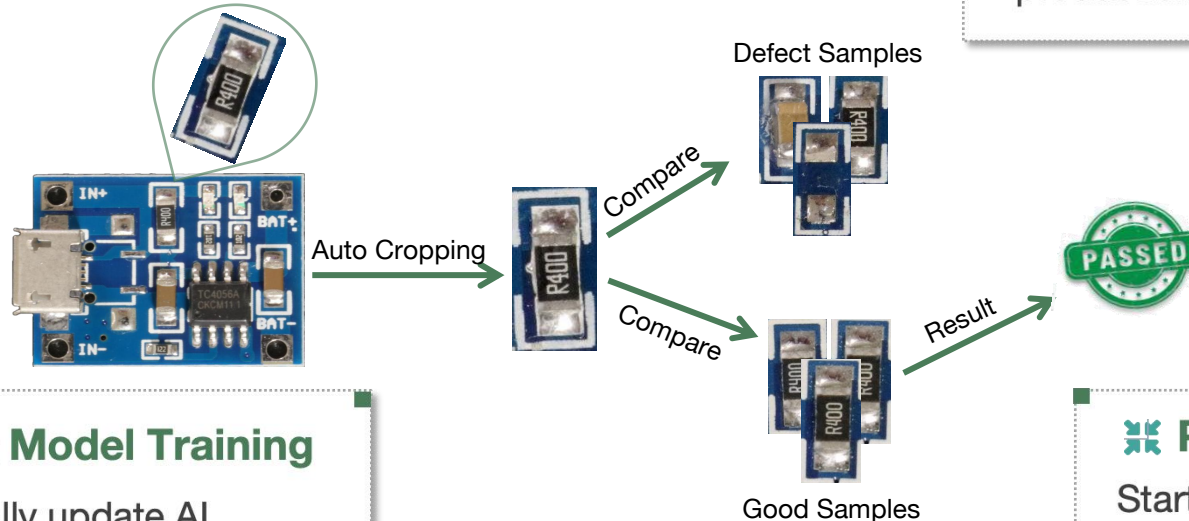
Faster Adaptation to Production

Few-shot Learning

Adapt models to new detection tasks with only a small set of samples, reducing data collection and labeling while enabling faster AI deployment.

Multi-SKU Changeover

Reusing existing model and configuration across products, a new SKU can be production-ready in days, enabling rapid changeovers in flexible, high-mix production.



In-production Model Training

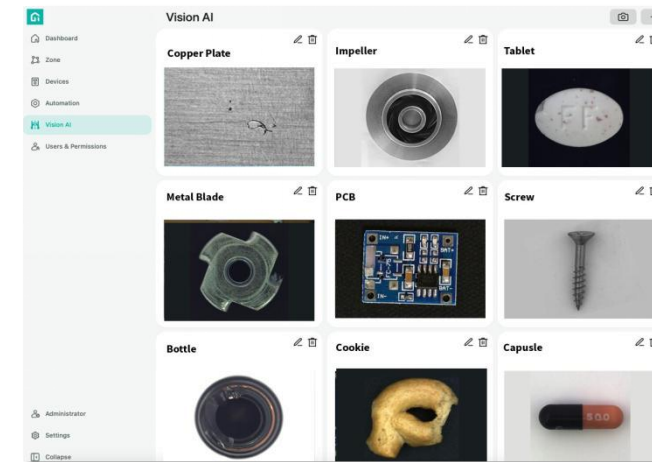
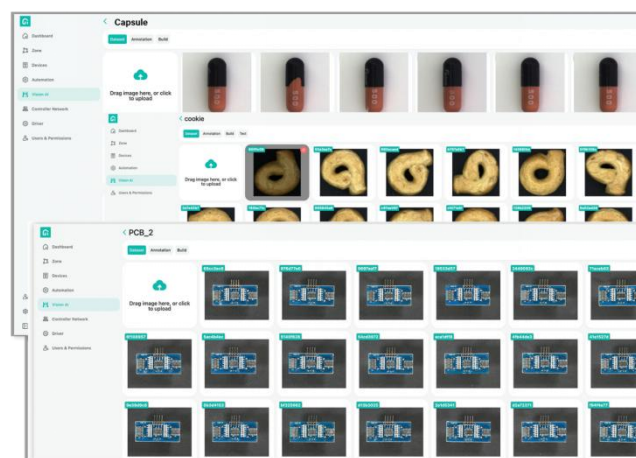
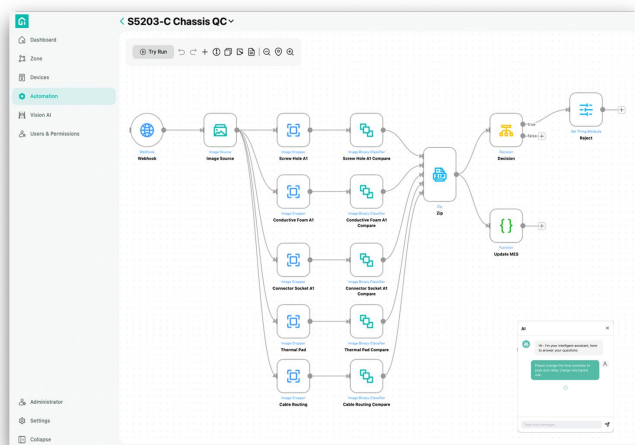
Train and incrementally update AI models during production using real production-line data, without interrupting ongoing operations.

Pre-Trained Vision Models

Start with pre-trained vision models instead of building from scratch, reducing the data and training effort required for new applications.

One Platform, From Model to Deployment

Apexera



Complete Automation Platform

Configure cameras, build inspection workflows, train and deploy AI models, run detection, process results, and refine applications—all within one integrated environment.

Local & Security Computing

Process vision data locally to keep sensitive production data within production environment. Supported hardware-level security capabilities against unauthorized access and tampering.

Scale Across Businesses

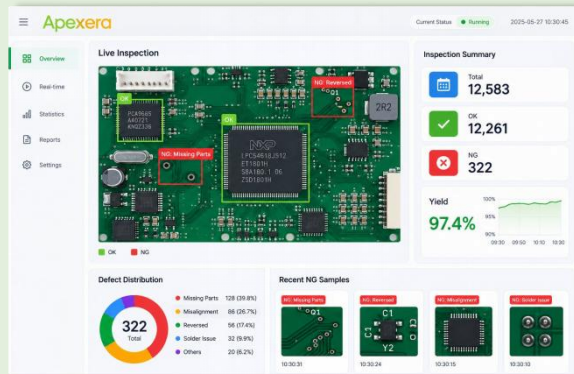
Deploy and manage AI vision applications across multiple products, stations and production lines, making it easier to scale from an initial application to broader production.

AI Vision Across Operations



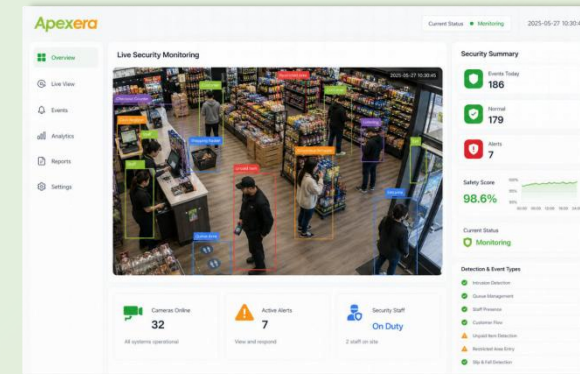
Apexera brings AI vision from visual detection to operational action across security, loss prevention, and industrial inspection applications.

Industrial Quality Inspection



Automate visual inspection with adaptable AI, helping manufacturers identify defects, maintain consistent quality, and adapt to changing production requirements.

Security & Loss Prevention



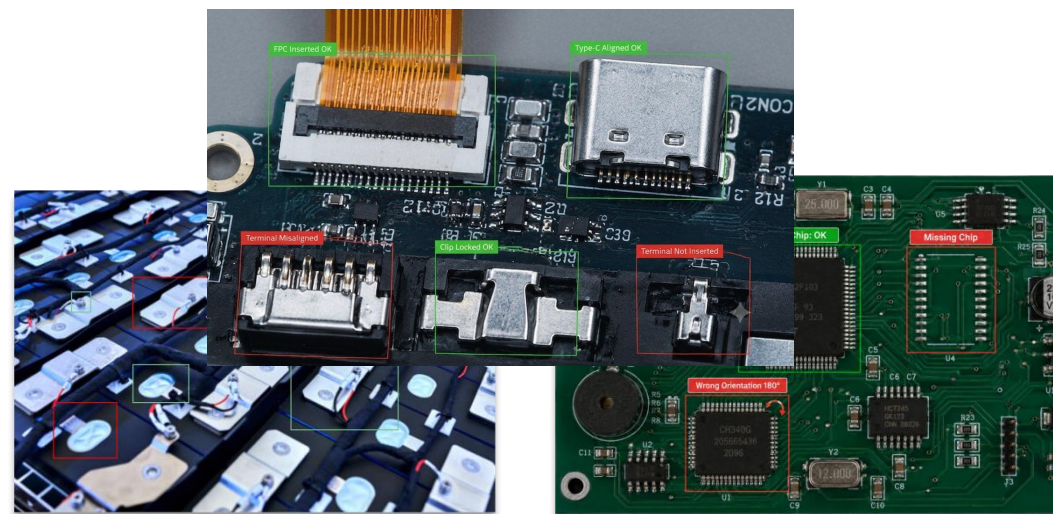
Use AI vision to identify events, behaviors and operational risks in real time, helping organizations reduce losses and respond more efficiently.

Improve Inspection Accuracy Without Slowing Production

Apexera delivers AI-powered visual inspection that keeps pace with production while adapting quickly to changing products and inspection needs— with less engineering effort, simpler system integration and minimal infrastructure changes.

Built for:

- ✓ High-Mix Production
- ✓ Multi-View Inspection
- ✓ High-Speed Inline Inspection
- ✓ Frequent Product Changeovers
- ✓ Existing Line Upgrades
- ✓ Smart Factory Automation



Industries:



Automotive



Semiconductor



Pharmaceutical



New Energy



Electronics



Food & Beverage

Common Inspection Tasks:

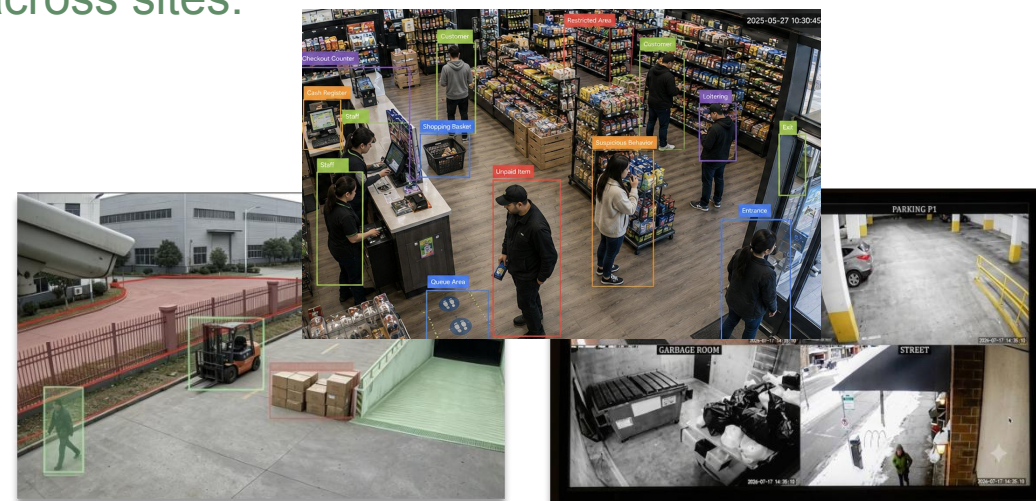
- Defect Detection
- Assembly Verification
- OCR & Text Recognition
- Foreign Object Detection
- Presence / Absence
- Alignment Check
- Industrial Quality Inspection

Deploy AI Vision On Your Current Camera Infrastructure

Apexera adds AI-powered video analytics to existing camera infrastructure. Transform passive monitoring into proactive detection and response—with earlier risk identification, less monitoring workload, greater value from existing infrastructure and extend AI capabilities across sites.

Built for:

- ✓ Security Environments
- ✓ Existing Camera Systems
- ✓ Multi-Camera Environments
- ✓ 24/7 Video Monitoring
- ✓ Distributed Locations
- ✓ Current System Upgrades



Industries:



Retail



Logistics



Commercial Facilities



Bank



Warehouse



Manufacturing

Common Detection Tasks:

- Unauthorized Access
- Person & Object Detection
- Loitering Detection
- Asset / Item Monitoring
- Predefined Event Detection
- Intrusion Detection

• **Security & Loss Prevention**



www.apexera.com

sales@apexera.com

Apexera develops edge AI vision and automation solutions for industrial and operational environments. Whether you're upgrading existing cameras, automating quality inspection, or scaling AI vision across production, we help you move from project needs to deployment.