LANTRONIX
Embedded Compute Battlecard for Video Surveillance

What is Compute for Surveillance?

Embedded Compute in surveillance refers to the **hardware and software intelligence** inside cameras, NVRs, or edge devices that allows them to **process video in real-time**, without always relying on cloud or centralized servers. This includes:

- Edge AI for object/face/behavior detection
- Video encoding/decoding, On-device analytics and decision-making
- Real-time inference across multiple camera streams
- Secure data processing and transmission

By processing data at the edge (close to where it's captured), surveillance systems can reduce latency, lower network loads, ensure privacy, and provide faster, actionable insights.

Elevator Pitch

Lantronix delivers intelligent, power-efficient embedded compute platforms purpose-built for next-generation surveillance. With real-time multi-camera processing, on-device AI analytics, and secure, low-power operation, our solutions enable OEMs, system integrators, and AI developers to build scalable, always-on surveillance systems that work in any environment — from smart cities to industrial sites, transit systems to critical infrastructure. **Seamlessly integrated, always secure, and built to last - Lantronix powers the future of video intelligence at the edge.**

Spotting Opportunities for Embedded Compute in Surveillance

Customer Benefits

Performance I Traditional CPUs struggle with real-time video analytics. Qualcomm-based SOMs are optimized for the AI performance and ISP integration needed for multi-camera, high-resolution surveillance at the edge.

Integration Complexity I Eliminate the complexity of working directly with Qualcomm—Lantronix handles system integration, so customers don't have to.

Expert-Level Software Support I Benefit from Lantronix's extensive experience in device driver development, ensuring seamless operation and faster time-to-market.

Time to Market I Long lead times for chip-down designs, so we provide pre-certified and production-ready SOMs.

Security & Compliance I Regulatory & security constraints operate NDAA/TAA compliant SOMs with secure frameworks.

Who to Speak with

- CEOs & Business Leaders (Smart Surveillance, Smart Cities)
- Product Managers (OEMs/ODMs)
- R&D Heads for Smart Home Devices
- Security & Surveillance Directors
- System Integrators
- Government/Defense Contractors
- AI Developers & Analytics Partners

Market Verticals

- Security & Surveillance
- Smart Cities & Infrastructure
- Smart Homes
- Critical Infrastructure Industrial Safety Monitoring
- Transportation (Airports, Subways, Buses)
- Commercial

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Why Lantronix for Embedded Compute in Video Surveillance?

Lantronix simplifies Qualcomm-based development, bridging complex compute and ISP integration so customers can focus on their solutions—not SoC challenges. With proven expertise and a production-ready Smart Edge AI Box and SOMs we deliver faster time-to-market, lower costs, and scalable edge AI deployments.

- **High-Density Video Processing:** Ingests 16+ camera streams with low-latency inference, delivering edge analytics without overloading the network.
- **Qualcomm ISP Advantage:** Superior low-light and HDR imaging with built-in ISP integration for all lighting conditions.
- **Low-SWaP Edge Designs:** Modules optimized for mobile-first efficiency deliver 24/7 performance in compact, fanless designs with sub-20W consumption.
- **Seamless AI Deployment:** Integrated with Edge Impulse & SmartEdge.ai for fast, secure model updates and scaling.
- **Longevity & Reliability:** Backed by Qualcomm's 10+ year support program, ensuring stable, long-lasting surveillance solutions.

New Opportunity Drivers

Look out for these signals that may indicate a strong fit for Lantronix Embedded Compute Solutions for Surveillance:

- OEMs and integrators need edge AI compute for facial recognition, LPR, and real-time analytics.
- Need for high performance at the edge (AI, video)
- Frustration with chip-down design delays or complexity
- AI software teams, Developers seeking compact, power-efficient SOMs that support high compute performance in constrained drone form factors
- Projects requiring tight integration with multiple sensors, HD cameras, and communication module

Lantronix Engineering Design Services

- **End-to-End Expertise** – From concept to production: HW, BSP, middleware, applications, and cloud integration
- **Joint Design Model (JDM)** – Flexible co-design engagement enabling faster time-to-market and optimized custom solutions
- **Proven Track Record** – 20+ years with Qualcomm, 2000+ successful projects delivered
- **Custom Compute & AI-Ready Designs** – Tailored SOM + carrier board platforms designed for high-performance, AI-ready applications
- **Smart Edge AI Box Integration** – Drop-in Lantronix SmartEdge unit with SOM for secure, low-latency camera analytics without rip-and-replace

Product Portfolio

Lantronix leverages Qualcomm's strategy across enterprise and industrial markets, engaging where value aligns with our tactical focus. Lantronix offers 4 different performance tiers, including Premium, High, Mid and Value, which will target a diverse range of smart IoT markets, including Video surveillance, wearables, edge computing, drones, robotics, industrial automation, and public safety **(for full details, see product briefs)**

Performance Tier	Enterprise	Industrial
Premium	8550	IQ9
High	8250 / 6490	IQ8
Mid	610	5165 / 7230 / IQ6
Value	4290 / 2290	4210 / 2210

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Product Portfolio (for full details, see product briefs)

Images		
SOM	Open-Q 8550CS	Open-Q 6490CS
Specifications	Weight: 15 grams Connectivity: Up to Wi-Fi 7 NPU: Dual eNPU V3, 4x HVX, HMX, 48 INT8, 12 FP16 TOPs Video: Video encode up to 4K120/8K30, support native H.265 Main 10, H.265, H.264 Camera: 8x MIPI CSI (D-PHY and C-PHY)	Weight: 10 grams Connectivity: Up to Wi-Fi 6E NPU: 12.5 TOPs Video: Video encode up to 4K30. Native encode for H.265/H.265 Camera: 5x MIPI CSI (D-PHY and C-PHY)
Software Support	Yocto Linux	Qualcomm Linux
Lantronix Products Application	Premium-performance SOM featuring Qualcomm 8th generation AI engine, 8K encoding, sensor fusion, and multi-cameras.	Cost-effective and low power, ideal for controllers with FHD+ display resolution and broad connectivity options.