intel.

Soterix Systems Nex**ai**Q and AI Suite for Visual Analytics redefining Video Intelligence from Edge to Cloud

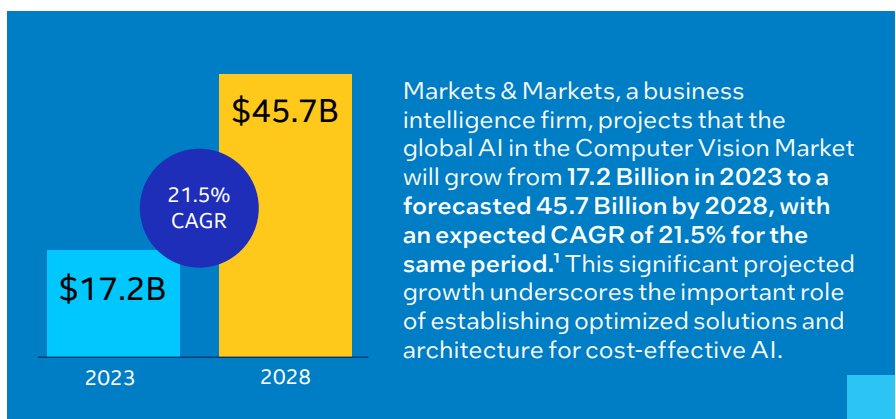## Delivering Valuable Insights to Enhance Security and Operational Efficiency

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Nex**ai**Q Benefits:

- **Operational Insights:** Using Deep Learning AI analytics to transform video and IoT sensor technologies into actionable intelligence, enabling easy operationalization of data and actions across diverse verticals beyond just security.

- **Cost-Effective Solutions:** Minimize expenses while maximizing the value of existing investments.

- **Enhance Security:** Stringent data protection and compliance.

- **Improve ROI:** Use high-performance, cost-effective hardware for AI video analytics and management.

- **Increase Precision:** Minimize false positives with continual AI learning and advanced pattern recognition.

- **Scalability:** Enables easy scaling of resources to accommodate growth.

- **Seamless integration & deployment:** Achieved across the deployment, backend, interface, and edge devices.

- **Flexible Deployment Options:** Supports hybrid, public, and private edge-to-cloud deployments to meet your business needs.

AI Innovation for a Rapidly Evolving Edge to Cloud Landscape

As urban areas and critical infrastructure evolve, maintaining safe and secure public and private spaces remains a top priority for city officials but is an increasingly complex goal. At the same time, rapid technological changes in artificial intelligence (AI), edge computing, and edge-to-cloud architecture offer exciting possibilities and new challenges for buyers when selecting and implementing solutions.

While cloud services are gaining popularity, there is still a clear value proposition for edge or on-premise system architecture for real-time computer vision (AI applied to video) use cases, which require low-latency performance and cost-effective bandwidth management. But traditional approaches to managing video, storage, and AI workloads are typically not flexible enough to handle high performance edge to cloud deployments. An enormous opportunity exists for innovative companies to create high-performance computer vision solutions that leverage a hybrid (edge-to-cloud) architecture to shape a safe future for both smart cities and enterprises.

$45.7B

21.5% CAGR

$17.2B

2023   2028

Markets & Markets, a business intelligence firm, projects that the global AI in the Computer Vision Market will grow from **17.2 Billion in 2023 to a forecasted 45.7 Billion by 2028, with an expected CAGR of 21.5% for the same period.**[1] This significant projected growth underscores the important role of establishing optimized solutions and architecture for cost-effective AI.

Edge to Cloud AI Solution

The Soterix Systems team, with decades of experience in video analytics, designed the Nex**ai**Q platform to solve these edge-to-cloud challenges. The Nex**ai**Q platform empowers businesses by integrating True AI in its solution design. With this platform, Soterix helps companies transition from reactive to proactive operational intelligence and management across operations, manufacturing, marketing, and more. The benefits of True AI – actionable insights – are created from advanced learning patterns that improve continually.
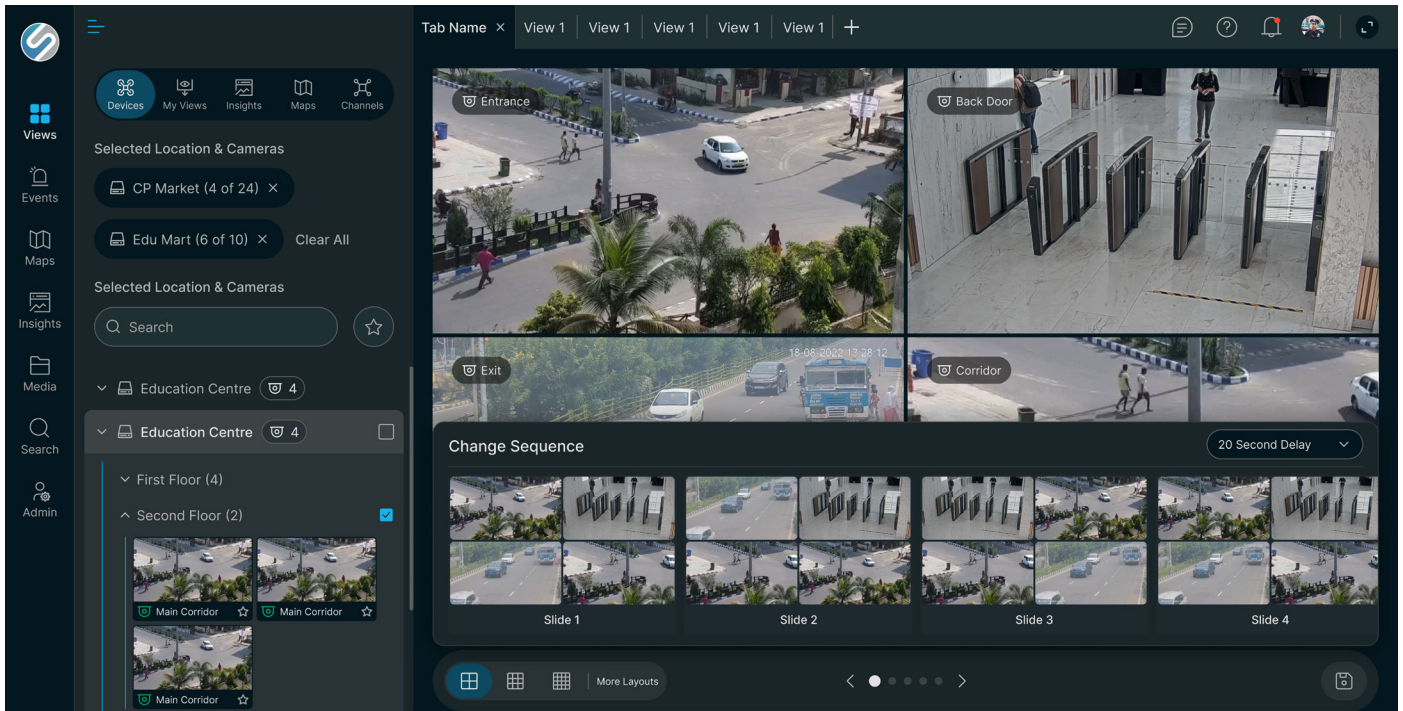
Figure 1. Soterix Systems Nex**ai**Q Dashboard View

Nex**ai**Q uniquely transforms the use of AI by automatically learning patterns in video-captured scenes to nearly eliminate false positives. This improves recognition accuracy across drastically different environmental and lighting conditions. Additionally, it distinguishes between moving or nonmoving animate and inanimate objects. It offers a set of advanced AI analytics such as facial recognition, license plate recognition (LPR), and detection of aggression behaviors, smoke and fire signals, and many other activities. Advanced people recognition and vehicle attribution search enable users to perform investigative searches fast and more accurately.

NexaiQ: True AI Platform Features

Intrusion Detection ▪ Attribute Search ▪ Crowd Formation Detection & Estimation
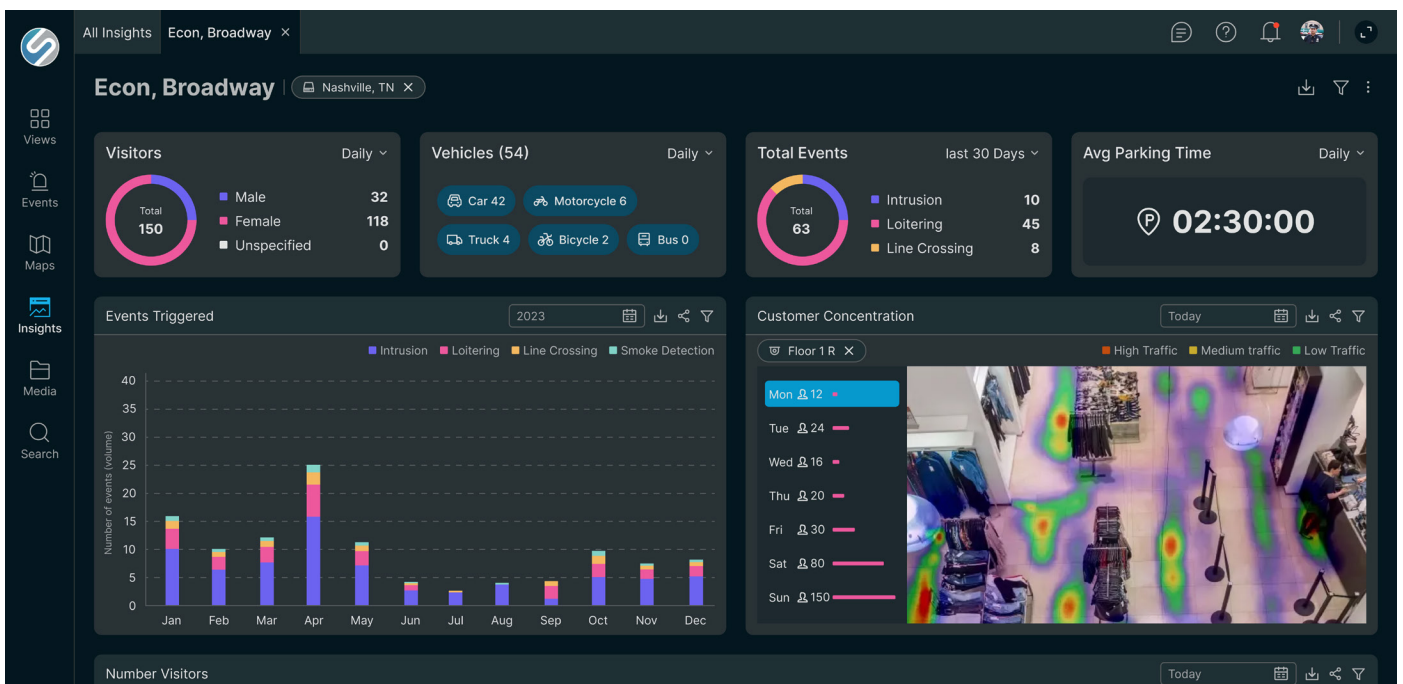Object Classification & Count ▪ Fire & Smoke Detection ▪ ANPR (Only LPR Capture, OCR & Suspected Vehicle)

Figure 2. Soterix Systems Nex**ai**Q Insights View

A better together story: Soterix Systems NexaiQ platform and AI Suite for Visual Analytics

The Soterix team collaborated with Intel to bring an industry-leading portfolio of edge-to-cloud NexaiQ servers and services to market. To optimize Soterix Systems' AI pipeline development and AI inference performance, Intel introduced the AI Suite for Visual Analytics, including the Intel® Distribution of OpenVINO™ toolkit. AI Suite for Visual Analytics enables Soterix Systems to easily and securely create complete solutions for different-size deployments and edge-to-cloud architectures while helping to simplify processing vast amounts of video and data for actionable insights and business intelligence.

As part of the engagement, Intel made product recommendations to meet Soterix Systems' performance requirements and business goals, including Intel® Core™ processors (with integrated GPU, or iGPU) and Intel® Xeon® processors. In addition, Intel identified opportunities to optimize existing system designs by leveraging processor capabilities and OpenVINO™ features.

Through its collaboration with Intel and its innovatively architected edge AI platforms, Soterix Systems can deploy its leading AI analytics more cost-effectively than ever.

NexaiQ Generates Actionable Insights to Drive Efficiency and Automated Decision-Making

NexaiQ uses advanced AI to create better-informed decision-making and access to key business information.

- **Customized Dashboards:** Tailor visualization of data and metrics for specific use cases and industries.
- **Intelligent Search:** Increase operational efficiency and reduce incident time with advanced search capabilities.
- **Real-Time Alerts and Notifications:** Gain immediate information for critical events or identified trends.
- **User-Friendly Reports:** View easy-to-understand reports customized for different stakeholders.
- **Interactive Smart Maps:** Choose from a wide array of smart maps to proactively understand security threats or drive business intelligence.
- **Historical Data Analysis:** Identify trends over time for strategic planning.
- **Integration with Other Data Sources:** Combine video analytics with other data for a holistic view.
- **Exportable Data:** Export insights and reports for further analysis or presentation.
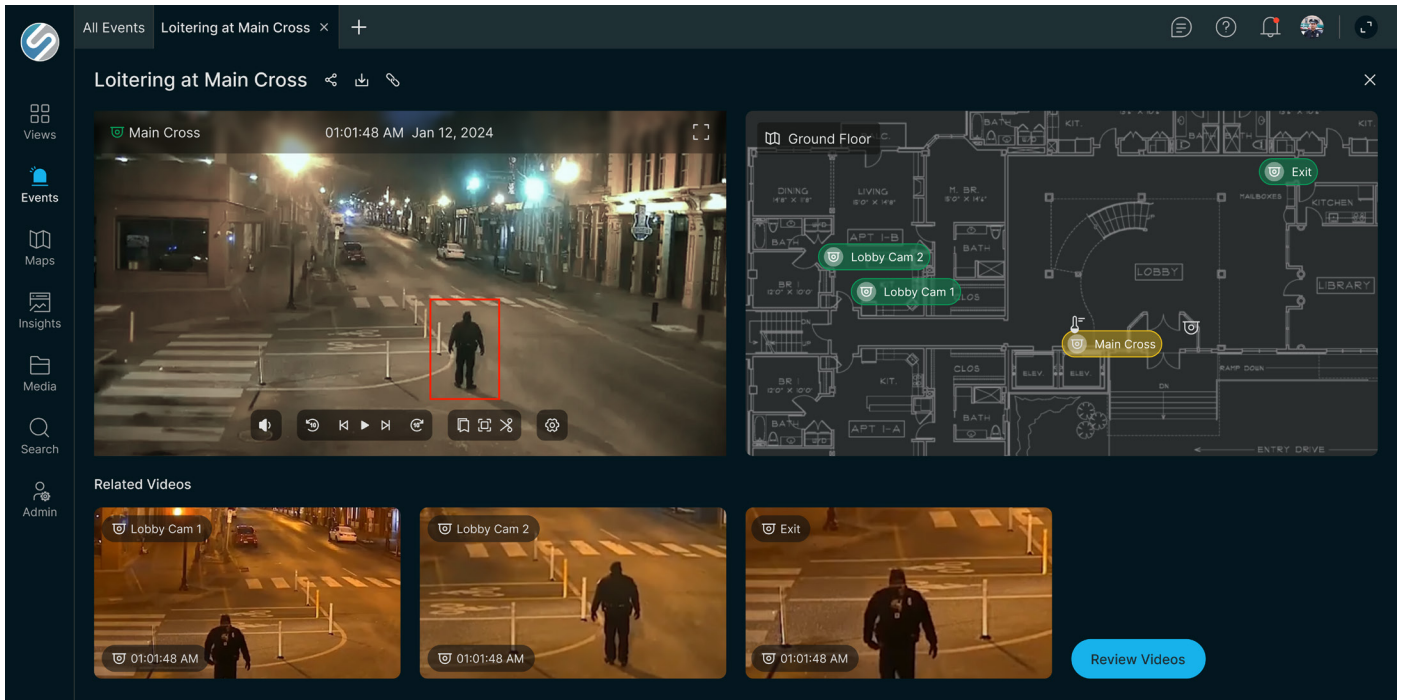

Figure 3. Soterix Systems NexaiQ Event Map and Related Cameras View

Soterix Systems and the NexaiQ Platform

Soterix Systems and its NexaiQ platform are driving the departure from traditional pixel processing and threshold-based video analytics often found in today's market to a future-ready end-to-end edge-to-cloud solution. Hundreds of proven use cases give businesses and governments actionable insights and improved decision-making.

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AI Suite for Visual Analytics

AI Suite for Visual Analytics includes prequalified partner hardware, software toolkit, application framework, and a market ready ecosystem to easily design, develop, and scale solutions. The suite can be used across domains to run video processing and AI inferencing on a single platform. It works with industry-leading AI models and common video analytics workloads while leveraging hardware-driven security to protect systems and data. This foundation helps solution providers and customers quickly deploy AI for use cases in smart cities and transportation.

AI Suite for Visual Analytics delivers pre-configured, prequalified solutions to accelerate the journey toward edge AI. With AI Suite for Visual Analytics, organizations can streamline operations, achieve pricing competitiveness, and enhance innovation while meeting stringent real-world needs. Due to its hybrid AI capabilities, the solution unlocks new opportunities and use cases across industries.

- **Optimized performance:** Accelerates inference and hardware utilization to help build performant and efficient AI applications.
- **Modular, Scalable, and Cost-effective:** Minimizes investment needed to adopt AI at the edge by gaining access to pre-validated software and benchmarked hardware.
- **Streamlined deployment**: Saves time and maximizes productivity by streamlining AI development and deployment.
- **Versatile:** Can be applied for different requirements and use cases to meet current and future needs.

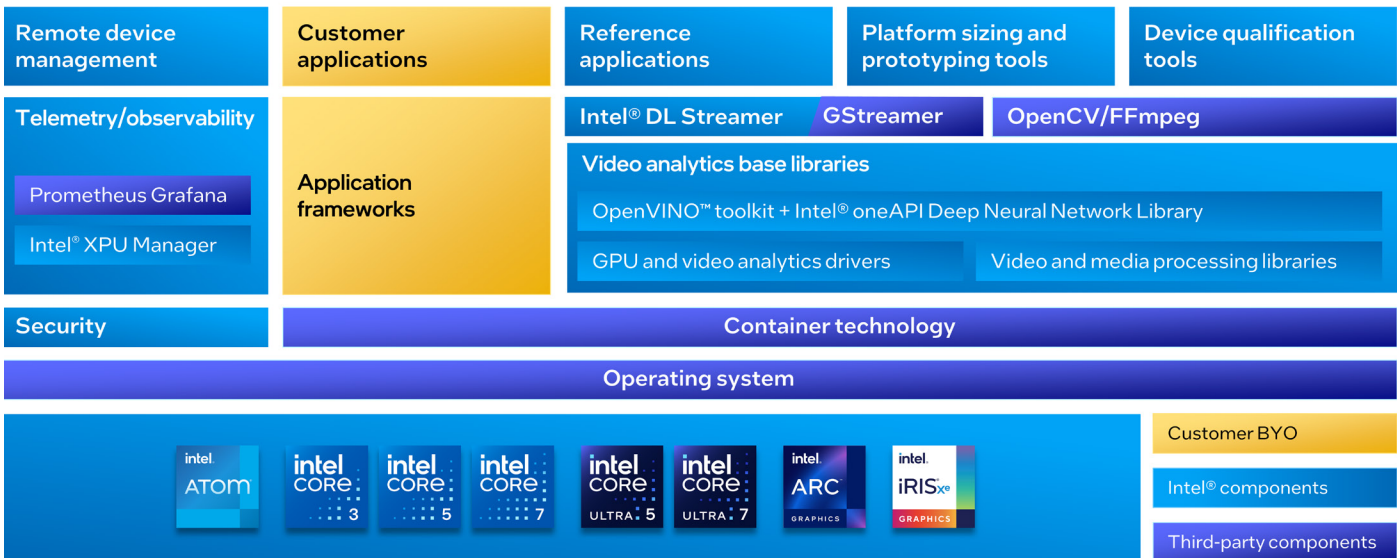**Figure 4.** AI Suite for Visual Analytics Architecture

Get started today with AI Suite for Visual Analytics and Soterix Systems NexaiQ Platform

https://networkbuilders.intel.com
www.soterixsystems.com

[1]https://www.marketsandmarkets.com/Market-Reports/ai-in-computer-vision-market-141658064.html