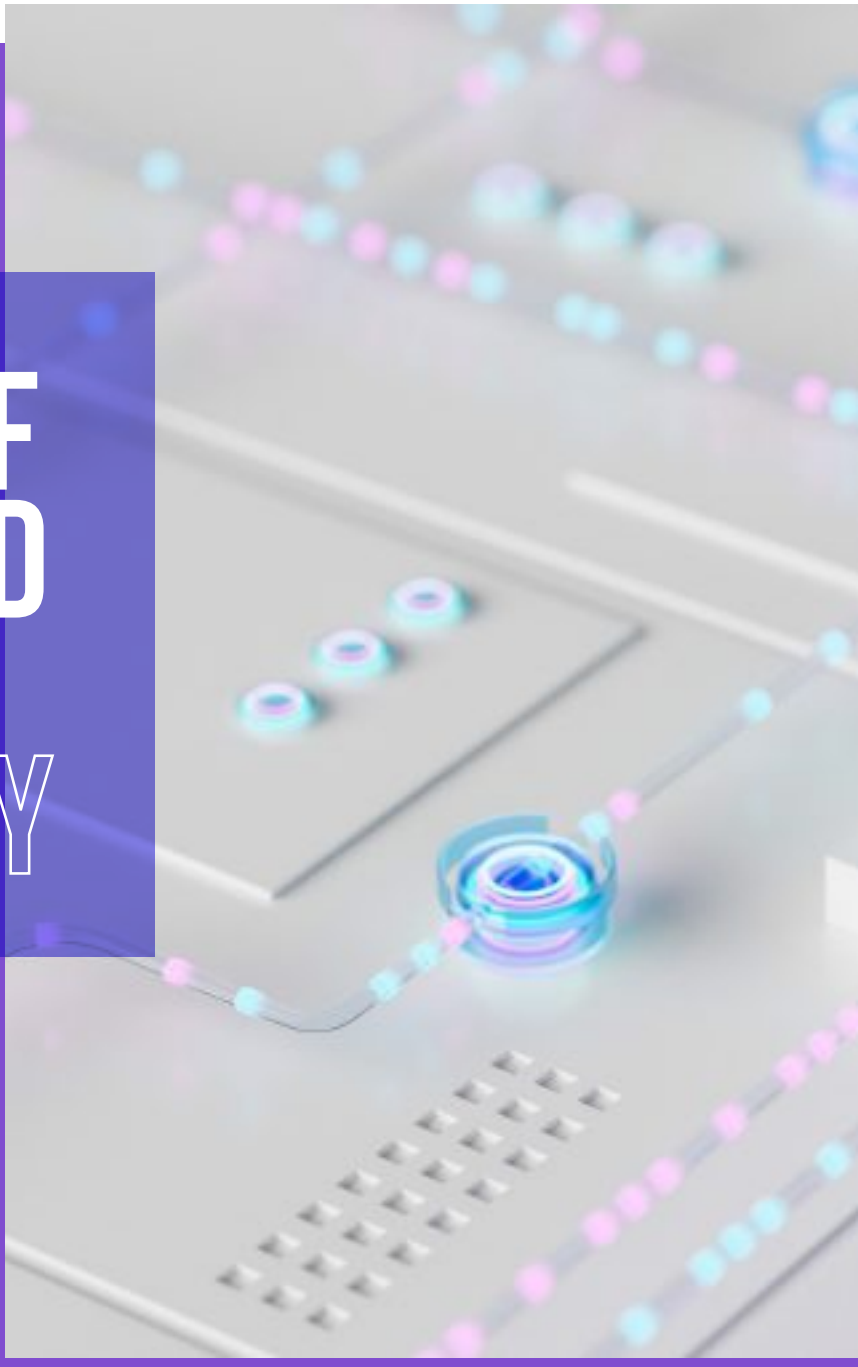
THE RISE OF AI-ENABLED ANALYTICS IN SECURITY



Kasia Hanson, Global Senior Director, Security Ecosystem Development and Partnerships at Intel analyzes the journey to using advanced AI

It's been a few weeks since ISC West and as I reflect on the event, I recall how it was filled with excitement, transformative discussions and productive networking. AI and its impact on security was a central topic in most conversations. AI is a journey – not a destination – so each company I spoke with was at a different point on their own path of AI discovery. I foresee that more education, industry collaboration, solutions and ecosystem development are needed to usher in more advanced capabilities. I'm eager to see how AI-enabled analytics will revolutionize the industry, shifting from physical security to "security and business intelligence at the edge".

Technology and progress

In this AI journey, we know there is no "one size" that fits all. AI is complex with a rapidly growing number of methods, capabilities, data types and sizes and infrastructure requirements. Operationalizing AI can take time and many steps, processes and skill sets, and keeping data secure and compliant is paramount. Ensuring AI technology advances responsibly, ethically and equitably with a

> "AI-ENABLED ANALYTICS WILL OFFER NEW WAYS FOR SECURITY PRACTITIONERS TO LEVERAGE THEIR CURRENT INFRASTRUCTURE."

comprehensive approach that lowers risks, improves lives and optimizes benefits is critical as the technology matures.

The software landscape around AI is evolving rapidly. Traditional security analytics are now being enhanced to bring actionable insights and business outcomes across multiple verticals. These models require both training and inference. Edge inference allows data to be processed quickly near its source and by 2026, AI is expected to be a key component in half of all edge deployments.

Edge AI focuses on inference and the customization of pre-trained models for immediate impact, making the preparation for advanced analytics at the edge crucial. It involves utilizing machine learning models on local or edge devices to make real-time decisions without relying on cloud computing. Deploying edge AI demands robust infrastructure, as "rip and replace" is not always feasible. Legacy equipment poses a significant challenge, creating a complex mix of disconnected systems that do not communicate or interoperate with modern ▸

Collaboration is key

Intel has long collaborated with the software ecosystem to develop innovative software solutions optimized on Intel-based edge and server CPUs, Intel GPU and open software to bring choice and cost-effective solutions to the market. Recent examples include:

We partnered with WaitTime to optimize their precise crowd analytics platform for crowd movement and behaviors that enable large venues such as stadiums, malls and entertainment centers to better allocate staffing.

Intel® SceneScape, a software platform that goes beyond vision-based AI to achieve spatial awareness from sensor data, transforms sensor data into live updates for a 4D digital twin of physical spaces. Intel Scenescape is compatible with your existing sensors to avoid vendor lock-in so you can monitor your space, your way with multi-sensor tracking that stands up to harsh environments and no central connectivity needed.

Epic.io's Deep Insights platform, optimized on Intel hardware and open-source software tools for the edge, includes out-of-the-box AI, internet of things (IoT) sensors and cameras, with the flexibility to add devices as needed without the need for expensive GPUs. It provides customized rules, notifications, integrations, predicted outcomes and analytic dashboards that highlight patterns and trends.

software. Addressing cybersecurity concerns is essential and requires a blend of solutions to ensure effective and secure operations.

These challenges have led to significant fragmentation in edge solutions, creating a complex multi-vendor ecosystem. Overcoming these obstacles is crucial to leveraging edge intelligence effectively as AI advances.

Cutting-edge

The capabilities of edge AI are poised to expand far beyond current expectations. Five years ago, training at the edge was costly and difficult, but today, models can be trained and inferred at the edge, resulting in quicker data insights at a lower cost. During ISC West, Intel Geti was awarded the New Product Showcase award for Analytics. The solution is a software platform for building computer vision models in a fraction of the time and with less data. The platform eases laborious data labeling, model training and optimization tasks across the AI model development process and enables the creation of models in a matter of days.

Omdia predicts that security professionals will deploy over 346 million cameras worldwide (excluding China) by 2026. Each camera can act as a sensor input for an AI solution. It is estimated that 90% of camera data becomes unusable if not processed in real-time. Advanced analytics and AI can transform these insights into valuable intelligence, driving proactive and predictive capabilities, improved anomaly detection, enhanced access control, response optimization, automated workload capabilities and scene intelligence.

In addition, Omdia predicts that as cameras become more affordable and the benefits of AI-enabled analytics become more widely known, the installed base is forecast to increase at a double-digit growth rate. The transition away from analog cameras with the associated replacement opportunity is also driving market growth.

Software plays an important role in the development and deployment of AI-enabled analytics. Historically, software development cycles were long and expensive. Today, software development cycles are significantly reduced – i.e., one year to several weeks – and the cost has stabilized. According to Markets and Markets, the global vision AI market is expected to exceed $45 billion by 2028.

> **SOFTWARE PLAYS AN IMPORTANT ROLE IN THE DEVELOPMENT AND DEPLOYMENT OF AI-ENABLED ANALYTICS.**

Improved operations

As video analytics become more intelligent and cost-effective at the edge, sensor data and outcomes will advance from security to enhanced and automated security, marketing, business intelligence and improved operational and customer experiences. AI is revolutionizing data insights, offering the security industry opportunities to provide "sensor-based services".

AI will be a journey, from discovering productivity gains to expanding use cases and outcomes. AI-enabled analytics will offer new ways for security practitioners to leverage their current infrastructure and deliver valuable data and services to their organizations. While the benefits are significant, challenges such as data privacy, investment in technology infrastructure, and the need for skilled personnel remain.

As technology continues to evolve, organizations must navigate challenges and embrace innovations to stay ahead. Through the strategic application of advanced analytics, the future of physical security looks bright. Intel is committed to helping the security industry navigate the sea of technological change with validated ecosystem solutions that help you bring cost-effective, scalable AI workloads where it matters most. ▪