

## Delivering Actionable Insights with AI, Automated Logic, and Visualizations with EPIC iO DeepInsights

**EPIC iO's DeepInsights scalable platform leverages Intel® technology to provide real-time visibility into assets, help improve safety, and drive operational efficiency.**



### About EPIC iO

EPIC iO is at the forefront of technology, empowering businesses to thrive in the digital age by harnessing the transformative potential of 5G-ready connectivity and AI and IoT solutions.

EPIC iO is dedicated to making businesses safer, smarter, and more connected through its innovative software-focused approach. The company's cutting-edge open AI platform, DeepInsights, is the cornerstone of EPIC iO's mission.

### Harnessing the Value of Data with AI

Enterprises today are capturing an unprecedented volume of data, sourced from an array of channels such as sensors, cameras, or transaction records. Yet, despite this wealth of information, many businesses find themselves grappling with the challenge of how to harness its full potential. The overwhelming proliferation of data can strain conventional analytical approaches, leaving organizations adrift in a sea of unprocessed information. However, within this data deluge lie valuable insights that can revolutionize the way organizations operate, strategize, and innovate. Embracing digital transformation empowers organizations to navigate this flood of data, extracting meaningful patterns, anticipating future trends, and crafting informed strategies for data-driven decision making.

From retail to smart cities to hospitals, organizations across all sectors are striving to harness the power of data to drive insights and improvements in hopes of creating a safer, smarter, and more connected world. However, many industries are hindered by several common challenges, including:

- **Managing vast amounts of data** can be difficult for organizations seeking actionable insights and meaningful patterns. A recent global survey revealed that 33% of business leaders struggle to generate insights from data, with 30% feeling overwhelmed by its volume<sup>1</sup>.
- **Integrating with legacy technology** compounds these challenges, as it tends to be both costly and complex. This exacerbates data volume issues and contributes to fragmented visibility and disjointed workflows within organizations.
- **Decentralized data** makes gaining actionable insights difficult. Centralizing and gaining insights from data is needed for reducing operational costs and achieving comprehensive coverage. Transitioning to smart solutions, especially those offering features like a single platform for all feeds is crucial to extract meaningful insights from data.








Businesses are increasingly turning to AI-based solutions to navigate the complexities of data management and analysis. With AI-driven solutions like EPIC iO's DeepInsights, businesses can streamline data processing, enhance security measures, and foster connectivity across their operations. This transformative approach not only helps companies cultivate an efficient environment, but also utilizes the value of their data to stay ahead of the curve in a competitive market.

## DeepInsights: EPIC iO's AI Solution

EPIC iO's DeepInsights is the solution for industries seeking elevated security, seamless integration, and fully connected operations. This powerful, open platform transforms complex data into actionable intelligence, enabling public sector and enterprise leaders to make decisive, data-driven choices.

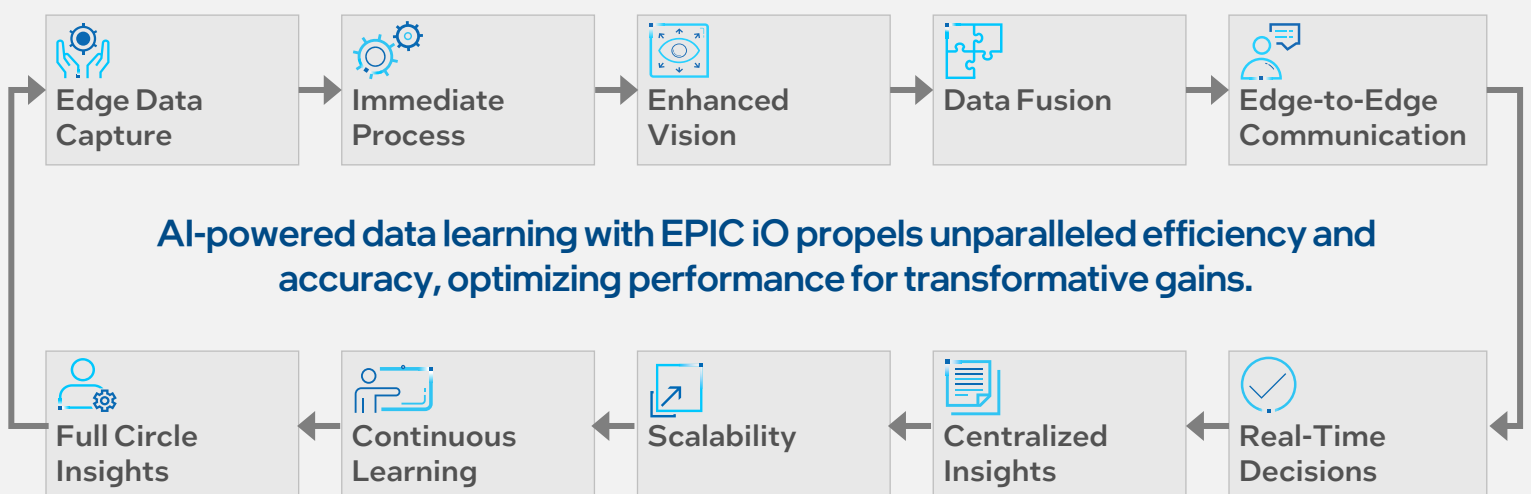
Engineered for rapid deployment, advanced AI video analytics, and real-time dashboards, DeepInsights adapts to any infrastructure—delivering IoT and video insights at the edge, in the cloud, or both. Its scalability and AI-driven flexibility empower industries to build intelligent, secure environments, from boosting retail efficiency and safety to optimizing healthcare operations for patient-centered care. With DeepInsights, data drives smarter, safer, and more effective operations across every sector.

## Putting DeepInsights to Work

-  Visualize trends and insights from IoT sensors and cameras
-  Access live video and review past events
-  Deploy and manage cameras, IoT sensors, and edge devices at scale
-  The API allows for a multi-vendor strategy for integrating AI capabilities across different sources
-  Send alerts into enterprise applications
-  Plug & play and camera agnostic AI analytics
-  Deploy at the edge, in your datacenter, or in the cloud

## Your Data Journey

- 1. Connectivity:** EPIC iO's solution offers diverse connectivity options for edge sensors, including IoT devices, cameras, and more. This design fosters seamless communication and data management among all devices, enabling access from any location.
- 2. Ingestion:** Data from sensors and cameras is ingested into edge computers, on-premises servers, or Multi-Access Edge Computing (MEC) environments, supporting various protocols, including legacy systems.
- 3. Enrichment:** After ingestion, data is enriched at the edge, in the MEC, or in the cloud, enhancing its value through AI-driven video analytics and pattern identification within IoT data streams.
- 4. Insights:** Following the enrichment process, DeepInsights delivers critical insights into events, such as identifying near-misses at intersections or predicting maintenance for rapidly filling silos.
- 5. Outcomes:** The outcome is a cost-effective, seamless, and scalable AI platform that fosters a safer, more secure, and connected world.



## DeepInsights Industry Applications

### Smart Cities

- Traffic Management
- Public Safety
- Infrastructure Monitoring
- Energy Efficiency
- Waste Management
- Water Quality
- Environmental Monitoring
- Emergency Response

### Smart Retail

- Inventory Management
- Loss Prevention
- Checkout Optimization
- Foot Traffic Heat Mapping
- Staff Allocation
- Parking lot occupancy
- Security Monitoring
- Customer Experience

### Smart Utilities

- Real-time security alerts
- Remote surveillance
- Sensor monitoring
- SCADA integration
- Asset Management
- Outage Management
- Infrastructure Monitoring
- Energy Efficiency

### Smart Environments

- Energy Management
- Real-time security alerts
- Occupancy Tracking
- Maintenance Alerts
- Safety Monitoring
- Sustainability Initiatives

### Smart Healthcare

- Patient Monitoring
- Patient and Staff Safety
- Facility Management
- Cold Storage Monitoring
- Compliance Monitoring
- Operational Efficiency

## DeepInsights End-Customer Benefits



### Increase safety and security

DeepInsights allows users to identify suspicious movements or behavior rapidly. IoT sensors monitor concurrently for safety concerns, providing real-time alerts for actionable insights.



### Improve operational efficiency

The solution provides data-enriched information, allowing companies to move faster and make smarter decisions, leveraging near real-time data to stay ahead and drive business forward.



### Reduce in-house costs

DeepInsights reduces reliance on human resources, automating work activities and paving the way for significant efficiency gains. Predictive maintenance offers a cost-effective alternative to the traditional approach of waiting for equipment failures to occur to minimize downtime and enhance reliability.



## DeepInsights Key Features

**Real-Time Analytics:** Processes data instantaneously from IoT sensors and cameras to provide immediate insights and feedback.

**AI-Powered Insights:** Utilizes artificial intelligence to analyze data, identify patterns, predict trends, and generate actionable insights.

**Customizable Dashboards:** Offers user-friendly dashboards that can be customized to display essential data and metrics, enhancing user experience and decision-making.

**Integration with Legacy Systems:** Compatible with a wide range of modern and legacy systems, ensuring seamless integration and maximizing existing technological investments.

**Automated Alerts and Notifications:** Capable of sending automated alerts and notifications based on specific data thresholds or detected anomalies, facilitating proactive management.

**Scalability:** Designed to scale with customer needs, allowing for the integration of additional sensors and data sources as requirements grow, suitable for various industries and applications.

## DeepInsights Customer Success Story – Improving Operational Efficiency for a Public Utility Authority in California

**Challenge:** A public water utility serving 16 million Californians in 20 irrigation districts, was struggling with aging infrastructure, causing intermittent data with limited SCADA visibility. With many vulnerable, remote sites, the city had difficulties identifying physical security threats reliably and monitoring attributes throughout its locations.

**Solution:** The customer worked with EPIC iO to implement DeepInsights with a four-part process

- Secure 4g/5g network via modems
- Integrate new IoT sensors with existing SCADA equipment
- Utilize an edge-computing platform with high-definition cameras for AI-supported autonomous surveillance
- Condense analytic information through DeepInsights dashboard system

**Result:** The city was able to expand its reach through 130 sites and extended its range of IoT sensors by 5 miles. DeepInsights provided a single pane of glass system that centralized the platform to monitor, manage, and analyze data from multiple sources, offering a unified view and streamlined operations.

## Outcomes

**1**

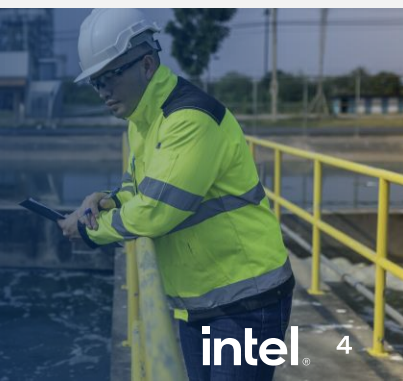
Unified solution in a single pane of glass

**130**

Sites with block houses under management

**5 miles**

Extended range of new IoT sensors



## Intel® Partners with EPIC iO to Optimize Performance of DeepInsights

EPIC iO's DeepInsights solution is built on powerful CV technology that is enhanced thanks to cutting-edge components from Intel. Intel® Core™ and Intel® Xeon® processors give the system the power it needs to perform complex tasks, while the OpenVINO™ toolkit helps developers build and deploy EPIC iO's DeepInsights quickly and affordably.



**Intel Core processors:** The solution uses and supports Intel Core processors. These processors are built specifically for the flexibility to run complex AI workloads on the same hardware as existing workloads. The integration of Intel Core processors facilitates real-time inferencing both on-premises and at the edge, enhancing the adaptability of EPIC iO's DeepInsights across various computing environments.



**Intel Xeon processors:** EPIC iO's DeepInsights on-premises customers level up their EPIC iO solution with the help of Intel Xeon processors. These processors, designed with high-performing built-in accelerators, help support critical workloads with a wide array of Intel Xeon processor options to right-size the hardware for specific performance needs. Intel CPUs help make AI more affordable and accessible to EPIC iO customers. DeepInsights runs computer vision workloads exceptionally well on Intel Core processors, leveraging the built-in AI acceleration features.



**OpenVINO toolkit:** EPIC iO's DeepInsights is enhanced with the OpenVINO toolkit, a powerful tool designed to facilitate development of machine learning applications. The OpenVINO toolkit expedites the creation of DeepInsights deep learning algorithms, producing faster and more accurate results. This creates an easier deployment process for EPIC iO customers through Intel hardware, from edge devices to cloud servers. Intel's Open Visual Inference and Neural Network Optimization toolkit enables the EPIC iO Technologies team to seamlessly deliver smart community capabilities, including biosecurity, license plate recognition, and site security, strengthening public safety.

### DeepInsights Pre-Validated for Intel at the Intel Validation Lab

Intel's AI solution lab is a comprehensive preconfigured, remote testing environment, optimizing solution performance for the most streamlined customer deployments possible. Intel's AI solution lab partnered with Dell and EPIC iO to test the full system and validate the performance and ease of deployment. Through their joint efforts, EPIC iO and Dell not only optimized solution performance but effectively minimized the cost, complexity, and risk associated with customer deployments.



EPIC iO has collaborated with Intel extensively to ensure our cloud-native DeepInsights AI Platform can be deployed and operated at any Edge, with complete automation, on Intel Core processors to the latest Xeon processors, instantiated on Cloud, VM or Bare Metal, without refactoring. Our combined ability to scale workloads with optimized core and thread usage provides our customers with performance they would generally assume is only available with discreet GPU. "

— Michael Knight, CTO EPIC iO

### Why Validating Matters

By validating with Dell in the Intel lab, EPIC iO has positioned its solution for:



**Simplified AI deployment**

An all-in-one preconfigured solution means no need to purchase and experiment with individual components.



**Cost-effective performance**

The specified system has been tested and proven to deliver the right level of performance to reach desired deployment goals.



**Accelerated time to value**

Ready-right-now DeepInsights enables fast, easy AI adoption to start identifying opportunities for improving security and cost savings upon implementation.

## Conclusion

EPIC iO's centralized platform transforms the landscape of operational safety and efficiency, driving unparalleled effectiveness across all systems. Its open and interoperable design ensures seamless integration with diverse systems, while the innovative combination of sensors and high-resolution smart cameras enables comprehensive monitoring and real-time alert notifications from anywhere. By leveraging multiple carriers, the solution overcomes traditional network limitations, significantly boosting capacity, speed, and reliability.

Powered by Intel® Core™ and Intel® Xeon® processors, along with the Open VINO™ toolkit, EPIC iO's DeepInsights empowers businesses and communities to seamlessly adopt AI technologies and innovative solutions. This transformative approach creates safer, smarter, and more connected operations, positioning organizations at the forefront of technological advancement.

## Learn More

To learn more about the EPIC iO Solution visit:

- [EPIC iO Website](#)
- [DeepInsights AIoT Solution Website](#)
- [EPIC iO Safe Solutions](#)
- [EPIC iO Smart Solutions](#)
- [EPIC iO More Connected](#)

To learn about Intel® technologies visit:

- [Intel Core Processors Product Page](#)
- [Intel Xeon Processors Product Page](#)
- [OpenVINO Toolkit Product Page](#)
- [Intel Validation Lab](#)

## Sources

<sup>1</sup>[Data Deluge: Businesses Struggle with TMI](#), The Wall Street Journal, 2023



Accelerated by Intel® offerings take advantage of at least one Intel® technology, such as built-in accelerators, specialized software libraries, optimization tools, and others, to give you the best experience possible on Intel hardware.

By taking advantage of acceleration technologies, such as Intel® Advanced Vector Extensions 512 (Intel® AVX-512), Intel® Advanced Matrix Extensions (Intel® AMX), and others, our optimized solution helps accelerate time to innovation and insight.

With Intel technologies and capabilities, a vendor's optimized offering can go beyond the traditional compute and extend to accelerated networking, storage, edge, and cloud. It's all part of helping customers build an optimized infrastructure across the company.

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