



# Creating Safer, More Secure Spaces With Vision AI

IronYun, an NVIDIA Metropolis partner, uses vision AI to transform existing camera systems into smart security networks.



“NVIDIA’s GPU architecture enables Vaidio AI to deliver higher accuracy, faster performance, and more comprehensive video analytics to camera-based solutions. Our partnership enables IronYun to lead the market in innovation and to offer flexible edge, on-prem, cloud and hybrid deployment models. NVIDIA has been and will be a rock solid foundation for our platform and for our entire business.”

**Paul Sun**, CEO, Iron Yun

The number of installed security cameras worldwide has exploded to more than 1 billion today, largely driven by cloud technology and IP-based systems. These networked video systems can improve public safety and infrastructure efficiency, while also reducing management and security costs.

However, monitoring a vast network of video feeds has historically required a significant human capital investment, leaving most cameras unmonitored. Legacy video systems also have a high rate of false positives, generating alerts from non-threats such as shadows, moving plants or animals, and misclassified objects. This results in overwhelmed staff and skepticism of video technology solutions.

IronYun is making superior, cost-effective AI video solutions available—built on the **NVIDIA Metropolis** AI software stack—to support safer, smarter security across industries.

## Vaidio AI Vision Platform for Improved Operations and Safety

IronYun’s Vaidio® AI Vision Platform delivers real-time video monitoring and alerting, accelerated video search for incident investigation, and rich video metadata analytics for business intelligence. The solution is deployed on over 20,000 cameras helping customers in more than 40 countries improve physical security, safety, access control, traffic monitoring, loss prevention, and operational and business intelligence.



IronYun’s Vaidio® AI Vision Platform uses artificial intelligence to protect areas and buildings from unauthorized access, enable rapid video search of past events, and increases perimeter security with intrusion detection, all while reducing false positives by orders of magnitude.

### Industries

- > Smart Spaces
- > Enterprise Campuses
- > Stadiums & Sports Complexes
- > Public Sector facilities & Spaces

### Results

- > 99% reduction in false alerts
- > 75% reduction in hardware cost
- > Reduced total cost of ownership
- > Reduced video investigation time
- > Extended life of existing cameras

Built with the **NVIDIA DeepStream SDK** streaming analytics toolkit, the Vaidio® AI Vision Platform offers 30+ advanced AI video analytics functions to add a layer of superhuman intelligence and accuracy to existing camera and video infrastructure. Vaidio works with any IP camera and integrates out-of-the-box with 28 market-leading video management systems. The platform accelerates and scales intelligence for computer vision applications for intrusion detection, person and vehicle counting, license plate recognition, loitering, crowding, PPE detection, smoke and fire recognition, and more.

From enterprises to city municipalities, educational institutions, public entertainment and sports venues, Vaidio gives organizations a fast, cost-effective path to improve security and safety.

Through its deployments, Vaidio has demonstrated significant operational and business results including:

- > 99% reduction in false alerts
- > 75% reduction in hardware cost
- > Reduction in total cost of ownership
- > Reduced video investigation time from hours or days to minutes
- > Extended useful life of existing cameras

For its innovative video data and analytics solution, IronYun was recognized as a “Major Player” in the IDC 2021 and **2022 MarketScapes Assessment** for Video Analytics and Video Analytics as a Service. The Vaidio Platform has also won **ISC West New Product Showcase Awards** for Commercial Monitoring, Loss Prevention, and Video Analytics.

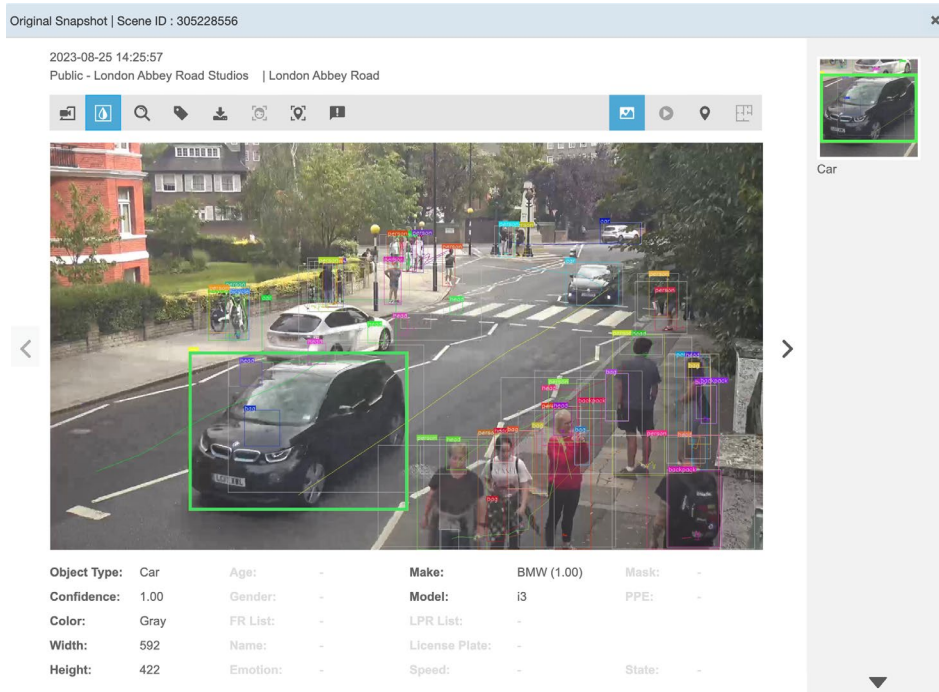


Figure 1. This image shows Vaidio Video search combining through hours of footage across multiple cameras to find BMWs for incident investigation.

### NVIDIA Hardware Used

- > NVIDIA A2 and A30 GPUs
- > NVIDIA Jetson™
- > NVIDIA Certified Systems

### NVIDIA Software Used

- > NVIDIA AI Enterprise
- > NVIDIA DeepStream SDK
- > NVIDIA TensorRT™
- > NVIDIA CUDA®



“The competitive solutions we looked at required four to eight times the number of servers compared to IronYun. Vaidio is significantly more resource and cost efficient. The IronYun system proved itself in POC and in production – and we’re in the process now of putting new cameras into place to enable new applications we hadn’t even thought of before.”

**CIO, NFL Stadium**

## 99% Reduction In False Alerts on an Enterprise Campus

An international media company with a sprawling 20-acre campus and 200 cameras was struggling with a legacy motion and AI video analytics system that generated an average of 2,000 false alerts per month. These alerts were triggered by human shapes, shadows, leaves, weather, and animals. To correct this, the company deployed Vaidio AI video analytics for real-time intrusion detection and forensic video search.

Vaidio integrated with all 200 cameras on site, as well as with the existing video management system (VMS). Once deployed, Vaidio cut down false alerts from 2,000 average per month to only 10 — a **99.5% reduction**.

“The Vaidio system was so quiet, we had to do a walk-around check every couple of weeks just to make sure it was on.”

On-site security

Vaidio video search also reduced incident investigation from days and hours to minutes, taking the manual search burden off of staff and saving the company overtime payments.

With clear results after the first deployment, the media company deployed additional video analytics, including object and license plate recognition for more efficient and secure access control.

## Improved Access Control at a Major League Sports Stadium

Management at a major league sports venue was tasked with improving safety and security in the stadium on a budget. Initially, the team encountered hurdles, with cloud-based security systems requiring excessive engineering time, and on-site hosting requiring millions of dollars in hardware investment.

After a conversation with IronYun, the stadium management team determined that the Vaidio AI Vision Platform would be financially feasible and built a proof of concept (POC) for video license plate detection and site intrusion. The plug-and-play POC was easily deployed on premises within hours and fully configured and running within days. The POC further demonstrated enhanced security with alerts for suspicious behavior such as people on campus after hours or unauthorized personnel in restricted areas.

With a promising initial launch, the stadium deployed Vaidio into production, covering 400 cameras on time and under budget. The initial use cases of license plate-based access control and real-time security alerting were expanded to include inventory monitoring, PPE detection, forklift safety, and truck idle time monitoring.

Stadium management estimated they were able to save 75% on hardware costs when compared to alternatives while meeting their goals of improved stadium safety, security, and an elevated guest experience.

## Powered By NVIDIA Metropolis

IronYun's Vaidio® AI Vision Platform has been tested by the NVIDIA Metropolis team on **NVIDIA-Certified Systems** to ensure the highest performance standards.

To analyze video and sensor data in real-time, Vaidio relies on the NVIDIA DeepStream SDK, a complete streaming analytics toolkit based on GStreamer for AI-based multi-sensor processing, video, audio, and image understanding. NVIDIA DeepStream is offered with **NVIDIA AI Enterprise**, an end-to-end, secure, cloud-native suite of AI software that enables organizations to develop and deploy AI with speed and efficiency.

DeepStream enables developers to create stream processing pipelines that incorporate neural networks and other complex processing tasks such as tracking, video encoding and decoding, and video rendering.

Within the Deepstream SDK, the Vaidio AI Vision Platform uses TensorRT for inference and deep learning inference optimization. IronYun uses **NVIDIA CUDA** to access GPU-accelerated systems to develop, optimize, and deploy the Vaidio AI Vision Platform.

IronYun recently upgraded to **NVIDIA L4 Tensor Core GPUs**, leading to a 40% performance gain compared to the previous generation of GPUs.

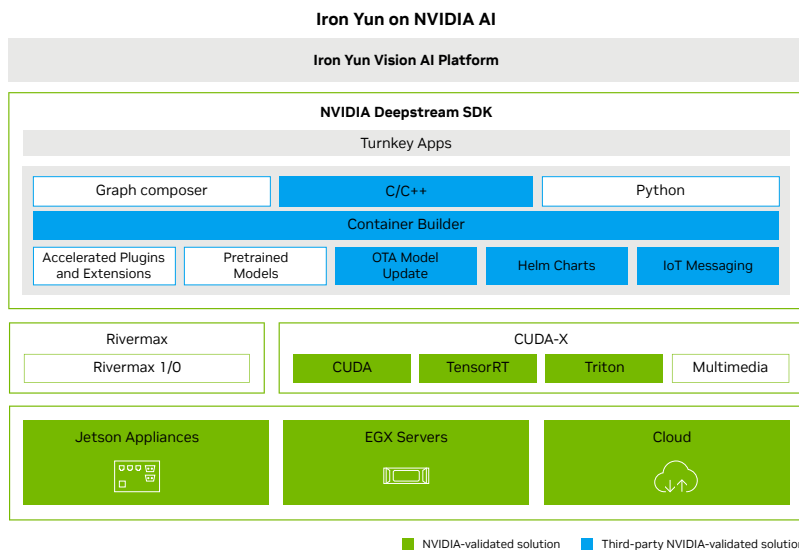


Figure 2. NVIDIA AI Enterprise includes NVIDIA DeepStream to enable real-time analytics on video, image, and sensor data.

With IronYun's Vaidio AI Vision Platform running on the **NVIDIA accelerated computing platform**, organizations can quickly deploy intelligent video solutions in a cost-effective manner to make public and private spaces safer.

## Ready to Get Started?

To learn more about NVIDIA solutions for smart spaces, visit:  
[www.nvidia.com/smart-cities-and-spaces/](http://www.nvidia.com/smart-cities-and-spaces/)

To Learn about IronYun's Video Analytics solutions, visit:  
[www.ironyun.com](http://www.ironyun.com)