

Visibility Restored. Operations Optimized. Delivery Secured. AI-Enabled Computer Vision

Overview

ProHawk AI enables end-to-end visibility across the manufacturing supply chain by restoring degraded video feeds powered by patented pixel-level computer vision. ProHawk AI is an NVIDIA accelerated solution powered by CUDA[®] parallel processing capabilities. From receiving docks and storage areas to shipping bays and fleet yards, ProHawk AI transforms low-quality or obstructed video into clear, actionable streams—empowering teams to track inventory movement, validate shipments, monitor assets, and enforce operational protocols in real time.

By improving the performance of existing camera systems without the need for costly replacements, ProHawk AI reduces risk, increases throughput, and supports smarter logistics decisions—turning traditional video into a true visibility layer for modern supply chain operations.

Key Challenges

Obstructed or Low-Quality Video Feeds

Glare, shadows, poor lighting, and weather conditions degrade camera visibility at docks, yards, and warehouses.

Loss and Shrinkage

Difficulty monitoring high-traffic or dimly lit areas contributes to inventory misplacement, theft, or unverified shipments.

Inefficient Loading/Unloading Operations

Poor visibility delays verification of received goods, trailer checks, and loading procedures—reducing throughput.

Limited Asset Tracking

Traditional video systems lack the clarity to support automated asset movement tracking or detect delays in real time.

High Infrastructure Upgrade Costs

Upgrading cameras across logistics hubs and facilities is expensive and disruptive to operations.

Key Benefits and Outcomes

ProHawk AI gives manufacturers and logistics teams the ability to see clearly and operate confidently across the entire supply chain. It improves real-time visibility, reduces operational blind spots, and supports faster, more informed decisions across inventory management, loading docks, yard logistics, and asset tracking. The result is reduced shrinkage, fewer verification errors, and faster throughput. Organizations typically see ROI within 12 to 18 months through reduced manual labor, fewer shipping disputes, improved workflow efficiency. ProHawk AI not only secures the supply chain—it streamlines it.

• Reduced Loss & Shrinkage

Clearer video deters theft, supports claim resolution, and improves chain-of-custody tracking.

• Increased Throughput

Real-time visual verification speeds up dock operations and inventory handling with fewer errors.

• Smarter Logistics Decisions

Reliable video data improves scheduling, routing, and resource allocation.

• Lower Operational Costs

Avoids camera replacement while reducing downtime, manual labor, and shipment verification errors.

• Compliance & Audit Readiness

Clear video reinforces SOP's and ensures regulatory accountability.

AI-Enabled Visibility for Smarter, More Secure Supply Chain Logistics

ProHawk AI, an NVIDIA accelerated solution, transforms degraded or low-visibility video into clear, real-time streams using patented pixel-level restoration—enabling accurate tracking of goods, equipment, and vehicle movement across warehouses, docks, and yards. By improving existing camera performance, ProHawk AI boosts any NVIDIA DeepStream supported model accuracy for inventory validation, shipment verification, and asset monitoring. Leveraging ProHawk AI as a pipeline platform, it seamlessly integrates with systems to help operations teams reduce loss, improve throughput, and secure the supply chain—without costly upgrades.



As a NVIDIA accelerated solution powered by CUDA, ProHawk AI transforms degraded or low-quality video streams, pixel-by-pixel, into clear, actionable footage in real-time—enabling logistics teams to monitor shipments, vehicle movement, and inventory flow with precision across warehouses, docks, & yards. Built on the NVIDIA Metropolis Vision AI stack, it delivers 3 millisecond latency and up to 30x faster video restoration, ensuring consistent visibility even in poor lighting, glare, shadows, or weather-affected environments. ProHawk AI boosts the performance of existing cameras without requiring costly upgrades—cutting hardware expenses by up to 60%. Manufacturers benefit from reduced shrinkage, improved throughput, higher asset tracking, & real-time supply chain intelligence—driving more secure & efficient operations end-to-end.

Use Case	Result
Dock & Yard Visibility	Restore clarity in camera feeds monitoring inbound and outbound truck activity, trailer assignments, and security gates.
Package & Pallet Validation	Improve visibility during loading and unloading to verify inventory integrity and match shipping manifests.
Forklift & Equipment Tracking	Monitor warehouse equipment movement in low-visibility zones to optimize layout and reduce accidents.
Inventory Movement Monitoring	Track high-value or time-sensitive goods through production-to-shipping flows for supply chain transparency.
Logistics Security & Compliance	Provide clear, audit-ready video documentation to support chain of custody, dispute resolution, and regulatory compliance.

Feature	Requirement
Compatible NVIDIA Hardware	NVIDIA Jetson Orin™ & NVIDIA RTX™ Pro – Blackwell, Ada Lovelace
Supported Input Formats	Image & Video Files, RTSP Camera Stream
Supported Operating Systems	MS Windows Server 2019/2022/2025 & Ubuntu 20.04/22.04

ProHawk AI brings a new level of clarity and control to manufacturing supply chain logistics. Accelerated by NVIDIA Jetson™ at the edge and scaling up to data center-class NVIDIA GPUs, it empowers teams to track, validate, and optimize in real time—without expensive infrastructure upgrades. From docks to distribution, ProHawk AI delivers operational insight where it counts, speed where it matters, and certainty where there was once guesswork.

