Solution Brief

Public Service Automation & Citizen Engagement

AI-Enabled Computer Vision Management System

Overview

ProHawk AI helps cities worldwide address their largest expense—personnel operations and workforce management—by using AI-enabled computer vision, edge analytics, with NVIDIA® accelerated computing to optimize labor efficiency, safety, and service delivery. Whether managing field crews, police and fire departments, transportation workers, or maintenance teams, ProHawk AI provides real-time visibility and automation that improves productivity, reduces overtime costs, and safeguards employees.

Built on the ProHawk Vision Computer Vision Management System© (CVMS), the platform connects video streams, workforce applications, and operational data into intelligent AI pipelines. Each restored and analyzed video feed strengthens the AI Data Flywheel, continuously improving analytics accuracy for labor deployment, compliance, and risk management—without costly infrastructure overhauls.

Key Challenge

High Labor & Overtime Costs

Inefficient scheduling, response delays, and manual reporting inflate city budgets.

Workplace Safety Risks

Limited visibility in field operations increases incidents and workers' compensation expenses.

Low Operational Efficiency

Manual inspections and service verification waste valuable staff time.

Limited Data Integration

Disparate systems for workforce tracking, vehicle telemetry, and field video create blind spots.

Aging Infrastructure

Key Benefits and Outcomes

ProHawk AI gives municipalities the power to optimize labor utilization, improve safety, and deliver measurable ROI on their largest cost center—personnel. ProHawk AI pixel level restoration across public buildings, service centers, transportation hubs, and field operations, provides accurate, real-time visibility into staffing levels, workflow activity, compliance, and situational risk. This clarity allows agencies to better align staff deployment with demand, reduce operational inefficiencies, and identify safety concerns before they escalate. With clean, restored streams feeding workforce analytics become more precise over time—supporting smarter scheduling, faster incident response, stronger policy adherence, and meaningful cost reduction across the entire public workforce ecosystem.

- **Operational Efficiency**
  AI-driven insights reduce idle time, automate task verification, and optimize deployment.
- **Safety and Compliance**
  Real-time detection of unsafe acts, PPE compliance, and environmental hazards.
- **Budget Optimization**
  Reduces overtime, improves resource allocation, and extends camera lifecycle.
- **Data-Driven Workforce Management**
  CVMS aggregates video, telematics, and workforce data for actionable insight.
- **Continuous Learning**
  The AI Data Flywheel strengthens detection and prediction models for ongoing progress.

Camera and sensor systems are outdated, reducing clarity and automation accuracy.

Visibility Restored. Engagement Enhanced. Experience Optimized.

ProHawk AI's CVMS Personnel Operations solution, an NVIDIA accelerated solution, delivers real-time restoration, detection, and workforce-activity analytics across public buildings, service centers, and field operations. CVMS pixel level restoration overcomes glare, shadows, motion blur, and challenging indoor or outdoor lighting—enabling accurate visibility into staff movement, task execution, dwell time, service interactions, and emerging operational risks using existing cameras. Restored data strengthens workforce allocation, improves safety oversight, enhances compliance monitoring, and reduces inefficiency—all in a scalable, edge-ready deployment that avoids costly infrastructure upgrades.

As a NVIDIA accelerated solution in several AI Factories, ProHawk AI CVMS on the NVIDIA Metropolis Vision AI stack unifies restoration and detection across public-sector workforce environments. CVMS connects existing camera systems, manages real-time pipelines, and improves visibility into staff activity, workflow execution, service interactions, and operational bottlenecks. Patented AI-enabled computer vision delivers pixel-level clarity through glare, shadows, weather, and difficult lighting—enabling accurate personnel monitoring while extending camera life and reducing capital costs. ProHawk AI improves workforce allocation, strengthens safety and compliance oversight, and drives measurable ROI across public-agency operations.

Use Case	Result
Field Crew Safety & Compliance	Detect unsafe behavior or fatigue in real time to prevent accidents.
Public Works & Sanitation Oversight	Monitor routes, performance, and vehicle operations to reduce overtime.
Emergency Services Visibility	Improve situational awareness for firefighters, paramedics, and police in poor lighting or smoke.
Facility & Maintenance Monitoring	Verify task completion and automate reporting through AI-powered video.
Transit Workforce Management	Track fleet operations, reduce idle time, and optimize driver scheduling.

Feature	Requirement
Compatible NVIDIA Hardware	NVIDIA Jetson Orin™ & NVIDIA RTX™ Pro – Blackwell, Ada Lovelace
Supported Operating Systems	Windows Server 2019/2022/2025 & Ubuntu 20.04/22.04
No Replacement or Changes	Existing IP Cameras or VMS Streams

ProHawk AI's CVMS solution delivers real-time restoration, detection, and workforce analytics across public buildings and field operations. By cutting through glare, shadows, and motion blur, CVMS enables

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clear visibility into staff activity, task execution, and operational risks using existing cameras. Restored data improves workforce allocation, strengthens safety oversight, and boosts operational performance.