How to Improve Logistics & Yard Visibility with Smart Video

Hikvision offers a complete solution that not only improves logistics security, but that also helps improve operational efficiency with artificial intelligence-powered functionalities. Using these and other innovative elements, Hikvision's solution helps companies build more secure, intelligent logistics operations.

Supply chain globalization, the booming e-commerce market and rising demand for manufactured goods have all driven growth in the logistics industry. A wider array of materials and goods are constantly being moved by truck, arriving at areas zoned and planned for the purpose of transporting goods *before* the last miles of their journeys to stores or customer locations.

This and other trends present new opportunities for e-commerce and logistics companies that want to expand their businesses and grow their revenues. However, succeeding in this ever-evolving sector also requires increased performance and throughput, plus the ability to track and secure thousands of parcels that head out to end customers on a daily basis.

With a higher volume of goods moving 24/7/365, companies must stay ahead of demand and ensure that goods are delivered on time while also maintaining and/or growing their own bottom lines. This balancing act has never been easy to achieve and getting there has become even more difficult in the current logistics and transportation environment.

This white paper explores the key challenges that logistics organizations are facing right now, outlines the key steps that companies can take to improve logistics and yard visibility with smart video technology and explains the key benefits that organizations achieve by making this move.

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Real-Time Data for Fast Decision-Making

To meet rising consumer demands for parcel delivery—and particularly for online orders—companies must manage their logistics operations as effectively as possible. However, logistics managers often lack the real-time information they need to make fast, accurate decisions. For example, they may not be able to see which docks are available, which are in use, and which will soon be free.

Goods moving in and out of storage are generally identified and confirmed one-by-one manually using a label or two-dimensional code. This is not only inefficient and time-consuming, but it also requires manual periodic inventory checks and can greatly impact input efficiency (i.e., when the location of the asset is unknown, employees need to find and pick the items).

And, during loading and unloading, low mechanization factors may cause a high rate of parcel loss and damage due to improper operation. This may lead to significant parcel loss settlements, increased operating costs, legal risks and reputational damage.

> *"Next-generation logistics management solutions also make the global supply chain more customer-centric and sustainable."*

The challenges don't end there. Lacking vital data points, vehicles often wait unnecessarily when they could be loading or unloading, causing delays and negatively affecting productivity and the throughput of goods through the facility.

For example, with no way to know the actual operation status, transport capacity, personnel flow and other conditions across a logistics operation, companies can't use data to improve the operation's efficiency.

To solve these and other challenges, more companies are turning to advanced technology for help. They're implementing the equipment, applications, software and tools needed to gain better visibility and control over their logistics operations.

Next-generation logistics management solutions also make the global supply chain more customer-centric and sustainable. By automating logistics processes, for instance, organizations can enhance the productivity and efficiency of their workflows; increase transparency and traceability in their supply chains; and maintain flexible and dynamic relationships with their stakeholders.

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Improve Efficiency and Reduce Costs

Forced to compete primarily on price-per-order and delivery timeliness, logistics operators are making significant investments in automation and digitalization in order to improve efficiency and reduce unit order costs. They're also concerned about security, knowing that from the moment shipments arrive to the moment they are delivered to their final destinations, loss prevention must be a key consideration.

So, how can managers react quickly when there is a missing or damaged package? Is there a way to trace each step in the process and pinpoint where the problem took place? And, is there a tool to digitize and more efficiently manage the docks for loading and unloading?

Hikvision answers each of these concerns by offering a complete solution that not only improves safety and provides top-notch security, but that also helps improve operational efficiency with artificial intelligence-powered functionalities.

Using smart video technology and other innovative elements, Hikvision's solution helps the logistics industry improve workplace safety, increase yard security, efficiently manage vehicles and fleets, and realize fully trackable goods management.

Measuring the Benefits of Smart Video Solutions

Companies have been using cameras in their warehouses, distribution centers (DCs) and yards for decades. That equipment has historically been viewed as a security application versus a tool for boosting efficiency, productivity, and even worker health and safety. Next-generation smart video solutions provide these additional benefits that help companies more efficiently and securely run their logistics operations:

- *Enhanced personnel management.* With the latest smart video solutions, logistics managers and supervisors can protect staff more effectively against accidents and injury. This is achieved with automatic detection of personal protective equipment (PPE), including eye wear, gloves and ear protectors. Managers can also improve access control with facial recognition security technology, which ensures that only authorized personnel enter restricted areas. Facial recognition can also make it faster and easier for employees to move around the warehouse or yard, helping them work more productively while also reducing waiting times at yard entrances and exits.

- ***Optimized vehicle and dock management.*** With smart video, companies can create an optimized vehicle and load management workflow from truck entry to docking and cargo pickup. Using a dashboard that displays the status of each loading dock, the Hikvision smart logistics solution efficiently directs vehicles as soon as they register at the yard's security checkpoint. By following the red, yellow and green indicators, vehicles can be processed more efficiently, and queuing can be reduced. The solution also improves vehicle processing workflow and security using vehicle license plate recognition technology. Smart cameras monitor the speed of vehicles entering the yard, detect illegal parking and send automated alerts to security teams when rules are breached.

- ***Secure and efficient goods management.*** With smart video, organizations can create an automated, secure and fully trackable goods management process. This supports the secure flow of goods at one site (or across multiple sites) and includes solutions for accurate, secure goods scanning, tracking and delivery. Hikvision's platform incorporates all of the infrastructure needed for effective goods management—from monitoring cameras to smart code readers to scanners. Using embedded software tools, site operators can allocate an ID to every pallet or parcel and the then track it through to final delivery, easily search and view video footage relating to specific pallets or parcels, and generate daily inventory reports quickly and easily.

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- ***Improved site management and safety.*** Today's logistics operations need more intelligent perimeter protection to improve security. Using Hikvision thermal cameras, these operations get crystal-clear video footage, even in zero-light environments. Radar and dome cameras can also be combined to detect any unauthorized people or vehicles entering the site; trigger automated alerts for any suspicious movements; and record clear video evidence of any incidents that occur (i.e., to achieve "remote patrol"). To further increase efficiency, remote patrols can be enhanced with AI, which enables regular security checks without having to manually review video footage. In this case, only video images that identify a potential security threat are sent to site security teams, dramatically reducing staffing requirements and costs. Hikvision's solution also helps companies reduce fire risks in the warehouse or DC. This is achieved by combining thermal cameras and smoke detectors, which can detect abrupt temperature changes that could indicate a fire and alert security teams of potential fires before any damage is done.

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- ***Fleet Management.*** For logistics companies, the truck fleet is one of the most important assets. How to protect the safety of drivers and goods becomes a crucial topic. Hikvision's mobile onboard video system is designed for easier and smarter supervision, scheduling, and emergency response for logistics fleets. The system enables real-time monitoring of vehicles interior and their surroundings along with high precision positioning of vehicles. The system also features a powerful software platform for live view, video playback, GIS map, device health monitoring, fuel consumption checking, goods quality monitoring, emergency alarms, and more. It can help digitize the road freight industry, with improving the efficiency and reducing the cost.

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Combined, these benefits help logistics operations get the most out of their next-generation smart video solutions. Using an intelligent dock camera at every loading and unloading bay, Hikvision's solution provides real-time information that enables dock managers to make accurate, timely decisions across many more docks than would otherwise be possible.

Smart Dock Management
For logistics operators, managing loading docks effectively is the key to delivering orders faster, maximizing productivity and improving performance. But with just a few dock managers to look after hundreds of shipments, delays and errors are commonplace.

Lack of real-time information about which loading docks are free and which are occupied, for instance, makes it difficult to direct trucks to docks as soon as they become available. This, in turn, reduces efficiency, creates delays and negatively impacts the driver experience.

"The cameras can detect in real-time if trucks are loading or unloading at docks, or whether they are unoccupied."

To address the challenges of ineffective and manual dock management, Hikvision's smart dock management platform uses an intelligent dock camera at every loading and unloading bay. The solution provides real-time information that enables dock managers to make accurate, timely decisions across dozens or hundreds of docks.

The cameras can detect in real-time if trucks are loading or unloading at docks, or whether they are unoccupied. Other key "wins" that companies can expect when they deploy the Hikvision's solution include:

- *Better yard oversight.* The solution recognizes the truck's number plates to identify the vehicle that's occupying the dock. This information is relayed to an interactive map, giving managers instant visibility of load and unload operations and docks that are available 24/7. Based on these real-time insights, drivers can be dispatched to available docks quickly and efficiently via a mobile app.

- *Real-time views.* Information from dock cameras and other site cameras also provide a real-time view of available parking spaces across the site. This allows managers to dispatch trucks to available parking spaces where they can wait without blocking key corridors and routes on the site.

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- **A reliable record.** Using cameras positioned inside and outside loading bays, Hikvision's solution creates a record for later reference. This helps determine responsibility and liability should goods go missing, or if an accident occurs (i.e., fragile goods falling from a truck or off of a pallet). Information from barcode scanners can be cross-referenced with video footage to track goods and to detect and view incidents quickly and easily. This helps to improve the security of goods and prevents inventory loss while also helping to determine responsibility if goods are lost or damaged.

- **Speedier yard operations.** With a digital dashboard that displays all dock activity, Hikvision's solution shows availability; displays historical performance data; and allows staff to optimize operational efficiency, scheduling and staffing decisions. These features help speed up the time between vehicles arriving and leaving while also supporting overall operating efficiency.

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- **Maximized dock usage.** Hikvision's smart dock solution helps maximize dock utilization, supports throughput increases, saves money and drives higher revenues for the logistics organizations. By monitoring and recording the end-to-end goods loading and unloading process, the solution creates an audit trail for every product passing through the site.

It's Time to Make Your Move

Logistics and supply chain departments are under increasing pressure as customer expectations continue to rise and as customers demand more product variety and personalized service. With Hikvision's solution in place, dock managers can make better decisions, drivers get clear instructions and employees are more satisfied with their jobs and motivated to work.

The rapid development of emerging technologies such as the Internet of Things, advanced mobile robots and solutions that leverage AI and blockchain have created a challenge for companies to choose the most appropriate technologies with the best return of investment. By identifying new opportunities and emerging technologies that can be implemented right now, companies can solve their immediate logistics challenges while also establishing themselves as industry leaders.

Hikvision has established one of the most extensive regional networks in the industry, comprising 66 international subsidiaries and branch offices to ensure quick responses to the needs of customers, users, and partners.

Customers can contact us to discuss their specific requirements and we'll be happy to help. To find out more about the Hikvision smart logistics solution, please visit here.

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