



Transforming manufacturing floors with AI-powered solutions

In today's fast-paced industrial landscape, operational visibility is crucial. At the heart of the latest manufacturing innovations lies a seemingly simple yet powerful tool — AI video security. Manufacturers can now gain real-time insights into their operations, workforce, and safety compliance by leveraging computer vision to generate AI-driven analysis. This document dives into three key use cases demonstrating how Lumana's AI video security solution can improve factory efficiency and safety.

87% efficiency



Light-based presence detection

Transform legacy machines into intelligent solutions.

By leveraging AI to classify red and green machine lights as an input, Lumana detects when the machine is active, providing empirical data on production efficiency. Additional rules can be applied to measure whether an operator is present. Every 15 minutes, if no one is detected in a defined zone, the system issues an “absence alert” to shift managers. This simple signal becomes a powerful tool for ensuring stations aren't left unattended, reducing idle time, and improving accountability across the floor.

It's a lightweight way to enforce oversight without adding hardware complexity—using the lights already present on your machines.

Counting t-shirts on a conveyor belt

Imagine a conveyor belt loaded with t-shirts. Lumana uses computer vision to detect each t-shirt as it moves down the line, tracking production and logging individual data points.

A custom object detection model identifies and tracks every item, feeding the data into an intuitive dashboard that breaks down production trends by week and shift. This enables shift managers and operations teams to optimize labor, identify bottlenecks, and ensure output aligns with demand. No manual tallying, no guesswork—just accurate, actionable metrics.



Safety compliance at scale

Safety is non-negotiable—and now it's trackable in real time.

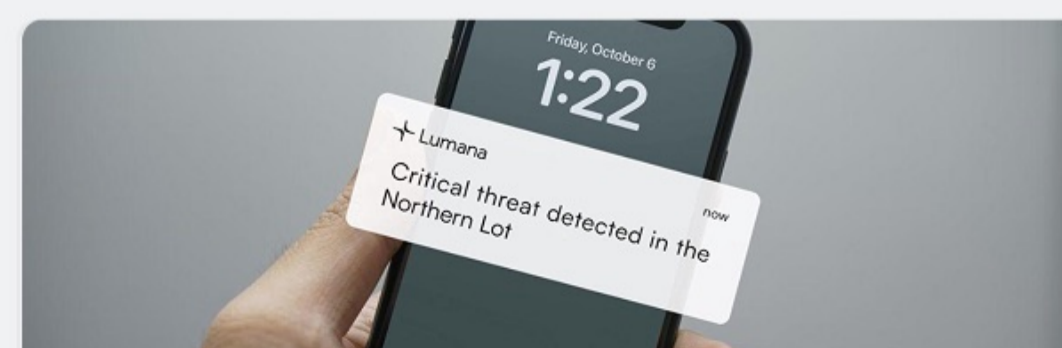
Through advanced image analysis, Lumana identifies whether workers wear required safety gear such as helmets or vests. For example, in one of our sites, in the last three days alone, 4,200 helmet uses were logged; however, non-compliance verification was added as an alert to notify safety managers and improve training outcomes.

This proactive approach ensures that safety procedures aren't just written policies—they're verifiably followed and can be measured. With ongoing AI monitoring, companies can foster a culture of safety while minimizing risk and liability.

Key benefits for manufacturing

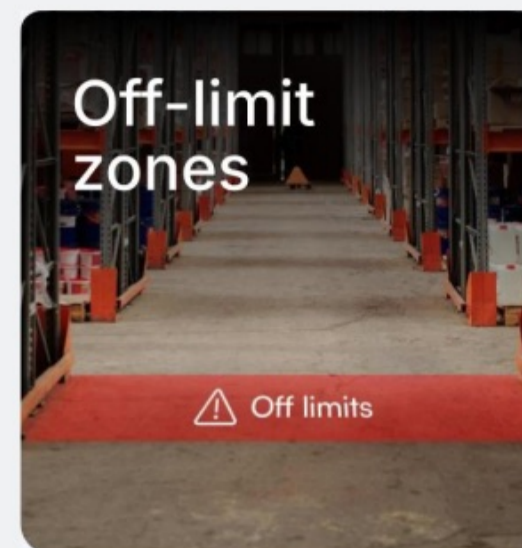
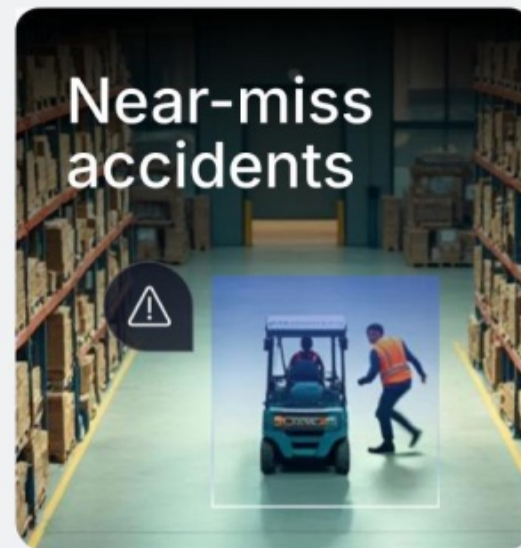
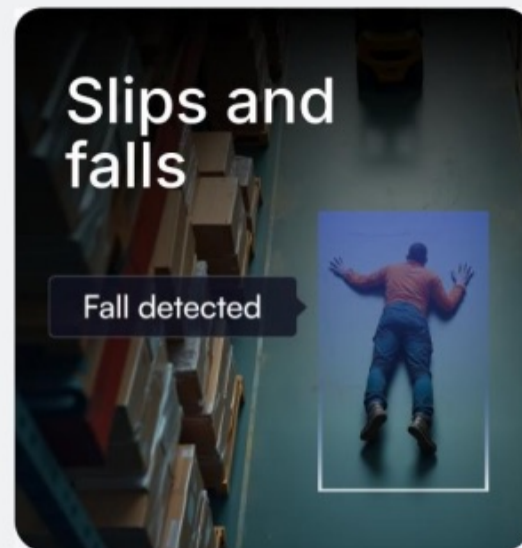
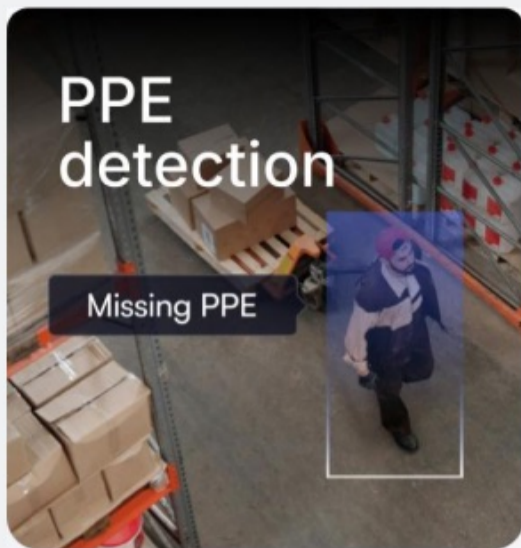


SINGLE PANE OF GLASS
Manage EHS and physical security
on one platform

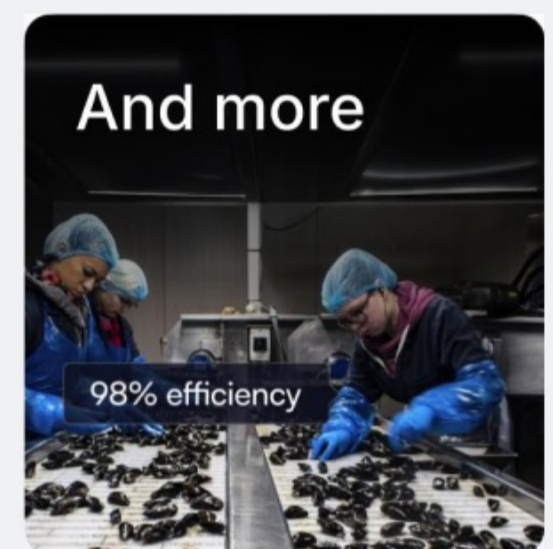
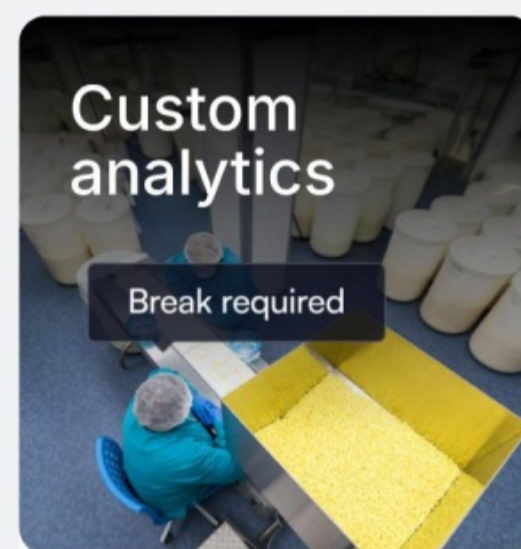
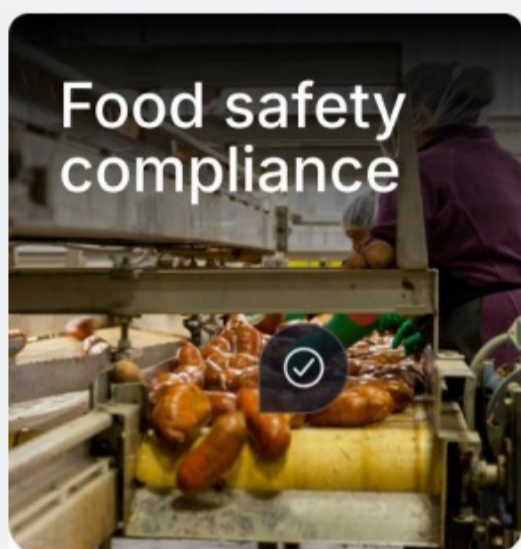


BRING AI TO YOUR SOC
Receive real-time alerts for unusual
and highly-specific activity

ADDITIONAL USE CASES
Safety and compliance



Operational analytics and insights



Final thoughts

From counting production output to monitoring efficiency and ensuring safety, AI is reshaping manufacturing floors. The beauty lies in its simplicity—using existing visuals and cues to unlock deep operational insights.

If you're looking to modernize your factory without heavy infrastructure investment, AI video security might be the smartest tool in your shed.

