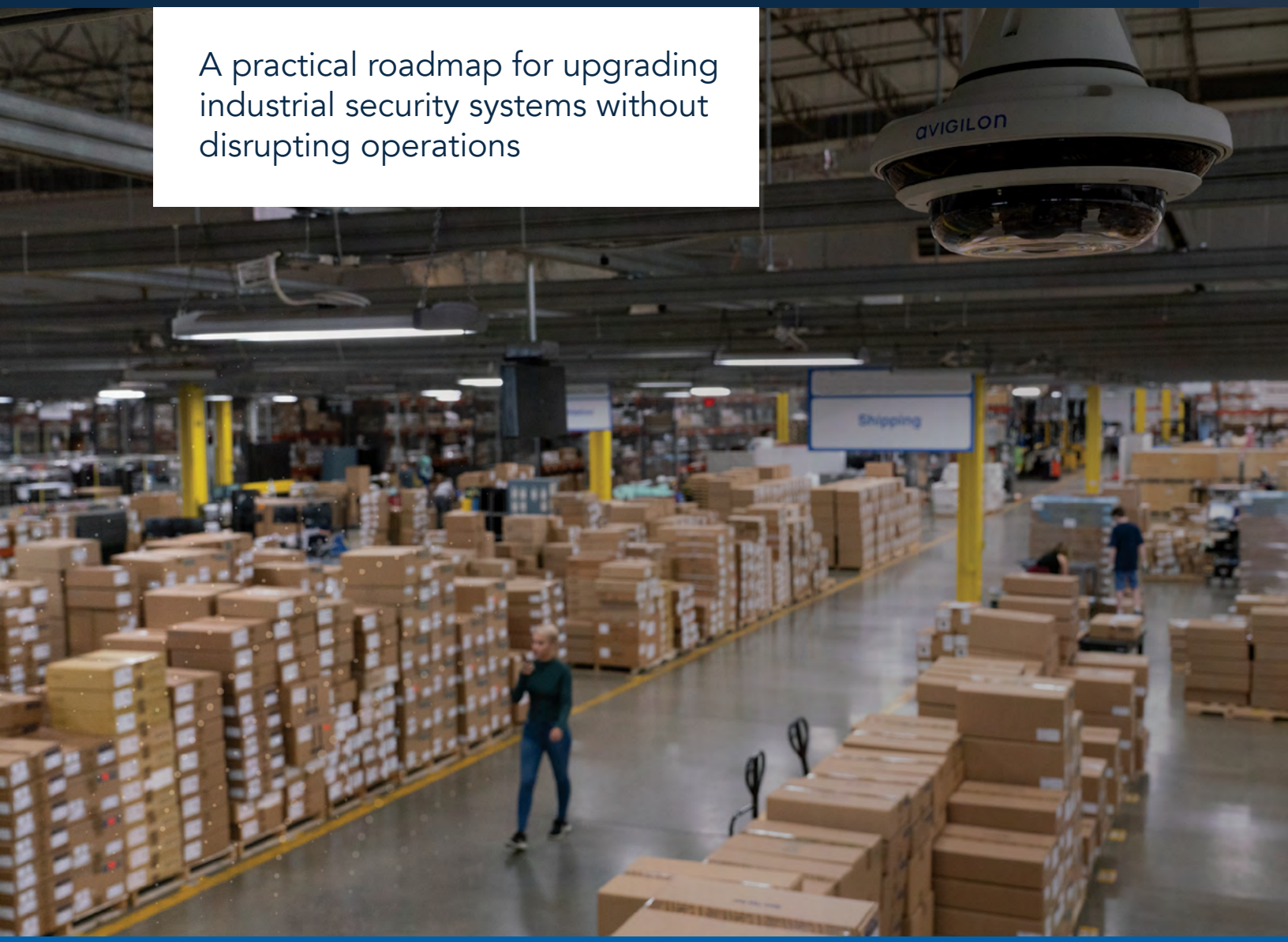
BAYCOM

A lifeline in the moments that matter

MANUFACTURING SECURITY SYSTEM *MODERNIZATION GUIDE*

A practical roadmap for upgrading industrial security systems without disrupting operations



A NEW AGE OF SECURITY OF MODERNIZATION *IN MANUFACTURING*

Proactively protecting people, property & places

Manufacturing facilities are uniquely exposed to physical security risks. Expensive equipment, high-value inventory, critical infrastructure, proprietary processes, and workers must be protected.

But many manufacturers still rely on outdated or pieced-together security systems that were never designed for today's operational realities:

- Old security cameras with blind spots
- Access control that's difficult to manage
- Systems that don't integrate or "talk to each other"
- A lack of emergency alert communication protocols

An even greater challenge is IT teams with competing priorities, tasked with mitigating cybersecurity threats in addition to maintaining on-premise security system platforms.

This guide offers insights on the latest security system technologies to help improve safety and manage risk in today's lean and highly automated manufacturing environments, both inside your facility and beyond.

IN THIS GUIDE

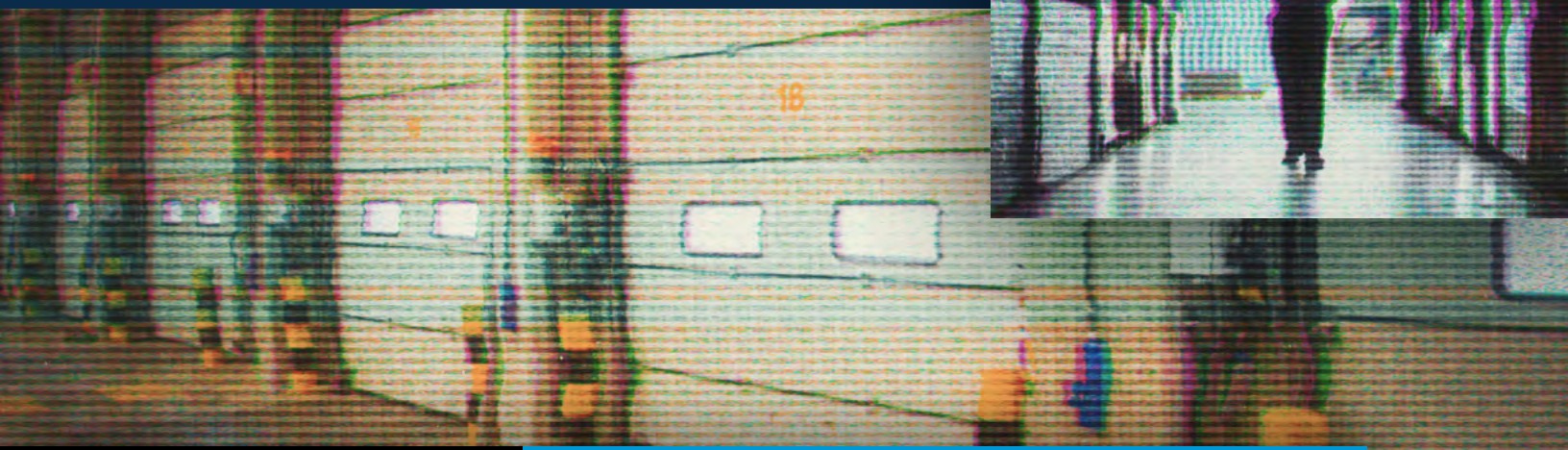
THE HIDDEN RISKS OF *OUTDATED MANUFACTURING SECURITY*

Many manufacturers don't realize how much outdated security is costing them until something goes wrong. Modern security systems are designed to support the flow of manufacturing, not disrupt it.

AREA	OUTDATED SECURITY	MODERN SECURITY
Visibility	Low resolution cameras, grainy images, blind spots, siloed views	High-definition (HD) video with full-facility and perimeter coverage
Incident response	Manual monitoring and delayed awareness and response	Real-time alerts, AI-powered detection, faster response
Safety and compliance	Limited insight into unsafe conditions or access violations	Integrated video, access control, and sensors for proactive safety monitoring
Investigations	Time-consuming reviews with incomplete or poor-quality data	Clear video, synchronized access control logs, and searchable events
Operational impact	Frequent disruptions, false alarms, and reactive workflows	Reliable security supports production flow without slowing operations
Productivity	Staff pulled away from core tasks to manage issues manually	Automation reduces labor burden and improves efficiency
IT & operations load	Disconnected systems that require constant attention	Centralized management that's easier to maintain and scale
Scalability	Difficult and costly to expand or update	Designed to grow with facilities, teams, and automation
Business risk	Higher exposure to theft, safety incidents, and downtime	Reduced risk through proactive, integrated protection

WARNING SIGNS OF OUTDATED SECURITY SYSTEMS

- Grainy or unreliable video footage
- Blind spots in production areas, shop floors, loading docks, or yards
- No centralized view across buildings, locations and parking lots
- Absence of real-time communication in crisis situations
- Manual access control processes
- Limited or no remote monitoring
- Frequent security system downtime or hardware failures
- Replacement parts that are hard to source
- Inability to track fleet vehicles or personnel
- Heavy reliance on already-stretched IT teams



BY THE NUMBERS

Access control systems can **reduce** unauthorized access **incidents by 80%.**
Source

26% of security failures are **caused by insider threats.**
Source

Unplanned downtime caused by physical security incidents costs manufacturers an average of **$260,000 per hour**.
Source

60% of companies experienced a **physical security breach** in the last year.
Source

WHAT MODERN *MANUFACTURING SECURITY LOOKS LIKE*

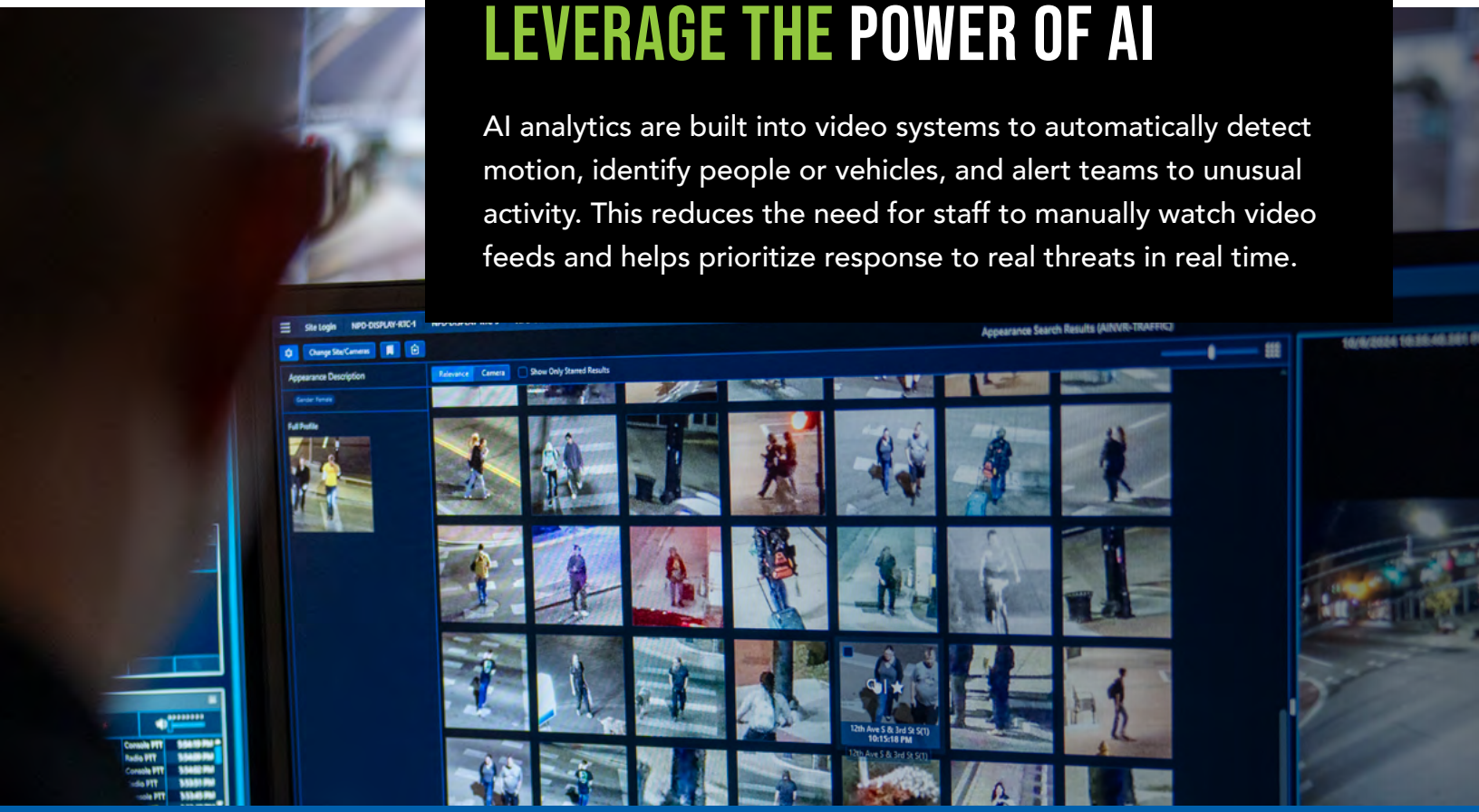
Today's manufacturing security solutions are smarter, more connected, and easier to manage, going beyond basic cameras and locks. Multiple systems create an integrated ecosystem of AI-powered technologies that works together to provide real operational visibility, and are built to perform regardless of the environment, including:

- Loud shop floors and industrial settings
- Extreme dust, vibration, and temperatures
- Large facility footprints and outdoor areas
- Signal interference from buildings or equipment

An ecosystem of technologies all work together seamlessly to help keep manufacturing facilities and their workers safe and secure.

LEVERAGE THE POWER OF AI

AI analytics are built into video systems to automatically detect motion, identify people or vehicles, and alert teams to unusual activity. This reduces the need for staff to manually watch video feeds and helps prioritize response to real threats in real time.



SECURITY SOLUTIONS:

High-definition video with full facility coverage

Modern video surveillance uses high-resolution cameras placed throughout indoor and outdoor areas to ensure comprehensive coverage, from production floors to perimeter fencing. These HD cameras deliver clear imagery in various lighting conditions and are the foundation for effective monitoring and documentation.

EXPLORE

Integrated access control for doors, gates & restricted areas

Manage who can enter buildings, secure areas, machine zones, and yards. When tied into video security, these systems provide synchronized logs and event-based video that give context to every badge swipe or denied entry.

EXPLORE

Environmental and safety sensors for visibility beyond video

In addition to cameras, modern security incorporates sensors for environmental and safety monitoring (e.g., motion, air quality, vaping, and chemicals). These sensors also help detect issues like unauthorized entry, equipment tampering, or unsafe conditions that video alone might miss.

EXPLORE

Two-way radios for real-time communication

Reliable internal communication is critical during a crisis, security breach, man-down, or safety incident on a manufacturing floor. Two-way radios provide instant, push-to-talk communication that doesn't depend on cellular networks or Wi-Fi. Features like emergency alert buttons and dedicated talk groups help personnel broadcast urgent messages facility-wide or to specific teams. In noisy, expansive, or signal-challenged environments like manufacturing plants, radios with multiple headphone options provide reliable, clear communication.

EXPLORE

SECURITY SOLUTIONS CONTINUED:

License plate recognition technology

License Plate Recognition (LPR) systems capture and interpret vehicle plate data at gate entrances and parking areas. LPR enhances perimeter security by identifying known or unauthorized vehicles, logging entries and exits automatically, and integrating vehicle data with broader security systems.

EXPLORE

In-vehicle radios, GPS tracking & monitoring for fleet vehicles

Manufacturing operations often include fleets (e.g., cargo trucks, delivery vans). Video and access control help secure loading docks, terminals, and entries. Rugged in-vehicle computers and radios with GPS tracking ensure reliable communication and provide location context for mobile assets.

EXPLORE

Centralized management across buildings or sites

Advanced security platforms feature cloud-enabled and mobile-friendly command centers so personnel can view and manage video, access, and alarm systems from a single interface from anywhere, regardless of facility size or geographic distribution. This capability is crucial for distributed sites or facilities with lean security teams.

EXPLORE

BAYCOM partners with industry-leading technology providers, delivering best-in-class solutions purpose-built for demanding industrial environments.

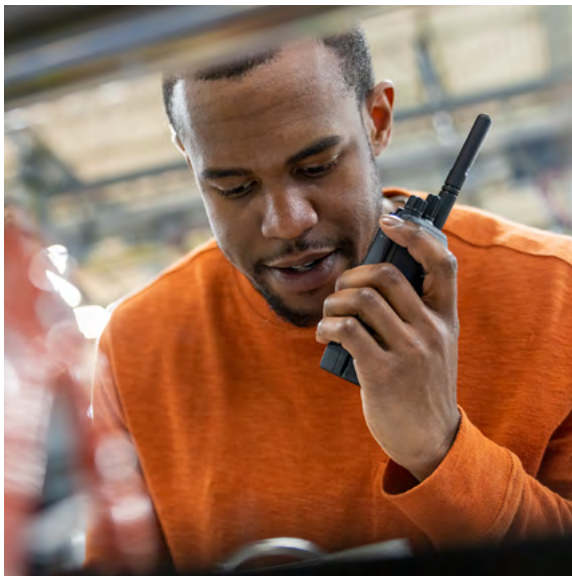
MOTOROLA SOLUTIONS

AVIGILON a Motorola Solutions Company

TOUGHBOOK

RAJANT

WHAT IS AN *INTEGRATED SECURITY SYSTEM?*



An integrated security ecosystem is a comprehensive and interconnected framework of technologies and processes that work together to protect property and people.

A modern security system works like a well-designed manufacturing operation. Just as production lines, equipment, and ERP systems are integrated to keep materials, data, and people moving efficiently, video, access control, sensors, and two-way radios deliver the best results when they operate as one coordinated ecosystem — not as disconnected tools.

BENEFITS OF SECURITY SYSTEM INTEGRATION

One interface instead of multiple logins

Security teams manage video, access, sensors, and communications from a single command center, reducing complexity and wasted time.

Faster incident response

Integrated alerts and shared data give teams immediate context, helping them act quickly and decisively.

Better insight into patterns and trends

Connected systems reveal recurring issues, traffic patterns, and risk areas that siloed tools can't easily show.

Easier training for staff

A unified system shortens learning curves and makes it easier for teams to adopt and use security tools correctly.

Lower long-term maintenance costs

Fewer systems to support means reduced hardware, licensing, and administrative overhead over time.

Single point of contact

Because BAYCOM helps design and deploy the entire ecosystem, you'll only have to work with a single partner rather than multiple vendors.

DISCONNECTED SYSTEMS CREATE FRICTION.
INTEGRATED SYSTEMS CREATE CLARITY.

BAYCOM

HOW A SECURITY ECOSYSTEM *WORKS IN THE REAL WORLD*

MANUFACTURING USE CASE SCENARIO

An unauthorized individual attempts to access or enters a restricted area of a manufacturing facility, and the integrated security ecosystem springs into action:

- AI-powered detection technology indicates suspicious activity
- Integrated video analytics and access control systems immediately trigger automated alerts
- Security teams are dispatched with live video context, pinpointing the intruder's location
- Access points can be locked down or monitored in real time based on the level of threat
- Coordinated notifications are sent across two-way radios and mobile devices to operations, safety, and security teams
- Rules-based automated alerts can notify law enforcement when needed, even sending live-feed video to assist in detaining the suspect
- All data and video are securely recorded, capturing evidence in the event of legal action

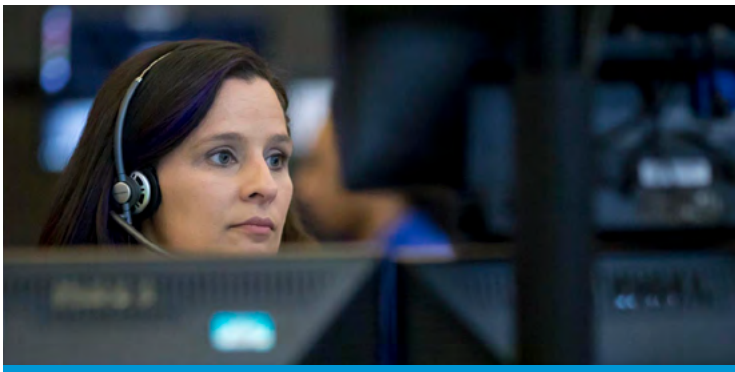
By leveraging a unified security ecosystem, manufacturers gain the visibility and control needed to quickly detect, respond to, and resolve potential risks without disrupting their operations.

SECURITY MODERNIZATION *WITHOUT OVERLOADING IT*

One of the biggest concerns manufacturers hear when evaluating security upgrades is:

"Who's going to manage this?"

With lean IT teams already balancing network integrity, operational technology (OT) systems, compliance requirements, and constantly evolving threats, the idea of adding another system can feel overwhelming.



60% of IT professionals report experiencing burnout, with 44% saying their workload limits productivity and 58% spending half or more of their work week on routine end-user requests rather than strategic work. Source

By leveraging cloud-managed platforms, simplified interfaces, and automated support tools, manufacturers can strengthen security while freeing IT to focus on higher-value innovation and critical operations.

Cloud-managed platforms with simple interfaces: Centralized dashboards make it easier to view, control, and update security systems across one or multiple facilities without VPNs or on-site servers. Shifting core services to the cloud minimizes hardware upkeep and reduces patching, backup, and lifecycle management tasks.

Automatic updates and health monitoring: Firmware, analytics models, and security updates are delivered automatically, lowering the risk of outdated systems and freeing IT from manual maintenance cycles.

Remote troubleshooting and support: Vendor support tools can help diagnose and resolve issues without dispatching technicians to remote sites — a major time-saver for geographically distributed operations.

Scalable designs that grow with your operation: Adding cameras, access points, or new facility coverage can be done without major infrastructure overhauls, avoiding expensive and disruptive upgrades.

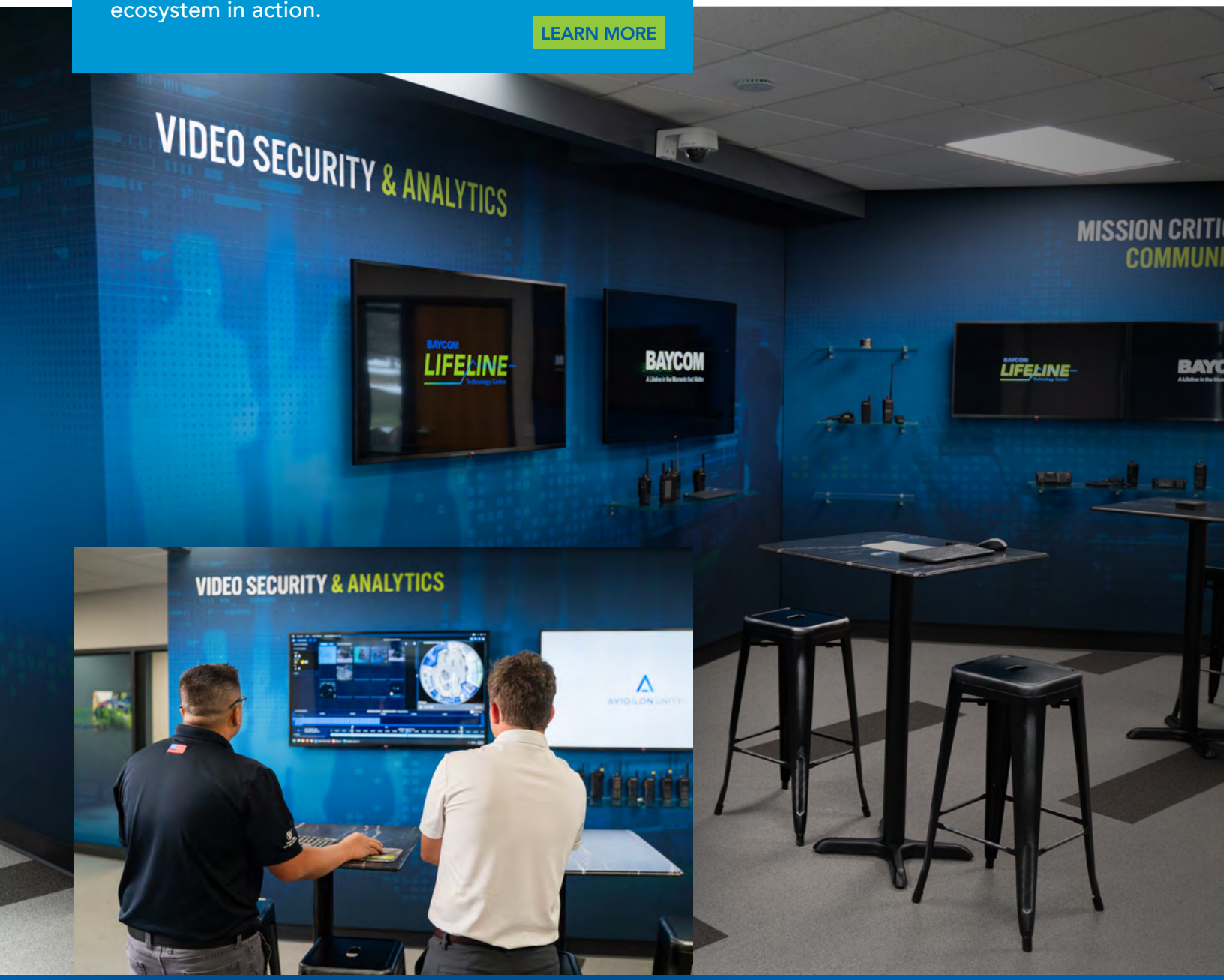
Today's integrated security solutions are designed specifically to reduce IT burden. When systems are properly designed and integrated, your team spends less time managing security and more time running the business.

LIFELINE TECHNOLOGY CENTER: *PROVING IT WILL WORK*

BAYCOM provides a hands-on demo environment where organizations can experience integrated voice, video, and data technologies in real-world scenarios before investing in a system. More than a showroom, the Lifeline Technology Center is a live operational environment where you can put systems to the test and see the ecosystem in action.

LEARN MORE

BAYCOM LIFELINE Technology Center



REPLACE OR START FRESH?

CHOOSING THE RIGHT PATH

Every manufacturing facility starts from a different place. Some have aging security systems, while others have little to no coverage at all. The right modernization path depends on your current infrastructure, risk profile, and how your facility actually operates day to day.

1. IF YOU HAVE AN EXISTING SYSTEM: A PHASED APPROACH

Modernization doesn't have to mean ripping everything out. Many manufacturers take a phased approach that minimizes disruption while improving performance.

- **Replace failing components first** to improve reliability without major upheaval
- **Expand coverage** to eliminate blind spots in production areas, entrances, and perimeters
- **Integrate video and access control** into a single platform for better visibility and investigation
- **Phase upgrades strategically** to avoid downtime and production interruptions

This approach allows teams to modernize at a manageable pace while maintaining continuous operations.

2. IF YOU HAVE NO OR LIMITED SECURITY COVERAGE: A FRESH START

Starting fresh gives manufacturers a unique advantage: the ability to design security intentionally from day one.

- **Build a scalable foundation** that grows with your facility and future expansions
- **Design coverage around real workflows**, not just floor plans
- **Avoid future rework** by implementing integrated systems upfront
- **Deploy modern tools immediately,** including AI-powered analytics, centralized management, and remote access

A clean-slate approach helps ensure security supports productivity rather than becoming a retrofit later.

STEP-BY-STEP MANUFACTURING SECURITY MODERNIZATION ROADMAP

Manufacturing requires engineering, planning, and programming from industry experts to ensure tight tolerances and project execution. The same is true for a security system.

Here is what a successful security modernization typically looks like:

STEP 1: FACILITY ASSESSMENT

A team of BAYCOM experts will visit your facility to evaluate existing security measures, identify blind spots, risks, and operational priorities.

STEP 2: SYSTEM DESIGN

Technology is matched to your environment, workflows, risk tolerance, scale, and budget, and a robust system is designed.

STEP 3: PHASED IMPLEMENTATION

A BAYCOM consultant works with you to implement upgrades based on your desired schedule and workflow without interrupting production.

STEP 4: INTEGRATION AND TESTING

Systems are thoroughly tested and verified to ensure everything works together as intended from day one.

STEP 5: TRAINING AND ONGOING SUPPORT

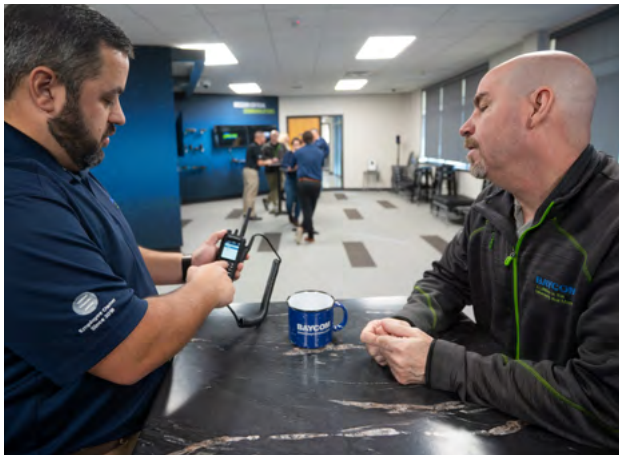
System training is provided for necessary personnel, with ongoing support as needed to keep systems running smoothly long after installation.

VIEW MANUFACTURING SECURITY SOLUTIONS

HOW TO CHOOSE
THE RIGHT SECURITY PARTNER

TECHNOLOGY ALONE ISN'T ENOUGH.

Whether you're modernizing an existing system or starting from scratch, the most important factor is partnering with a provider who will design security around how your facility actually operates.



Work with BAYCOM experts who:

- Understand manufacturing environments
- Design systems around real workflows
- Integrate solutions with your existing infrastructure
- Provide long-term support and training
- Act as an extension of your team

Our team will design robust wired and wireless networks that integrate security systems with industrial IoT systems, ensuring your operations stay connected, fast, and secure.

We'll also assess risks, workflows, and infrastructure to deliver right-sized recommendations, helping you invest wisely, minimize disruption, and build a system that delivers long-term value.

NEXT STEPS:

BUILD THE RIGHT SOLUTION FOR YOUR FACILITY

CHOOSE YOUR OWN JOURNEY

TRY THE BAYCOM SECURITY SYSTEM BUILDER

LET US GUIDE YOU

REQUEST A FACILITY SECURITY ASSESSMENT