The Future of Remote Industrial Surveillance

BY CHAD STEVENS

The future of industrial security

isn't about building bigger fences or hiring more guards; it's about seeing the places that have historically gone unseen. As our reliance on remote energy and utility assets continues, so does the need for a security solution that can operate anywhere, providing real-time visibility and protection for our most critical infrastructure.

The Paradox of Remote Security

The conundrum when it comes to securing remote infrastructure sites is that thousands of small facilities exist across the country, and each one is critical to the operation of any given company—however, they are inherently difficult and expensive to secure with traditional security methods. Each business is tasked with the difficult decision of accepting a certain level of risk by not investing in costly security upgrades at these remote locations. Today's security solutions are either too costly or ineffective to justify as investments to mitigate the risk at remote sites.

Picture the most remote site you can think of—a well in the middle of the desert, an offshore oil rig, solar panels in acres of empty fields in the Arctic. By design, sites like these are rarely seen or visited by anyone, including security or operational staff. When someone is required at these sites, it means long travel days and crucial operational employees taking time away from their other duties. These remote sites stand alone as critical cogs in the operation of industrial companies.

Conventional security approaches are rife with shortcomings when faced with the needs of modern-day infrastructure companies.

The Low-Probability, High-Consequence Threat

Because these sites are in extremely remote locations, they see very little traffic and there's a low probability that they will be tampered with. Still, it's never a zero percent chance. If any of these sites are compromised, the entire operation of any given pipeline, utility, and those they supply energy to is interrupted. In other words, it can become an extremely expensive and disruptive incident affecting employees, businesses, and communities.

Take a pipeline, for example. If a pipeline carries petroleum products to a major metropolitan area or region, you'll find process control equipment that monitors and controls the flow of the pipeline and other critical functions at a number of remote sites. If a bad actor or even a misinformed employee were to access these sites and stop the flow of the pipeline, it's an extremely high-consequence event with cost and operational or potential environmental consequences.

The likelihood of tampering or damage is low, but if it happens, it's catastrophic. According to the Pipeline and Hazardous Materials Safety Administration (PHMSA), in 2025, serious pipeline incidents have totaled over $4 million in costs, with 14 injuries and 7 fatalities. Modern-day security companies are seeing the need for greater remote surveillance, and answering it with cutting-edge security technology for industrial sites.

This isn't just about a new product; **it's about a strategic shift that makes scalable, enterprise-grade security accessible for every industrial use case,** ensuring complete perimeter protection and asset security no matter the location.

LVT in the Industrial Sector

What if you could reliably put video anywhere? That's the question driving the next phase of innovation at LVT. We understand that securing vast industrial sites demands more than just static solutions.

Our mobile surveillance units have already proven that agile, reliable, off-grid security is not only possible but provides an operational advantage. However, as an industry, we're constantly looking for the next evolution of this capability. We envision a future where that same power and intelligence could be deployed from a more compact, universally accessible platform. Imagine a pole-mounted system, powered by its own solar and battery, that could be rapidly deployed and relocated to secure critical assets in minutes, not days. Now imagine the same system that is as reliable as and performs on-par with traditional, wired systems.

This vision is built on the foundation of our existing technology. It would leverage the same LVT® Platform and a suite of powerful features—intelligent intrusion detection, AI-powered deterrents, and real-time alerts—to provide

unparalleled situational awareness. This isn't just about a new product; it's about a strategic shift that makes scalable, enterprise-grade security accessible for every industrial use case, ensuring complete perimeter protection and asset security no matter the location.

The Breakthrough Solution: Video Anywhere with Satellite Connectivity

In truly remote areas, there's always been a communication barrier. No service, no staff, and no infrastructure? That's no problem for satellite-connected security systems. Satellite connectivity means that there's no longer a barrier to having high-quality video streaming at any of your sites, no matter how far off the beaten path they are.

Improved Security and Operational Efficiency: The Dual Benefits of Remote Surveillance

Remote security solutions provide benefits beyond traditional physical security. By deploying systems like LVT's mobile surveillance units, industrial companies can achieve greater operational efficiency and a strong return on investment (ROI).

Here's how satellite-connected security systems optimize your operations:

- **Real-time visibility into remote operations.** Get rid of guesswork. Constant, real-time visibility into all your sites allows you to monitor security risks and operations.
- **Reduced downtime and faster incident response.** Rather than waiting for an employee to travel out to a remote site to do a manual check, you can assess issues from afar. This allows you to keep your employees where you need them and respond appropriately, optimizing resource utilization.
- **Proactive monitoring for maintenance and asset integrity.** Shift from a reactive security approach to a proactive one. Use cameras for remote visual inspections and to detect anomalies so repairs are only scheduled when necessary.. Proactively monitor your crews for safety compliance to avoid legal issues and fines.
- **Deter theft, vandalism, and other unwanted behaviors.** Secure your valuable equipment and materials against crime with mobile security cameras and AI-powered deterrents.

Real-World Applications: Securing Diverse Industrial Assets

High-stakes environments require top-tier security technology. Satellite connectivity and remote security are essential for both security and operational success in these sectors.

ENERGY:

- **Upstream oil and gas production:** Large production fields and their distributed wells, gathering systems, and tanks are vulnerable to theft and vandalism. LVT's flexible solution provides real-time monitoring for security and operational purposes.
- **Oil and gas pipelines:** These vast networks are highly susceptible to vandalism, theft, or accidental damage. LVT's wireless cameras provide intrusion detection, AI-powered deterrents, and rugged hardware that can be placed at strategic points along the pipeline, providing real-time alerts for unauthorized activity. Monitor

remote sites easily.

- **Offshore platforms:** These are self-contained, high-value assets operating in some of the most remote and harsh environments in the business. Satellite-connected cameras provide a vital security layer, offering continuous surveillance of perimeters and other critical areas where traditional communication and monitoring is not available. Monitor high-value equipment and ensure safety protocols are being adhered to with LVT's real-time monitoring.
- **Solar facilities:** The large, sprawling footprint of a solar field is vulnerable to material theft and vandalism. LVT offers a cost-effective, easily deployable security solution to create a virtual perimeter and real-time monitoring. Send instant alerts to security or operations teams and deter suspicious activity at any remote location.

UTILITY:

- **Electrical utilities:** Substations, powerlines, and other critical grid components are often located in remote, difficult-to-access areas. Deploying LVT mobile surveillance units and mounted cameras at these sites allows utility companies to monitor for physical threats and environmental hazards.
- **Water utilities:** Reservoirs, pumping stations, and treatment plants are critical to public health. They are often found across large geographical areas, which means total site security can be hard to come by. Wireless, satellite-connected security solutions make continuous monitoring simple. Improve operational efficiency as well as monitor for security threats.

The Secure Future of Industrial Infrastructure

The future of industrial security is about optimizing budgets, workflows, and time while keeping eyes on your critical sites, especially the most remote ones. The solution is to have video anywhere, and LVT makes this possible. By empowering companies to safeguard their infrastructure, protect their people, and ensure their resilience, AI-powered, rapidly deployable security with intelligent software is becoming the new standard for a safe, secure, and efficient future.

To try out LVT's satellite-connected mobile security solution on your industrial site, **contact lvt.com/lp/demo.**