Video Surveillance for Industrial Security



Industrial Security Applications

- Building and campus protection
- Unattended building site monitoring
- Construction site monitoring
- Personal injury risk mitigation
- Security monitoring of restricted areas
- Visual feedback from mobile maintenance operators
- Real-time monitoring of industrial equipment
- Video monitoring by mobile security personnel
- Industrial instrumentation

Video Surveillance has become an indispensible component of industrial security and operations monitoring. Fixed and mobile video-based solutions over Wi-Fi can monitor mission-critical video feeds to and from field units, improving operational efficiency, industrial safety, and mitigating risk.

Wireless Video for Industrial Security

Video Surveillance over a wireless network provides a highly flexible way of monitoring outdoor areas such as campuses, parking areas, construction sites and industrial plants. Mobile broadband access allows in-field monitoring and distribution of live and recorded video to mobile users. A metro-scale Wi-Fi network can be deployed faster and can be setup tactically and then moved, with reduced deployment complexity and cost than alternatives.

Key benefits of Industrial Video Surveillance over a Wi-Fi network:

- **Resource multiplier:** Provides extra 24x7 virtual eyes in the locations they are needed. Enables simultaneous centralized monitoring and recording of multiple areas and sites with minimum personnel. Mobile security patrols can monitor entire campus areas from one vehicle.
- **Unattended security:** Protection of critical equipment during downtime – collects evidence and acts as a theft deterrent.
- **Improved operational communications:** In-vehicle or man-carried cameras allow qualified, off-site personnel to see exactly what is going on, improving decision making and reaction times.

> "The construction industry in the U.S lost nearly $1B in 2001 to equipment and tools theft."
>
> National Insurance Crime Bureau

- **Liability mitigation:** Video monitoring of critical operations monitors compliance with safety procedures. Video recording provides visual evidence of accidents, improving operational procedures and reducing fraudulent claims.
- **Improved operational efficiency and safety:** Remote monitoring of operating equipment or processes augments industrial instrumentation and provides an important visual cross-check of operations in real-time

Multi-use Network

Tropos is the market leading metro-scale wireless broadband company, providing a reliable and secure foundation for delivery of multiple simultaneous applications on the same cost-effective physical infrastructure. In addition to the primary video application, a single network can be designed to support a range of large-scale industrial applications such as:

- **Industrial safety communication** — Enables security personnel to have in-field access to all available relevant information. Mobile users can access the same information and applications in the field as from their office such as HazMat databases, floor plans, plant schematics, etc. Voice-over-IP can provide two-way audio communications and phone access.
- **Mobile operational support** — Allows remote processing of work orders, production reports, schedules, etc. by any users with Wi-Fi equipped laptops and PDAs.

- **Inventory tracking** — Mobile equipment or containers can be readily tracked throughout the metro-scale coverage area, reducing theft and improving accounting, management, and work flow.
- **Equipment monitoring** — Sensors in expensive vehicles that monitor its "health" can be wirelessly monitored, improving maintenance cycles and reducing downtime.
- **Internet access** — Provides workers with remote access to email and Internet services throughout the coverage area.

Tropos MetroMesh Solution Partners

- **Mobile Viewing Elements**
  Panasonic
  On Net Surveillance Systems
- **IP Cameras**
  Axis
  Panasonic
  Sony
- **Video Servers**
  Panasonic
  Axis
  Sony
- **Video Recording Software**
  On Net Surveillance Systems

Tropos Technology Differentiators

- **Performance** - Highest throughput, greatest capacity mesh technology
- **Security** - Layered military-grade encryption throughout the mesh; full VPN support
- **Tactical or Permanent** - Easy setup at temporary sites or permanent monitoring
- **Mobility** - Seamless roaming across entire cities
- **Management** - Most comprehensive analysis and control tools

Video Surveillance Building Blocks

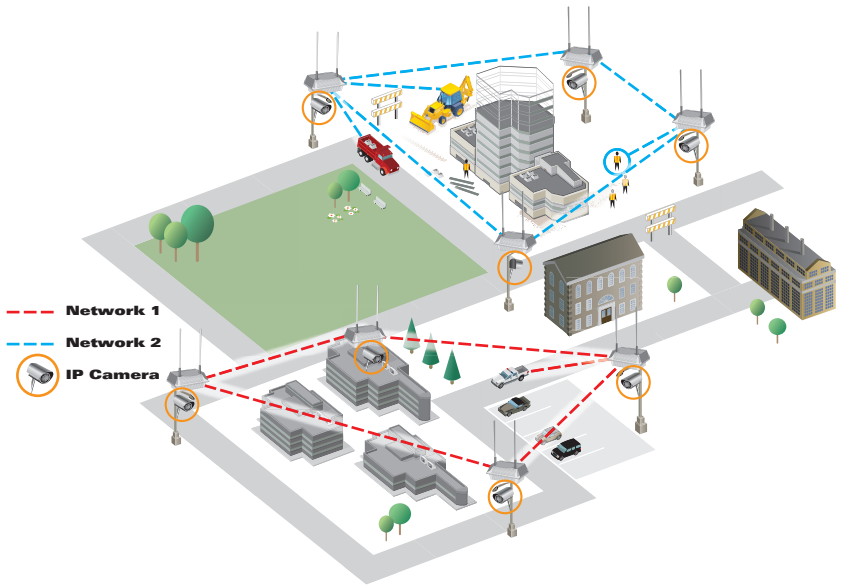
A Wi-Fi based video surveillance solution's installation and operational costs are dramatically less than wired analog or digital cameras. In addition to a highly reliable and scalable wireless broadband network, Tropos has forged relationships with the industry's leading solution partners creating an ecosystem for interoperability and ease of deployment. A typical video surveillance solution consists of:

- IP cameras that generate digital video images
- Scalable monitoring and recording software running on network connected standard PC hardware (NVRs)
- Mobile viewing clients that run on standard laptops and handhelds

Cameras mounted on vehicles and trailers can also stream live images back to headquarters and to other mobile units. Site security can be monitored centrally over the Internet. The network and cameras can be easily set up and then moved to another location when requirements change, such as completion of a construction project.

Built with reliability and security in mind, Tropos networks can operate in both the 5.8 GHz and 2.4 GHz bands. Industry's leading routing algorithms allows for simultaneous dual paths in the network offering path redundancy and fault tolerance.

Tropos Metro-Scale Video Surveillance network



TROPOS networks
555 Del Rey Avenue • Sunnyvale, CA 94085
phone 408.331.6800 • fax 408.331.6801
www.tropos.com • sales@tropos.com

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