Bosch Perimeter Surveillance Solution
Solution Brief

The call for tighter critical infrastructure security

After 9/11, the security paradigm around industrial and critical infrastructure facilities changed. Regulatory programs such as CFATS emerged, calling for stricter perimeter protection standards for critical infrastructure.

The challenges of critical site security

Monitoring fencelines around industrial facilities, reservoirs and water treatment plants, ports and airports, energy infrastructure and substations is extremely difficult. Such sites are usually poorly lit. They are remote, large and most at risk at night. And there is increasing public pressure to reduce the use of high-power visible light due to energy consumption and light pollution concerns.

Typically, video surveillance along a critical infrastructure fenceline requires classification or recognition level imaging with 100% coverage. The equipment must be able to overcome all outdoor and environmental challenges and deliver high-quality video in low-light/no-light operating conditions.

Fencelines involve many cameras and monitoring them is a very hard task. In fact, human monitoring of security cameras garners alarmingly high "missed events" rates.

The solution − EX30-IP Infrared Imager

Specifically designed for fenceline surveillance applications, the EX30-IP is an integrated camera, IR illuminator and video content analysis unit in a ruggedized NEMA4X outdoor housing. The EX30-IP provides 300ft (90m) classification and 250ft (75m) recognition level imaging. Its high-contrast images allow reliable video analytics performance even in complete darkness.

Field-proven in real-world applications for over 8 years, the EX30-IP incorporates LED-based illumination and a ruggedized weatherproof housing. These features enable 24/7 surveillance for critical applications while ensuring years of trouble-free operation.

FEATURES:

- High-contrast, illuminated images using Black Diamond infrared technology
- Reliable outdoor performance with rugged, all-weather construction
- Analog and IP output options
- Capability to alarm on fenceline activity using on-board analytics
- Installation flexibility with 5-50mm IR corrected lens
- Discreet illumination with 850nm or 940nm IR wavelength
- Comprehensive surveillance with 350ft (100m) detection, 300ft (90m) classification, 250ft (75m) recognition and 150ft (45m) identification

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Automated CCTV monitoring with Bosch Intelligent Video Analysis (IVA)

No matter how many cameras a system uses, monitoring fencelines is a major challenge. After observing a single screen for only 20 minutes, an operator can miss as much as 90% of activity in a scene.

Bosch Intelligent Video Analysis (IVA), a suite designed for fenceline surveillance, introduces a new level of automation to CCTV monitoring. Camera-based, real-time processing identifies alert conditions that include exclusion zones, loitering alarms and left object detection, giving the security team the information it needs to react and take action swiftly.
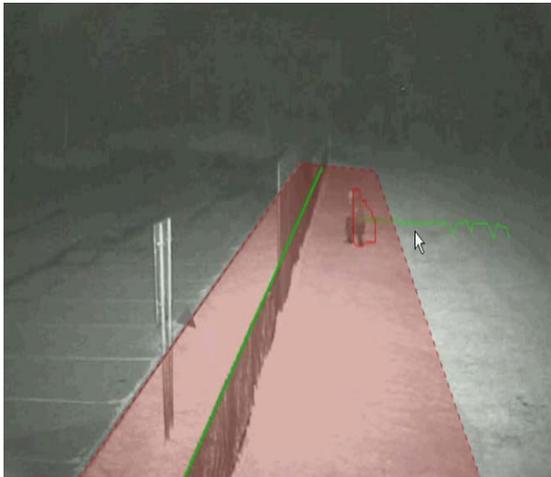
Working independently on each camera, Bosch IVA operates without a central analytics server. Users can choose a wide variety of advanced detection functions – from idle object to multiple trip wires. Live images are analyzed instantly and the resulting data stream accompanies the video feed.

Events are immediately displayed, while the data can also be stored for later review. As a complete system solution, Bosch IVA captures comprehensive details of recorded scenes, giving users the power to find any event.

With IVA capability embedded at the edge, the system is far more scalable than massive, centralized, PC-based VCA servers. Plus dramatic reductions in bandwidth are realized since full-motion video is transmitted only when certain alarm criteria are met.

Reduce bandwidth with IR

IP surveillance encounters both image quality and bandwidth challenges in low-light conditions. Image noise can substantially reduce the efficiency of encoders used in IP cameras today, resulting in a doubling or tripling of bit rates at night.

Testing showed that in a range of low-light conditions, infrared illumination decreases bit rates by 70% to 90%. This decrease consequently reduces network requirements and substantially lessens storage costs – one of the most expensive aspects of CCTV systems.

Alternative solutions

Don't need infrared illumination?
- NWC-0495 Dinion XF Day/Night Cameras
- EX27 All-Weather Cameras + VideoJET encoder

Need more range?
- ZX55 Infrared Imager
- AEGIS UFLED Infrared Illuminator + KBP Prepackaged camera

Prefer visible light illumination?
- AEGIS UFLED White Light Illuminators + KBP Prepackaged camera

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