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Intelligent security for energy and utility sites



Hundreds of thousands of customers rely on the services provided by energy and utility facilities. As theft, vandalism, and terrorism constantly threaten these sites, regulations are becoming increasingly stringent and the need to safeguard the perimeters of these sites is vital. If critical assets are damaged or disabled, it can have a distressing effect on the communities and businesses serviced by the site and may pose risks to health and safety.

As part of the guidelines provided by the North American Electric Reliability Corporate Critical Infrastructure Protection plan (NERC-CIP-014-2), critical sites must be able to detect, deter, delay, assess, communicate, and respond to objects approaching a site perimeter, with the aim to safeguard the facility. Together, Bosch and Genetec offer a field-proven and modular approach for energy and utility sites to fulfill this risk mitigation continuum.

Detect for early warnings

Advanced detection is essential to security. Operators need to know as soon as possible if there is a risk to the area or assets, so they can respond faster. Bosch video security cameras with built-in artificial intelligence (AI) understand what they are seeing to interpret scenes, monitor risks against a threshold, and alert if there is a threat, the moment it happens.

The cameras can alert to line crossing, loitering, an object left behind, and more, triggering alarms if the camera detects a person or vehicle crossing a line in the scene, entering an area without leaving after a specified time, and a vehicle parked near a perimeter. The latest advancements in video analytics can detect intruders who roll, crawl, or hide in tall grass – even under challenging environmental and lighting conditions.

In partnership with **Genetec**TM

Deter to reduce the risk of damage

When a Bosch moving camera detects an intruder, Intelligent Video Analytics (IVA) Pro Intelligent Tracking will automatically track the object of interest even if it stops temporarily to hide. The analytics alert will also trigger the camera's white light illuminator to shine a light on the intruder while tracking the person's or vehicle's movements. The bright spotlight may cause the intruder to leave the area before causing damage.

Video analytics can also trigger audio responses to play through Bosch IP horn loudspeakers that are integrated with the system. Audio messages can be broadcast automatically or be initiated remotely by security personnel when an intruder is detected – warning the person they are under surveillance and that the local authorities have been contacted. Together, the bright illumination and audio communications serve as powerful deterrents.

Delay to avert attack

Third-party technologies, such as long-range acoustic devices, supplement other physical barriers like fencing in delaying intruders. Bosch and Genetec support a layered approach by integrating with other security technologies to help hinder intruders as they seek to cause damage to a site or critical assets.

Assess to evaluate events

Once an event is detected, security operators can use Genetec™ Security Center to evaluate the incident by viewing analytic alarm video from Bosch cameras and identify actions to respond. Using the Restricted Area Surveillance (RSA) module enables the security team to detect potential threats across distances, with seamless monitoring across multiple technologies. The maps display live images of moving targets for tracking.

Communicate to mobile operators

Genetec Mission Control™ decision management system helps users understand unfolding events and identify the best course of action. Operators can easily determine how to communicate critical information and to whom. Those in the command center can share information with key stakeholders and mobile operators to inform them of the latest status of an event.

Respond to resolve incidents

Security personnel may need to implement measures to ensure an intruder is apprehended by authorities. Mission Control helps personnel understand events and guides them to respond quickly, while operating within regulatory boundaries. Mission Control helps the team take control of situations by presenting interactive standard operating procedures designed with compliance in mind to specify the appropriate response.



Detect

Bosch: Edge-based object classification driven detection and tracking

Genetec: Visualization and situational context of detected objects



Deter

Bosch: Edge-based automated instant audio and lighting deterrents

Genetec: Automated event-to-action sequence to create additional active deterrent measures



Delay

Bosch: Operator audio warning commands via IP horn loudspeaker near specific PTZ camera

Genetec: Automated visualization of event for rapid operator engagement



Assess

Bosch: AI-based classification filters noise at the edge for a real-time relevant assessment

Genetec: Intuitive visualization of classified objects and rapid review of forensic data



Communicate

Bosch: Compatible pathways of communication bring awareness to relevant parties

Genetec: Seamless sequence between event and pre-scripted communication during and post event



Respond

Bosch: Rich structured and relevant forensic metadata is streamed from the edge to archiver

Genetec: Forensic data is stored securely and accurately for rapid post-event access and audit



BOSCH

Genetec™

Trusted by the largest utility providers in the U.S., integrated solutions from Bosch and Genetec help these critical sites comply with the stringent guidelines set forth by NERC-CIP to safeguard their facilities and assets.