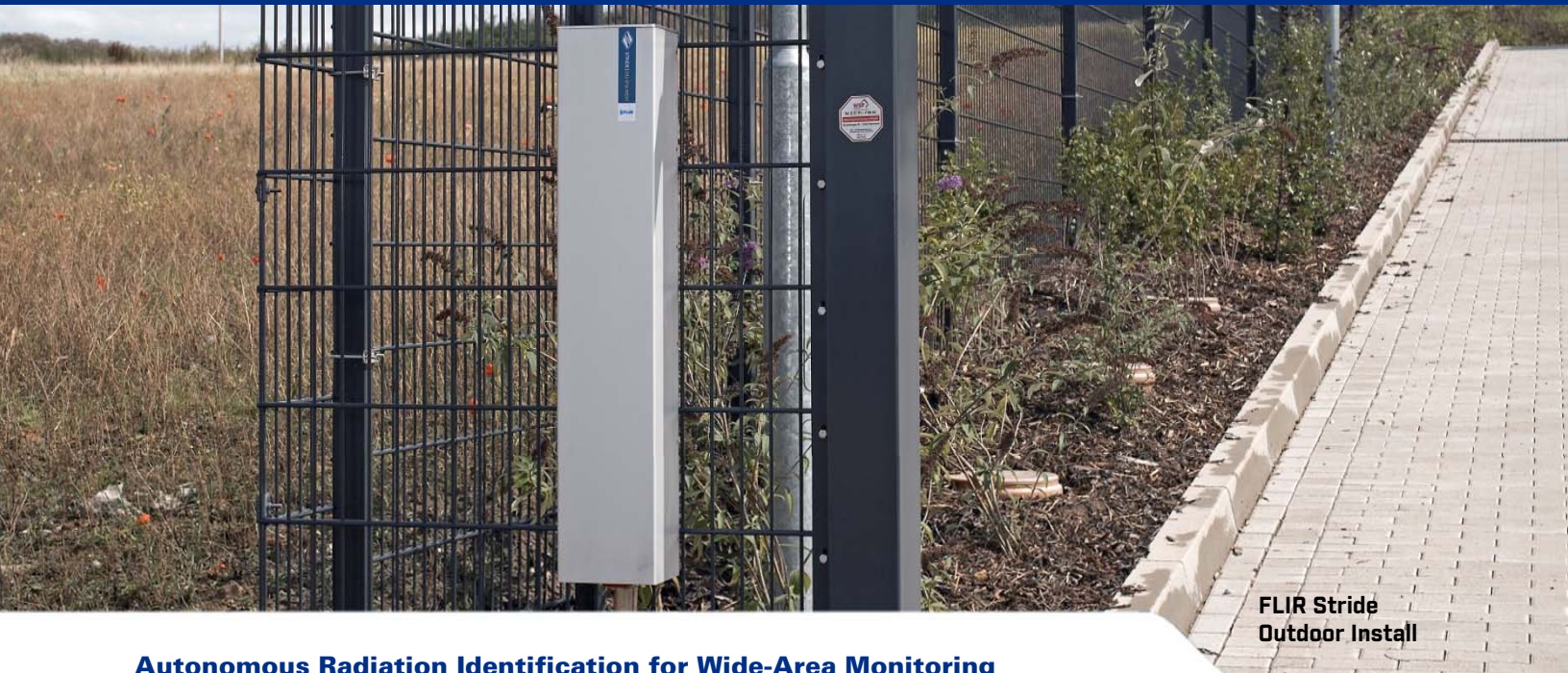


APPLICATION NOTE



Autonomous Radiation Identification for Wide-Area Monitoring

FLIR Stride™ systems provide autonomous real-time detection of radiation threats.

OVERVIEW

Crowded cities, large-scale events, and other wide-area locations are at risk of attack from the deployment of Radiological Dispersion Devices (RDD), often called “dirty bombs”. Wide-area monitoring scenarios involve a high density of people, making the impact of a successful attack more devastating. Early warning for the presence of radiological threats is needed to prevent and minimize public exposure, to expedite containment and cleanup, and to deter future acts of terror.

In order for public safety and homeland security personnel to protect against radiological threats, government acquisition programs have been designed to increase the number of radiological sensors deployed and to improve the integration and coordination of radiation detection capabilities in metropolitan areas. Fixed-site, autonomous sensor networks are in high demand for wide-area monitoring scenarios. Not only are they force multipliers during special events, they provide real-time data that enhances back-end coordination during intelligence-driven operations and improve interagency communication.

The FLIR Stride system is an autonomous sensor that delivers real-time radiation detection and identification. It localizes the presence of radiation and separates innocent material, such as medical patients from threatening material - a unique feature not offered by other area monitors. This is important when protecting high-throughput metropolitan areas, transportation hubs, landmark sites, critical buildings, or high-profile events. Stride automatically calibrates and stabilizes without any user maintenance required. The hassle-free operation and continuous data stream provided by Stride simplifies deployment and integration within existing security networks without disrupting daily operations.

FEATURES & BENEFITS

- Real-time situational awareness with continuous, rapid identification of radioactive material
- Separates benign sources from true threats
- No user interaction or maintenance required with automatic calibration and stabilization
- Interchangeable hardware minimizes downtime and simplifies deployment
- Simple alarm screens and data presentation
- Easily integrates into existing security architecture or city wide networks
- Locates position of source or tracks progression
- Small form factor allows it to be concealed

APPLICATION NOTE

APPROACH

Stride uses field-proven template matching algorithms to identify radiation sources. It provides simple alarm screens so that field users can quickly review the data and initiate appropriate response actions. System integrators are able to assimilate this information into large security platforms with ease, using industry standard network protocols. High fidelity identification and simple data presentation allow Stride to provide actionable information quickly, while removing the manual burden typically associated with continuous monitoring.

- **Eliminates Nuisance Alarms:** Even in high-traffic situations, Stride can distinguish and identify true threats from innocent radioactive material, such as patients who have received treatments using nuclear medicine. The sensor operates autonomously without troubling innocent civilians or disrupting daily operations.
- **Simplifies Data Presentation:** Stride analyzes, logs, and provides access to complex spectroscopic information. However, it also displays basic situational awareness in a simple format by classifying detected materials as innocent, suspicious, or threat. Operators can effectively deploy the system without advanced technical training.

CITYWIDE MONITORING

Due to the volume of pedestrian or vehicular traffic in major metropolitan cities and landmarks, monitoring for the presence of radiation can be challenging. Stride provides continuous coverage of key areas, which frees personnel for other vital security tasks. Packaged in an unobtrusive, nondescript housing, Stride can be deployed in or around public transit and high traffic intersections without obstructing the flow of people and/or traffic. The simple design makes it easy to integrate and connect with existing citywide networks.

EVENT SECURITY

Notable sporting events or other large public gatherings trigger a substantial influx of people into a relatively small area. The density of people makes these situations a prime target for a radiological attack while adding significant complication to the monitoring scenario. Manual scanning at entrances or inspection points slows or interrupts the flow of traffic. The installation of Stride autonomous sensors around a key entrance or waypoint inside a stadium allows security facility officers to passively scan large numbers of people without impacting throughput.



Figure 1 – Metropolitan or landmark



Figure 2 – Stadium or venue entrance

SUMMARY

The FLIR Stride system provides constant coverage in high-throughput areas. With no user maintenance, the system can run in the background providing protection against radioactive threats. Although FLIR provides all the software required to perform more advanced analysis or view alarm details, the system can integrate the data to existing site security software. In either case, the system provides critical information in an easy to understand way with minimal disruption to daily operations. Stride is a force multiplier for security officials tasked with public safety.

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