

THE FLIR SOLUTION

ThreatSense is a “detect-to-protect” system to counter aerosolized threats as well as the movement of radioactive sources. In the unlikely event of an intentional chemical, biological or radiological event, rapid response can reduce injury to people, damage to assets and disruption to operations.

No two buildings share the same vulnerabilities and usage patterns. As a result, FLIR employs a layered approach to facility security that emphasizes the use of widely distributed low-cost detectors combined with a smaller number of identifiers. These sensors are strategically

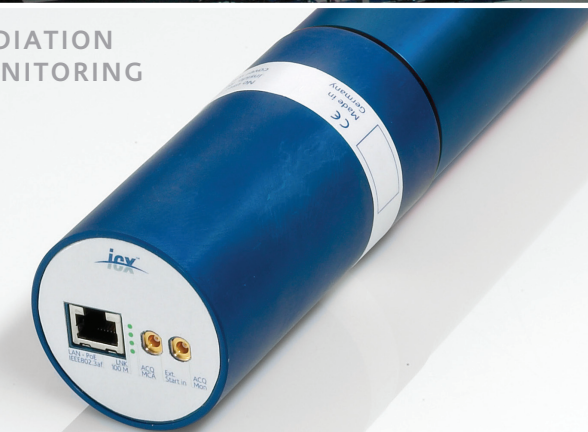
located, allowing rapid detection independent from the location the release. Radiation source identifiers are located at choke points in the traffic patterns, such as security check points. Upon detecting a threat, sensors send an alert directly to monitoring personnel who investigate conditions and oversee confirmation testing.

ThreatSense solutions are scalable, customized to the specific needs of each building and are upgradeable as needs change or new technology becomes available. Sophisticated response protocols can be integrated through the FLIR software platform to maximize protection while maintaining affordability and sustainability.



COMMON OPERATING PICTURE

RADIATION MONITORING



CHEMICAL AGENT MONITORING



BIOLOGICAL AGENT MONITORING



THREAT & VULNERABILITY ASSESSMENT

The process of securing a building begins with a risk-based threat and vulnerability assessment (TAVA). Using facility design information, threat modeling and/or *in situ* test aerosol dispersion capabilities, TAVA identifies how best to apply the available resources to produce to highest level of protection possible for that building. FLIR then works with the stakeholders to create an integrated CONOPS, maximizing the value of the networked threat detection technologies, existing building operations, security systems and personnel resources.

TRAINING AND COMMISSIONING

System commissioning involves installing the hardware, bringing the system online, challenging the system with *in situ* tracer dispersion, and developing a standard operating procedures (SOPs) for each building. FLIR develops and delivers training customized to the CONOPS and SOPs for the building, and re-certifies the training annually. Table top and field exercises are conducted to validate the CONOPS and verify the effectiveness of the training.

RESPONSE SERVICES

FLIR can develop and implement protocols which include automatic low regret building control system modifications, queuing to surveillance systems and confirmation testing. Our approach distinguishes hoaxes from real events and prevents disruption, while maximizing protection of occupants and physical assets.

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THREAT|SENSE™

The Department of Homeland Security has listed chemical, biological and radiological/nuclear (CBRN) security as a high priority for our nation's infrastructure protection. Ensuring operations at high-value facilities is vital to the viability of both commercial and governmental operations. Interruptions are costly, even when necessary. Concurrently, employees must feel secure and visitors feel welcome.

ThreatSense™ from FLIR provides a comprehensive, layered approach to CBRN security. By customizing the system and its concept of operations (CONOPS), affordable and effective CBRN threat detection and mitigation is achieved.

COMPREHENSIVE PROTECTION
AGAINST CBRN THREATS FOR
CRITICAL INFRASTRUCTURE



THE NEED

In 2007, the DHS National Infrastructure Advisory Council (NIAC) implemented a working group to study the effects of, as well as the preparedness for, a CBRN threat against critical infrastructure. The workgroup studied the many aspects of CBRN event threats, vulnerabilities, response plans and programs, supporting communications infrastructure, as well as the economics involved in preparing for a possible CBRN event. In January, 2008, they issued their recommendations, which included:

- Timely, accurate information is critical to life saving efforts as well as to manage fear.
- Advanced, automated surveillance and detection devices for indoor and outdoor use must be put in place.
- Systems must be able to assess and prioritize threats and vulnerabilities.
- Communications operability and interoperability must be continuously improved.
- Systems must also prevent disruption, mitigate results and build in resiliency.

A LAYERED APPROACH

CHEMICAL AGENT MONITORING

The ChemSense™ 600 rapidly detects pre-defined chemical contaminants present as vapors with response times from seconds to less than one minute. As new chemical threats are identified, they may be added to the library. The ChemSense system is based on direct sampling mass spectrometry, and as a result, is not as susceptible to false alarms as traditional IMS-based systems.

BIOLOGICAL AGENT MONITORING

The AirSentinel® and IBAC™ systems are biological “smoke alarms” for near-real time detection, which implement threat algorithms based on a combination of particle counting, sizing and fluorescence. Both systems support a tiered detection architecture: once a bioaerosol threat is detected, the BioXC™ aerosol sampler is triggered. The BioXC collects a large 10ml sample that allows multiple assays to be performed. This sample can then be directly transferred on-site to the Cepheid GeneXpert® PCR-based pathogen identification system. An archive sample is delivered to the LRN for laboratory identification.

RADIATION MONITORING

The Stride™ series of radionuclide detection and identification systems detect the covert movement of radioactive materials. Stride systems can be openly or covertly installed in any high traffic area or portals as well as along parcel or freight conveyor systems. Within just a few seconds, a Stride detection unit will classify the type of material detected (medical, industrial, naturally occurring or special nuclear material). In addition, the system will also categorize it as innocent, suspicious or threatening and identify the specific isotope detected.

COMMON OPERATING PICTURE

Every component of the ThreatSense system can be integrated into an existing command and control network from FLIR to ensure a common operating picture. Access to the system can be designed hierarchically with notifications provided to locations on- and off-site.



BUILDING AUTOMATION SYSTEM CONTROL

Critical to the mitigation of an airborne agent is the control of the building automation system. By active control of the building's ventilation and access control systems, it is possible to significantly reduce the spread of the agent and limit exposures to the aerosol or vapor threat.

DETECTION, CONFIRMATION & IDENTIFICATION

Through a layered approach and careful tailoring of the CONOPS design for the facility, ThreatSense can provide early warning of potential CBRN threats, confirm their presence and identify specific agents.

INDOOR / OUTDOOR ENVIRONMENT

Components of the ThreatSense system can be installed in both indoor and outdoor environments.