

**Thermo
brings the science
behind security**

Analyze • Detect • Measure • Control™

Thermo
ELECTRON CORPORATION

Definitive detection with the lowest degree of false positives/negatives for assurance of safety.

THERMO ELECTRON CORPORATION INSTRUMENTS FOR FIRST RESPONDERS AND HOMELAND SECURITY. It could be an incident. Or maybe just a threat. Either way, there's a good chance you won't know what you're up against right away. But you'd better find out fast, and you'd better be right, because lives are at stake. That's precisely why you should turn to Thermo. We can help you make that ID.

We offer:

- ◆ Portable and Fixed Solutions
- ◆ Wide Range of Applications
- ◆ Detection of: Industrial Chemicals and Biohazards, Radioactive Materials, Nuclear WMD Materials, and Explosives

EXPERIENCE ADDS AN EXTRA MEASURE OF CONFIDENCE.

We dedicated ourselves to the business of protection long before most people had ever even heard of homeland security. For nearly 50 years, we've supplied safety and security solutions to the nuclear power, medical, defense and law enforcement industries. Today, our steadfast commitment and unequalled track record uniquely position Thermo to deliver the critical instrumentation and systems necessary to address homeland security challenges of the 21st century.

Our instruments are a first line of defense for first responders and border control personnel. They're also used in laboratories, in nuclear medicine and pharmaceutical research, as well as waste treatment and environmental monitoring.

We're proud of the extensive assistance we've been able to offer to Civil Defense, Customs and Secret Service organizations, both in the US and abroad. We're actively involved with the International Atomic Energy Agency (IAEA) and other international organizations in support of their security programs. And on the military front, NATO has also approved a number of Thermo instruments for battlefield operations.

YOUR STEADFAST ALLY IN DAILY SERVICE.

Our commitment to find and eliminate danger goes well beyond our product offering. We're also there for you in service. We offer a thorough, real-world training program that makes sure everyone who depends on our gear knows how to use it properly. Of course, we're also there when you need us for routine maintenance, consumables and periodic refresher training. We'll also consult with you before the sale, to ensure you make the best choice for your application.

With Thermo, you also have confidence in knowing we'll continue to be at your side. We've got the world-class resources, and we'll continue to leverage them in the pursuit of safety.

So, wherever you're called to protect, bring Thermo with you. We know how to identify trouble and protect people, beginning first and foremost with those who keep watch. The enforcers of peace and safety.

Look closer for answers



One of the most credible threats today is a Radioactive Dispersal Device (RDD) or "Dirty Bomb" made not from fissile material, but industrial or medical radionuclides or high level radwaste dispersed by a conventional explosive. Unlike a nuclear device, these are simple to produce and light enough to be portable, even within lead shielding adequate to foil many forms of detection.

See Page 4 and Page 15 for equipment you need for a nuclear incident

Equipping heroes everywhere.



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First responders We've got your back.

Having the right backup can mean the difference between an incident and a disaster. Thermo's 100% reliable hazard evaluation tools let you understand the exact nature of a threat, before someone finds out the hard way.

- Portable detection and analysis instruments quickly assess types and levels of hazards, including:
 - toxic gases
 - leaking combustibles
 - dangerous levels of smoke
 - lethal radiation
- A full range of capabilities help deal with the multiple challenges presented by radiation, including:
 - monitoring radiation levels
 - establishing perimeter boundaries
 - determining safe passage routes
 - personal radiation protection
 - decontamination and site cleanup

In keeping with the first-responder mission, all equipment is field-rugged, easy-to-use – and able to provide critical answers in seconds.

CENTURY TVA-1000B™ Portable Toxic Vapor Analyzer

The TVA-1000B is the only over-the-shoulder portable vapor analyzer that offers both PID (Photo Ionization Detection) and FID (Flame Ionization Detection) in a single, easy-to-use instrument. The unit allows you to rapidly and easily monitor and log inorganic and organic vapors simultaneously on-line.

- Dual simultaneous FID/PID or single FID detectors
- Easily portable
- Multiple response factors and curves
- Multi-point calibration
- On-board data logging



MIRAN SapphiRe Portable Infrared Ambient Air Analyzer

The MIRAN SapphiRe Ambient Air Analyzer is the most versatile, and most powerful, gas-detection system on the market. It enables your emergency response team to identify and qualify hazardous spills and emissions. Using infrared spectroscopy, a single unit is able to accurately identify and measure as many as 120 gases in real time.

- The analyzer's unique design allows precise, fast wavelength selection – an extremely important feature when every second counts. Several analyzer models are available, depending upon your gas monitoring requirements; any model can be easily upgraded to meet increased demands.
- Sub-ppm or ppm detection of over 120 gases
 - Easy-to-use; easy to train new operators
 - Lightweight and easily portable
 - Versatile and upgradable to suit your needs
 - Spectral Scanning upgrade permits collection of spectral fingerprint of unknowns, for further in-depth analysis and identification



INNOVA™ Handheld, Sample Draw Gas Monitor for One, Two, Three, or Four Gases

The INNOVA combines simple operation, quick calibration, and robust, long-life sensors. Powerful built-in pump and rugged electronics stand up to the harshest conditions. Configurable for up to four gases in several combinations, this monitor is ideal for pre-testing confined spaces in first responder situations.

- Configurable for one to four plug-in sensors
- Easy-to-use, one-button calibration
- PEAK, STEL, and TWA readings on request
- Interchangeable four "D" NiCad batteries (12 hours) or alkaline (24 hours)
- Dual protection if liquid is aspirated
- Built-in pump meets Federal regulations for pretesting confined spaces
- Built-in data logger
- Five combustible gas ranges from 0-1,000 ppm to 0-100% by volume



identifINDER Isotope Identifier

Acquiring isotopic identification directly and immediately in the field is vital in determining both the degree of danger and the best course of action for decontamination efforts. The identifINDER is the industry's leading handheld instrument for this purpose. Exceptionally easy-to-use, the unit performs three basic functions:

- Locates offending sources with an intuitive stripchart-like display and audio signal
- Determines the dose rate of one or more radioactive sources once found to assess the potential health hazard
- Identifies the source isotope by matching against a current library stored in memory to determine the best corrective action





**The Matrix MRDS™
(Mobile Radiation Detection System)**

An area threat detection network that provides real time detection, analysis and location of radiation threats/incidents within a large area. Incorporating an extremely robust wireless interconnect, Matrix MRDS ensures error-free data transmission whether used in fixed or mobile command centers.

- Centralization of Radiation Threat Information from Multiple Sources
- Rugged and Secure Wireless Network with GPS Capabilities
- Highly Configurable: Fixed, Mobile, or Venue-Driven
- Natural Background Rejection (NBR) Technology, Reduces Nuisance Alarms



RadEye PRD (Personal Radiation Detector)

When looking for Nuclear Weapons, Improvised Nuclear Devices (IND's) or Radiological Dispersal Devices (RDD's or dirty bombs) it is of paramount importance that you have high sensitivity with high selectivity. The RadEye PRD achieves this through a special technique based upon our patented Natural Background Rejection (NBR) method. It is the only instrument of its type and size to achieve this.

The so called "orphan" source phenomena is a concerning global problem as sources showing up unexpectedly in scrap yards, border crossings, or numerous other public locations can be considered a significant potential threat. Thus, the RadEye PRD represents a high-performance measuring device for persons who are responsible for detecting and localizing radiation sources whether they are first preventers (border guards, customs agents, special forces and counter terrorism teams) or first responders (emergency services and law enforcement).



MDS – Responder Application

The Mobile Detection System (MDS) is comprised of a large volume, highly sensitive organic plastic scintillation detector, coupled to a global positioning based movable mapping system, that automatically tracks both the position and corresponding radiation measurement of the local background as the vehicle performs its mission.

- Ability to search, locate, and measure hidden sources of radiation in real time
- Compatible with standard hazard response tools such as HPAC, CAMEO, and ALOHA
- Maximum Detector Channels is 2 Gamm or 1 Gamma and 1 Neutron



RadEye G

The RadEye G is a wide range gamma survey meter for personal radiation protection. Three operator modes can be selected:

- a detection mode (cps)
- level indication mode (9 log steps)
- a dose rate mode in the measuring units Hx and H*(10)

At any time the operator can display the true calculated dose rate by simply pushing a single hot key.

The RadEye G incorporates a large energy compensated GM-tube for the precise dose rate measurement for gamma and x-ray. RadEye G-10 version incorporates a different energy filter in order to achieve a Sievert response curve according to ambient equivalent dose rate H*(10).

- Large and well proven energy compensated GM detector
- Very good low energy response (from 45 keV)
- Reasonable count rate at background level, 0.17 cps at 10 _R/h
- 6 decades of measuring range 5 _R/h to 5 R/h
- Overrange indication up to 1000 R/h



FHZ 672E-10 (NBR) with FH40G

The lightweight, portable FHZ 672E-10 can be used to locate hidden radioactive sources in difficult situations. In dirty bomb scenarios, the unit can also indicate the safest path through widely spread contamination.

The user-friendly, gamma-based system employs Thermo's patented Natural Background Rejection (NBR) technology which automatically distinguishes between normal, natural background radiation and radiation from man-made sources. A thousand times more sensitive than conventional gas-filled detectors, the unit can detect even the most minute amounts of artificial radiation in seconds, making it ideal for finding depleted uranium (DU) sources in the field, even in the presence of fluctuating backgrounds.



FH40GL Survey Meter

The FH40GL is a very easy-to-use digital rate meter for dose rate or contamination surveys. This rugged, self-contained unit includes a high-sensitivity internal proportional detector for stand-alone use or can extend its functionality by simultaneous use of "smart" external probes. The probes, available for detection and measurement of alpha, beta and neutron radiation, retain their own calibration parameters, making them easy to change, even in trying emergency conditions. PC operated set-up software selects functions to be accessible and viewable on the display window, allowing customization for many applications from simple to sophisticated. Alarm levels and advanced features can be locked to avoid accidental change or deletion by the field user.

- Versatile multipurpose meter
- Backlit LCD digital readout and 3 decade logarithmic analog bargraph
- Setup and Calibration via Windows® PC programs
- Data Logging up to 256 data records
- Simultaneously operates internal and external detectors
- Audible and Visual dose and dose rate alarms



EPD® Personal Alarming Dosimeter

For protection when working in or possibly coming into contact with a radiation field. This small digital device, often worn on a belt, provides dose (0.0 mrem to 1600 rem) and dose rate (0 mrem/h to 400 rem/h) information, as well as alarm capability. Also records dose data for retrieval to a PC, for ongoing records or to reconstruct the dose profile.



HandECount Alpha/Beta Sample Counter

HandECount is a field-deployable alpha/beta sample counter system designed to facilitate field decontamination and cleanup. Operating on 120 VAC, or up to eight hours on battery power, the portable unit provides simultaneous alpha and beta counting of samples of swipes, soil, food or other materials to accurately ascertain the presence, and amount of radioactive contamination.

Operators simply select the sample type to be counted; the system automatically applies appropriate operating parameters. Samples are automatically background-corrected, converted into units of choice, and recorded to the built-in Palm controller/interface for later PC retrieval. Alarms are available to alert the operator anytime levels exceed predetermined set points.



NITON XLt

Thermo's portable x-ray fluorescence (XRF) analyzer, the NITON XLt, is a mission-critical tool for the identification and analysis of metal alloys, components, and metallic contaminants for the security and forensic industries. The lightweight NITON XLt uses a miniaturized x-ray tube for rapid non-destructive XRF analysis where speed, accuracy and portability are required when analyzing unknown samples.



VG Sentinel δB, Environmental Mass Spectrometer

The VG Sentinel δB sets new standards in the field of fast, reliable, and flexible environmental analysis. The VG Sentinel δB Mass Spectrometer is designed for online monitoring of multi-component volatile organic compounds (VOCs) in ambient air in seconds. This enables immediate detection of a chemical leak. It outperforms all other atmospheric monitoring systems and provides a complete solution for current and future VOC multipoint monitoring needs.



pDR-1000AN™ Portable, Real-time Aerosol Monitor/Data Logger

The *personal*DataRAM (pDR-1000AN) measures mass concentrations of dust, smoke, mists, and fumes in real time. With the data logging enabled, this instrument automatically tags and time stamps the data collected and stores it for subsequent retrieval/printout/graphing through a computer.

- Extremely rugged and reliable
- High correlation with gravimetric measurement
- Simple zeroing and field calibration
- Real-time measurements with ultra-low power consumption
- Approved as Intrinsically Safe for Methane Environments by the US Mine Safety and Health Administration (MSHA)



Water Supply Security

The Orion 290Aplus ISE meter and 9606 ionplus Cyanide electrode is the most economical ETV verified cyanide ISE Meter package. Cyanide measurement in water by ISE is an approved methodology by ATSM and Standard Methods.

- 5 Calibration Points
- Auto Blank Correction
- RS232 Interface
- No Interface from Color or Turbidity
- Data logging capability

Cyanide Detection for Water Supply Security

ETV verified as the selected colorimetric method for cyanide measurement in water, the Orion AQUAfast® AQ4000 Colorimeter enables immediate detection of cyanide contamination in our water supply. Featuring rapid results with minimal sample preparation, the rugged AQ4000 will hold up to the challenges of on site testing for cyanide concentrations. High numbers of samples can be analyzed consecutively with simplicity and ease—providing confidence that our water supply is protected.



GENESIS™ One, Two, Three, or Four Gas Personal Monitor

The Genesis combines ease of operation with outstanding field durability. Convenient plug-in sensors configure it to detect up to four gases—Combustible, Oxygen and up to two toxic gases. Detectable gases include: Ammonia (NH₃), Carbon Monoxide (CO), Chlorine (Cl₂), Hydrogen Cyanide (HCN), Hydrogen Sulfide (H₂S), Nitric Oxide (NO), Nitrogen Dioxide (NO₂), Oxygen (O₂), Phosphine (PH₃) and Sulfur Dioxide (SO₂).

- Simple one-button calibration
- PEAK, STEL, and TWA readings
- Water-resistant design, RF-resistant electronics
- Diffusion style or three configurations for remote sampling; built-in sample pump, hand-aspirated pump or extender cable
- 2-year, no-questions-asked warranty on all monitor components
- Interchangeable batteries, 3 "AA" at 22 hours. or rechargeable NiHy at 16 hours
- Optional, internal data logging
- UL Classified and CSA Certified for Class I, Division 1, Groups A, B, C & D
- L CIE Certified intrinsically safe EEX ia IIC T4



Transport Kit Portable FT-IR Spectrometer

The Transport Kit portable infrared analyzer provides incident response teams and portable laboratory analysts with a rugged, easy-to-use tool for the rapid identification of unknown substances on scene.

- The Transport Kit portable FT-IR spectrometer provides incident response teams and portable laboratory analysts with a rugged, easy-to-use tool for rapid identification of unknown substances on the scene
- Revolutionary Type IIa diamond sampling module offers fast, convenient sampling and interchangeable module operation
- Simple software interface walks the responder through the analysis on the system's built-in computer screen
- Comprehensive reference database provides responder with a clear report of match results





FIRST RESPONDER



TOXIC



RADIATION



PRE- AND POST-EVENT



EXPLOSIVES



BIOHAZARD

D





FIRST RESPONDER



TOXIC



RADIATION



PRE- AND POST-EVENT



EXPLOSIVES



BIOHAZARD

Detection Solutions for Every Security Need





SGS Safety-Guard Series Radiation Detectors for Vehicles and Trains

Thermo has supplied instrumentation and systems to the nuclear industry, DOE National Laboratories, national and international safeguards organizations, defense and law enforcement agencies. The Safety-Guard series of radiation detection systems offer optimized protection against illicit trafficking of nuclear materials. With over 1400 systems installed worldwide at borders, sea ports, courier companies, government buildings and other critical infrastructure points, Thermo has a dominant presence in supplying these mission-critical systems.

Thermo is unique in offering "Natural Background Reduction (NBR)" technology in its Safety-Guard series of portal detectors. NBR offers significant detection sensitivity while lowering nuisance alarms due to Naturally Occurring Radioactive Materials (NORM). Large-area, premium-grade scintillation detectors provide 24/7 maximum gamma detection to trains, trucks, cars and pedestrian traffic, while neutron detectors are equipped to handle Special Nuclear Material (SNM) protection.

The Safety-Guard series of portal detectors has been designed to allow optimized site-specific configuration at a reasonable price. Each system can be configured to support the detection requirements, data handling and alarm response that perfectly matches the specific needs and budget of each installation. The SGS series has been tested to ANSI 42.35 requirements.

The Safety-Guard #1 series is a simple, cost-effective approach to monitor conveyor systems for small packages and articles, pedestrian traffic and small vehicles. The system normally consists of an alarm tower, 416 cu in plastic scintillators and a He3 detector. For more rigorous applications, Thermo offers the SGS II system series. With multiples of 1500 cu in plastic scintillators, He3 detectors, powerful controllers and a host of different data logging and presentation options; the SGS II system will safeguard trains and cargo-handling vehicles.



Borders/Seaports

Nothing gets in or out undetected.

The technical challenges of border control are considerable. Vehicles, personnel, shipping containers—any and all of which might conceal radioactive contraband—must be monitored in motion. All without unduly interrupting the flow of legitimate commerce. Combining fixed and mobile or hand-held detection systems deliver the flexibility of deployment that customs police and security teams need today. Thermo's highly sensitive fixed scanning and portable devices are:

- Each specifically designed for its intended deployment
- Each capable of providing accurate, positive warning when suspicious materials come within detection range
- Integrated into virtually any existing screening process, with minimal impact on productivity and throughput
- Supported by experienced Thermo engineers who provide:
 - system design and configuration advice
 - recommendations on the operational response to events

More than 1,700 Thermo systems are in use across the globe, actively guarding borders and critical facilities against infiltration of illicit radioactive materials. They have successfully contributed to the detection and capture of illicit nuclear material traffickers worldwide.

Interceptor™

Thermo's new Interceptor is the radically new Personal Radiation Detector (PRD) with Isotope Identifier Capabilities (RIID). It offers superior sensitivity and accurate, fast identification in an affordable and highly compact size.

- Finds Faster—Superior gamma and neutron sensitivity with added directional capability and low crosstalk
- Identifies Promptly and Accurately—All-In-One Instrument with greater identification accuracy
- Better Coverage—PRD wearers become RIID users as well, superior built in reach back capability
- Lower Cost of Ownership—Low acquisition and operational costs



ARIS.net

Using state-of-the-art electronics and algorithms, ARIS.NET forwards high sensitivity and unparalleled radiological detection capability for identifying isotopes under the most difficult and stringent real world environments. Based upon weapons inspection technology developed by Sandia National Laboratories over the past 20 years, these recently de-classified algorithms extract vital isotopic signatures from smeared spectral data caused by distance, varying geometries, shielding and movement of the monitored objects or persons.

The ability to quickly and accurately identify whether the increased radiation levels detected are due to Naturally Occurring Radioactive Materials (NORM), medical isotopes or treatment of patients, industrial sources or nuclear weapons related materials enables a correct response at the time the object is monitored.

- Interdict radioactive/nuclear materials at border crossings and control points in cargo, vehicles or on pedestrians
- Designed for either primary or secondary inspection applications
- Immediate isotopic identification whenever an alarm occurs
- Immediate threat assessment enables the most appropriate response



MP 320 for ANI Active Neutron Interrogation

ANI uses neutrons to non-invasively inspect the full volume of a target container. The neutrons interact with the contents producing gamma rays of discrete energies that are element specific. Compared to traditional accelerators using isotopic sources, neutron generators are smaller, lighter and produce more penetrating neutrons. Pulsed neutron generators from Thermo improve accuracy and lower inspection times by exploiting up to three time domains of signals.



Radioactive Detection

The German government has equipped its entire emergency response fleet with Thermo's advanced NBR (Natural Background Rejection) technology. NBR allows distinguishing between the low levels of shielded man-made radiation sources and naturally occurring background radiation in seconds. This sensitivity makes NBR the only effective way to scan fast moving crowds, moving vehicles or to perform large area sweeps from a moving vehicle.





The EGIS Defender Explosives Trace Detection Systems

The EGIS Defender Explosives Trace Detection (ETD) system combines forensic technology and performance with rugged packaging, portability, reliability and ease of use.

The highly flexible dual technology platform provides extremely low false positives for high inspection throughput to assure the success of security missions around the world.

- Detection of explosives
- + Commercial, Military and Plastic Explosives
- + IED's (TATP, HMTD and AN-FO)
- + Marker Compounds
- Extreme Sensitivity and detection of chemically disguised compounds
- Very Low False Positives, at ultra low detection limits
- Portable and Lightweight
- No Carrier Gas Required



Security control points

Guarding our airports, buildings and nuclear facilities.

Approximately 80% of the US infrastructure is privately owned. While protecting the infrastructure remains a shared effort between government and private sectors, non-government entities have a tremendous security responsibility. You must take all necessary measures to assure personal safety and safeguard valuable assets.

Depending upon how assets are concentrated and dispersed, defending the infrastructure against radioactive threat presents a unique set of problems for every organization. Similarly, guarding against terrorists boarding public transportation, entering vital areas or accessing public buildings offers yet another type of challenge.

Thermo's wide variety of detection portals and sensors accommodates all types of security control points, as well as forensic analysis and post-incidents assessment and investigation, so you can strike an appropriate balance of:

- Throughput
- Detection sensitivity
- Economic impact
- Ongoing operational support





PM 7 High-Sensitivity Gamma Portal

The PM 7 is the standard portal monitor used by the majority of U.S. nuclear power plants. This high-sensitivity gamma detector provides bi-directional throughput and can be operated in either walk-through or stop-and-go fashion.

The system utilizes six large area plastic scintillators with lead shielding to minimize background and optimize sensitivity. Whenever the portal is not being utilized, it automatically goes into a background update mode, maintaining a minimum alarm set point above the current background level.

SGS Safety-Guard Series Radiation Detectors for Vehicles and Trains

The SGS Series employs large area plastic detectors for gamma measurement with optional neutron detection capability. Widely used throughout Europe, these large detectors can be optimized to accommodate any size vehicle and geometry for enhanced detection performance.

The SGS Series features Thermo's patented Natural Background Rejection (NBR) technology, which overcomes problematic gamma background fluctuations and offers improved sensitivity to small shielded sources within passing vehicles.



TPM 903 Transportable Portal Monitor

The TPM 903 unobtrusively monitors for beta/gamma radiation on personnel and exceeds the FEMA sensitivity requirements at "walk-through" speed. The portable system achieves head-to-toe coverage for surface and shielded sources, allowing maximum throughput without the need for excessive searches of personnel or hand-carried items. Quick and easy to set up with minimal training, the TPM 903 can also be adapted to vehicles, making it ideal for emergency response scenarios, or for temporary event security.

- Lightweight construction
- Very sensitive, highly uniform responses to gamma-radiation
- Exceeds FEMA ¹³⁷Cs sensitivity requirements
- Power by AC or 40-hour battery
- Quick and easy setup
- Excellent price/performance ratio





DSQ™ GC-MS

Thermo's DSQ single quadrupole mass spectrometer and PolarisQ ion trap GC-MS systems provide extreme sensitivity and efficiency in analyses carried out by forensic labs, government agencies, the military, and related institutions. These instruments offer tailored applications describing the methods performed for the analysis of explosive residues, as well as nerve gas metabolites. The analyst using the instrument has the ability to run small amounts of samples with less downtime, saving on both lost time and instrument maintenance.



Nicolet 380 FT-IR

From customs control to civil security vehicles, the Nicolet 380 Fourier transform infrared (FT-IR) spectrometer can be used for laboratory or mobile analysis of organic samples. It provides a unique molecular fingerprint and offers a complete range of sampling accessories and spectral libraries, which is useful in identifying unknown materials as well as qualitative analysis of samples and component amounts in mixtures.

Finnigan™ TSQ Quantum™ LC-MS

Thermo's renowned ion trap and triple quadrupole LC-MS systems provide exceptional sensitivity, performance and speed in the detection of chemical compounds. Federal government labs, military research institutes, departments of health and state agricultural labs all can benefit from the in-depth analysis of ion trap and quadrupole MS.

XSeries™ ICP-MS

Military institutions, energy agencies, universities and water departments often have the need for both sensitivity and performance in the elemental analysis of samples. Thermo's high performance XSeries™ inductively coupled plasma MS (ICP-MS) system aids in the testing of metals and radioactive materials.



Pre- and Post-Event Analysis

Answers with the Confidence of Lab Quality Analysis

When it comes to protecting people, you need to be sure. Sometimes you need to go beyond the first response mechanisms for deeper analysis—to know more, to know the truth.

We offer high-tech analytical tools that can help you with pre- and post-incident investigation, as well as forensics when you need to find out who is responsible for a threat or an incident.

Incident Investigation – Detecting low levels of pollutants, contaminants, metals, explosives, and chemical and biological agents used in terrorist attacks can be a challenging task. Whether on-site or back at the lab, you need precise and timely information to evaluate potential threats or address ongoing ones.

Forensics – Forensic analysis is at the forefront of criminal investigation using cutting edge techniques and innovative instrumentation to evaluate crime scene evidence. From DNA typing, toxicology, and gun residue and paint chip analysis, you want to find out who is responsible for threats and real incidents.

Thermo offers a broad range of analytical instruments to help you look closer at samples and evidence to find answers with confidence. We offer chromatography, elemental analysis, spectroscopy and mass spectrometry systems designed to meet the tough challenges you face in pre- and post-event analysis:

- GC and GC-MS solutions
- ICP-MS systems
- FT-IR analysis
- LC and LC-MS systems

RadEye PRD (Personal Radiation Detector)

When looking for Nuclear Weapons, Improvised Nuclear Devices (IND's) or Radiological Dispersal Devices (RDD's or dirty bombs) it is of paramount importance that you have high sensitivity with high selectivity. The RadEye PRD achieves this through a special technique based upon our patented Natural Background Rejection (NBR) method. It is the only instrument of its type and size to achieve this.

The so called "orphan" source phenomena is a concerning global problem as sources showing up unexpectedly in scrap yards, border crossings, or numerous other public locations can be considered a significant potential threat. Thus, the RadEye PRD represents a high-performance measuring device for persons who are responsible for detecting and localizing radiation sources whether they are first preventers (border guards, customs agents, special forces and counter terrorism teams) or first responders (emergency services and law enforcement).



FH40GL - Radiation Detection Backpack

This compact, discrete, high-sensitivity system was developed for the rapid detection and location of gamma emitting radioactive sources over large areas, whether orphaned sources, radiological contamination or maliciously introduced sources. Patented NBR (Natural Background Rejection) technology enables high-sensitivity detection of even heavily shielded man-made sources while avoiding false alarms from varying levels of natural background radiation. Internal data is stored and transferable to PC. Performs both dose and dose rate measurements. Vibrator alarm gives discrete warning of abnormalities in radiation levels.



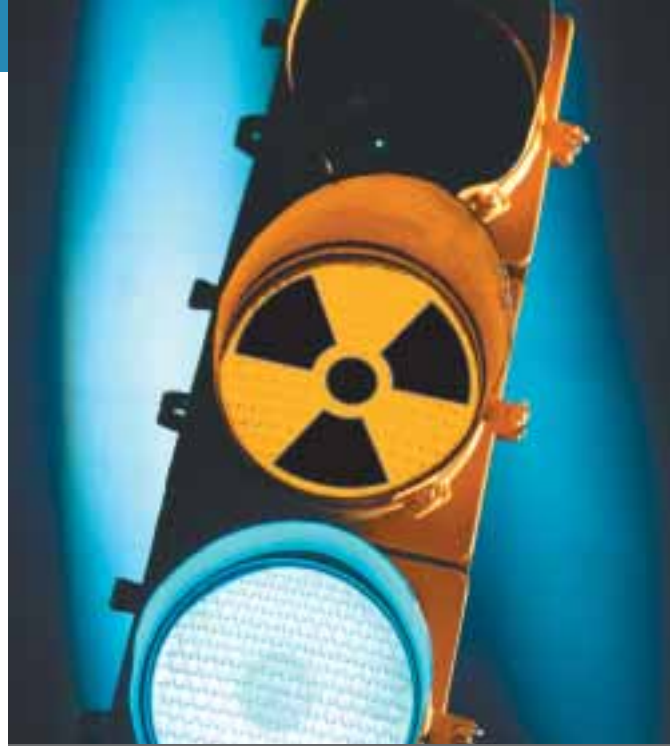
MDS - Counter Terrorism Application

The mission of Counter Terrorism requires both reliable detection tools and accurate means of data collection. The true success of this investigation is measured by the ability to prevent future WMD incidents and the ability to create a precise and legal evidentiary trail to ensure successful prosecution.

The MDS is a tool developed for reconnaissance by air and ground vehicles. Its integrated GPS allows radiological data to be time, date and GPS stamped once per second. The data is displayed on local maps, which make for easy navigation while in use. The software has a fail safe method of storing and capturing data to reduce the risk of data loss while on a mission. The measurements are stored in database files which are automatically logged on a notebook PC, which is used with the system. The convenient XT diagram also allows a user to analyze radiological data which may have been overlooked while in the field, so that a precise GPS location for a measurement of interest can be ascertained and further investigated.

ASAP® - Airborne Sample Analysis Platform

The ASAP System collects high quality aerosol samples from indoor or outdoor environments for subsequent laboratory analysis of biological agents. US Government testing has demonstrated the field deployment and aerosol collection capabilities of the unit. Sampling cartridges collect time-resolved samples on eight substrates, and contain a chip that automatically records chain-of-custody information.



Counter terrorism/ intelligence

This watch never sleeps.

Reliable, effective intelligence gathering is the first line of defense against nuclear terrorism. Thermo's radiation detection and measurement technologies play several important roles in this security-critical activity:

- Detection devices deployed in "stealth mode" facilitate interrogation of individuals or areas, without alerting suspected criminals, or drawing undue public attention.
- Systems on duty 24/7 provide real-time analytical results for immediate intervention, communication and appropriate escalation response.
- Live data monitoring and recording, as well as wireless information exchange with a central collection point, allows and encourages cross-agency coordination of efforts.

Thermo Electron Corporation

Thermo Electron Corporation is the world leader in analytical instruments. Our instrument solutions enable our customers to make the world a healthier, cleaner and safer place.

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