



## Marine RadWatch™ Overview

- Marine RadWatch is comprised of Mobile and Static Detection Units (DUs) with TAGS™ Radiological Sensors deployed together to form a dynamic TAGS Radiological Surveillance Network over a Marine environment.
- Static DUs and sensors are positioned in covert locations within a Port or on buoys to provide targeted surveillance of areas, stationary assets and entry/exit points. Mobile DUs and sensors are mounted on vessels or land vehicles to provide mobile and redeployable dynamic surveillance of both the land and water areas.

## Targeted Automatic Gamma Spectroscopy™ Radiological Sensor

- The Targeted Automatic Gamma Spectroscopy™ (TAGS) Radiological Sensor is capable of detecting Radiological Threat Agents, including Radiological Dispersal Devices (“dirty bombs”) and Radiological Exposure Devices (“silent bombs”), and distinguishing these malicious sources devices from acceptable radiation sources routinely found in any environment under surveillance.

## Detection Unit

- The Detection Units (DUs) collect gross gamma counts and TAGS gamma counts from the sensors, augment these with location and timing data and send them to the RWS. The DU manages all encryption and communication to the RWS.

## RadWatch Server™

- The RadWatch Server (RWS) simultaneously collects data from all DUs in the network, analyzes the “threat level” of the measurements based on background radiation determined from the location-based historical information and user defined criteria, and stores them in its database. This data is available to the RadWatch Manager and other linked security systems.

## RadWatch Manager™

- The RadWatch Manager (RWM) is dynamic, GIS-based software that graphically displays measurement, location, time, and color coded “threat level” information retrieved from the RWS. It provides complete radiological threat information, including visual and audio incident alerts, in real-time to Marine operations, security and emergency staff.

## TAGS Radiological Sensor

Spectroscopy: supports TAGS detection  
 Range: 640 m (3σ for 5 kCi Cs137)  
 Volume: 2 L  
 Physical Dimensions: 4” x 4” x 19.5”  
 Weight: 7.5 lbs  
 Operation Temperature: -40°C to +60°C

## Detection Units

Supported Sensors:  
 MDI TAGS Radiological sensor  
 any CBRNe RS232 sensor  
 Spectroscopy: supports TAGS detection  
 GPS Accuracy: <6m (50%), <9m (90%)  
 Connectivity: Wireless (GPRS)  
 Sampling Rate: 1 second  
 Power: 12V DC (10.5V-16V, unregulated)  
 current: 272 mA  
 Physical Dimensions: 10”x 8” x 4”  
 Weight: 12 lbs  
 Operation Temperature: -40°C to +60°C

## RadWatch Server

Processor: Xeon dual-core +  
 RAM: 4 GB  
 Hard Disk : 100+ GB  
 Operating System: Windows Server 2003+;  
 Debian Linux 6.0+  
 Database Technology: MySQL, SQL Server,  
 Oracle, DB2  
 Bandwidth Required: +1 Mbps  
 Applications Installed: Relay Server, Data  
 Manager, Location Manager, Database

## RadWatch Manager

Processor: 1+ GHz 32-bit or 64-bit  
 RAM: 1 GB  
 Operating System: Windows XP/7+  
 Bandwidth Required: 128+ kbps

*Patents pending in US, UK, Germany, France, Canada.  
 Patents granted in US(8,026,846); UK, Germany, France (1,692,672)*