

# Unified RFID for Firefighters



The critical functions of Personnel Tracking at the scene and Real-Time Inventory Management for First Responder organizations are uniquely integrated in the Unified RFID solution from FALKEN Secure Networks.

*Onsite ERT™ gives incident commanders a complete, real time view of a fire scene. When lives are at stake, save critical time, reduce risk and danger, and improve decision making with ONSite ERT™.*

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OnSite ERT™ from FALKEN Secure Networks is a rapidly deployable system using state-of-the-art wireless sensors for *Real-Time* tracking of personnel and equipment automatically at emergency events, improving safety for responders and public. The system uses a combination of inexpensive, lightweight ID tags, portable, rugged Drop Readers, and streamlined Incident Command software to provide a complete view of the operating theater in real time.

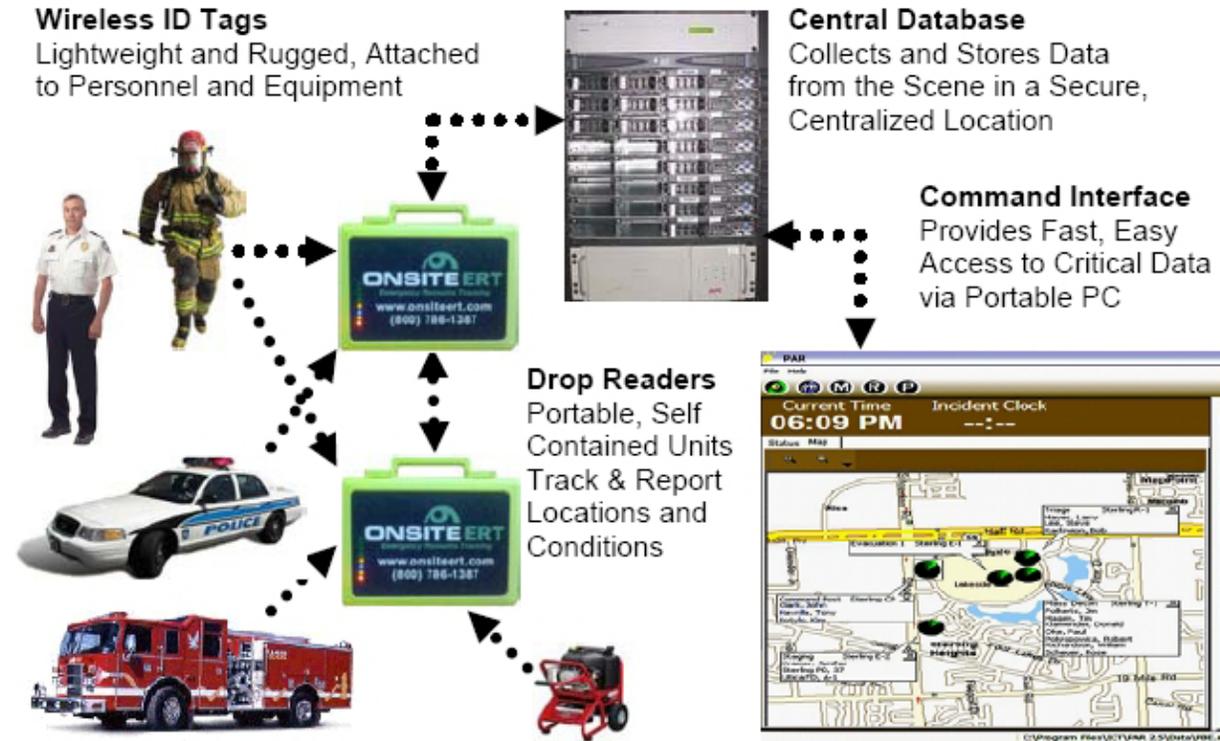
Designed to support **NFPA\***, **NIMS\***, **COPs\*** and **OSHA\*** requirements, OnSite ERT™ collects, stores and reports critical data, accurately and completely, **without any change in responder behavior**. It is currently now installed in over 45 Fire Departments from Texas to New York. Co-Founder of ERT Systems - John Ellis – has been instrumental in product design. He was previously a firefighter for 25 years, including 11 years as an incident commander.





First Responders require rapid on-site response and decision making in hectic environments, in which pre-planning and preparedness dictate the successful outcome and results of responder actions. These situations extend beyond the defense of property to lifesaving.

- Automatic Check-in for responders, vehicles, and equipment at staging and command areas
- Fast deployment via wireless Drop Readers that provide continuous tracking for the entire scene
- Open architecture allows data sharing with other software and systems



## OnSite ERT™ SYSTEM DETAILS:

Each person or piece of equipment is tagged with small, lightweight ID badges powered by an AAA battery. For example, the tag is placed in sewn pockets on firefighters' turnout gear or strapped to the side of equipment. The tags then are read by drop readers, which are lunchbox-sized, hardened units manually placed around the fire zone — determined by command — and are assigned to a predestinated zone, such as for decontamination or live fire-ground. Data are sent to a command laptop. The command laptop gets the signal strength readings off tags and GPS coordinates for boxes.



Firefighter places RFID Drop-Box Readers at points of egress from a burning building

Then, the GUI displays zone and firefighter locations.

The drop readers create an ad hoc mesh network. If additional boxes show up — regardless of which public-safety agencies deploy them — they’ll join the network already in progress and relay information point to point. If there is a large-scale event and personnel from another department provide mutual aid (such as another Fire Dept or EMS), they can be added to the network.

The reader cases are hardened, waterproof dive boxes which have been tested to withstand temperatures of over 400 degrees, as well as indirect water streams and steam. They are powered with rechargeable, sealed lead-acid batteries. They are the same batteries used in emergency exit lighting. The life of the charge will depend on usage and the environment, but a typical charge will provide 7-8 hours of continuous operation. Drop-readers are recharged automatically when they are returned to their base, and maintained by a trickle-charger as long as the base has power. These recharging stations can be mounted in vehicles, using on-board power. Bank chargers (which hold more than one reader) are also available.

The system uses a Spread Spectrum Radio Frequency (902-928 Mhz) to setup an “ad-hoc” mobile network on scene. The range of the network will vary depending on the environment, but the average range between the PC and drop-readers (or between drop-readers out of range of the PC) is 1/2 mile outside of buildings and around 1,000 feet inside buildings. The blue light blinks slowly (about once per second) when it is part of the ad-hoc network. The blue light blinks very quickly when it is out of range of the network. There is also an indicator light in the software which notifies the user if a reader is part of the network or out of range.

Subject to RF variables, the typical verified range between a Drop Box Reader and a Tag on a Firefighter is in the order of 180 feet to 200 feet with line of sight. A tag going out of range will result in a tag alert going “unread.” When a tag goes unread for a period of time, that responders name will blink on the Status Page within the PAR application, which will also show the responder’s last-read location and time.

### **Incident Command Software**

Fire is a dynamic and fluid environment where firefighters move through different roles quickly. The ERTS™ System helps avoid a situation where command has lost track of personnel or they weren’t where we expected them to be.

Recent updates have included independent zone and assignment tracking, and a running “activity log” for each firefighter. Most of these updates are the direct result of suggestions by current users, based on their experiences in the field. An open architecture allows data sharing with other software and systems.



## Mutual Aid Support

Accountability at a single-alarm scene can be difficult enough, but it becomes a much bigger challenge when outside personnel and equipment are involved. Managing an event with mutual-aid and automatic-response partners brings a whole new level of confusion, and large scale disasters that bring in responders from more distant communities can lead to nothing short of barely-controlled chaos.

OnSite ERT™ can be a critical tool in managing larger and regional events. Mutual aid and automatic response departments can share responder and equipment details automatically; new hires, shift changes, apparatus load-outs are always kept up-to-date and available when on scene. And OnSite ERT's Central Database keeps a copy of all wireless tag assignments, so any tag read in the field - whether it belongs to a nearby department or not - can be immediately associated with a photo and credentials.

OnSite ERT is also designed for expandability in the field: as the scene grows, responding departments have the option of deploying their system independently, or joining the existing network under the first-on-scene's command. Accountability data can even be "exported", in real time, to a central EOC to keep remote command sites informed.

FSN offers the **OnSite ERT™** in a range of configurations including sale or lease options and integration with 3rd-party systems.

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	Company	Shift																																												
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Personnel Photo and Credentials

Dept.	Name	Zone	Assig
DFD	Genove	Hot Zone A	Attack
AFD	Naden,	Hot Zone A	Attack
AFD	Corder	Hot Zone A	Attack
DFD	Isaacs,	Hot Zone A	Attack
DFD	Roth, S.	Hot Zone A	Attack
DFD	Ledford	Hot Zone A	Attack
AFD	Allor, J	Hot Zone C	Ventila
DFD	Lauzon,	Hot Zone C	Ventila
AFD	Sorge, A	Hot Zone C	Ventila
DFD	Morrow	Rehab	
AFD	Balmer,	Rehab	

Department Information for Each Responder



## Rugged Laptops from

“ When tough is not enough “

Although compatible with most laptops, the Onsite ERT system is certified and recommended to run on General Dynamics series of Laptops, the most rugged laptops in the world, built to military specs. Contact FSN for configuration details and pricing information.

- **GD8000**                      **Fully Rugged Notebook**
- **GD6000**                      **Vehicle Rugged Notebook**
- **MR-1**                         **Fully Rugged UMPC**
- **DuoTouch II Fully Rugged Tablet PC** – Increasingly popular for Fire Inspection personnel



Check out the General Dynamics Itronix product portfolio details at [www.falkensecurenetworks.com](http://www.falkensecurenetworks.com)



## RFID for *Real-Time* Inventory and Asset Management

There is a direct correlation between record keeping and operating efficiencies. Record keeping starts with automating information gathering regarding assets, equipment and inventory, and continues through pre- and post-incident response and subsequent incident reporting, performance evaluation and forensics.

Manual records are subject to mishandling, are frequently misplaced and often are not available to all staff who need access to them. Having a full accounting for assets, inventory and equipment, before and after events, and upon each shift change is paramount to preparation for the next event. Establishing and executing service and maintenance schedules, examining equipment condition and replenishing consumed or expired inventory, and replacing missing equipment, are all critical to effective preparedness, operational efficiency and improved performance. Routine preventative maintenance and calibration on such mission critical items as jaws-of-life, which need to be serviced and checked for hydraulic leaks, and radios that periodically need to be checked for battery life in order to function properly.

Coordinating equipment check-in and check-out from a pool of centrally stored and controlled resources to ensure items are returned and in working order, often a time consuming and inaccurate process, can now be automated with RFID. Configurable resources such as fire trucks can be instantly scanned with a mobile handheld reader to check for missing components such as select nozzle hoses and other firefighting equipment. Automated information capture and management, enabled with RFID, can significantly increase asset utilization, operational efficiency and firefighter safety. Low-cost passive RFID tags can be placed on equipment and inventory to track their location and levels of consumption. The tags are read by electronic sensors placed at strategic locations in facilities, or by using portable readers. The embedded information on tags can then be transmitted either through USB or wirelessly to central databases for item identification, location verification and to automatically trigger predetermined actions in response to the collected information.



*Motorola 9090G Handheld RFID Reader*

**NFPA**\*National Fire Protection Association, **NIMS**\*National Incident Management System,

**COPs**\* Code of Practice and **OSHA**\* Occupational Safety and Health Administration

## FALKEN Secure Networks(FSN)—Your partner for RFID automation

If you choose to pursue RFID implementation in your organization, here is the FALKEN Secure Networks commitment to you:

- FSN will provide solution architects to work with you to define system requirements for your particular installation. Multiple locations can be networked together for a central and real-time view and centralized management.
- FSN will do a RFID site survey to validate radio frequencies, tag types, system design and performance
- FSN will provide all necessary hardware and software to make the system work for you
- FSN will integrate the system with your existing enterprise management software
- FSN will provide documentation for the system, including operating procedures
- FSN will train your people
- FSN will provide warranty and continued system support

## Contact Us



FALKEN Secure Networks (FSN) is the leading System Integrator and Solution Architect for advanced Active/Passive Unified RFID systems that leverage standards-based technologies. FSN integrates RF technologies for asset visibility, using EPC global standard RFID, Wi-Fi and Real-Time Location Systems (RTLS) for cost-effective design, and turn-key project implementation.

**Contact FSN** at **905-880-4044** or [sales@falkensecurenetworks.com](mailto:sales@falkensecurenetworks.com)

