

## Finding a Zero-Cost Solution to Quickly & Accurately Locate Disabled Wanderers in Emergency Situations



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The police department of Frisco, Texas needed to improve the effectiveness of search and rescue missions involving people with cognitive and developmental disabilities such as Alzheimer's disease and autism. These types of emergency wandering scenarios posed unique challenges, including location speed and accuracy, terrain and environmental conditions, and high cost to the department. The Frisco Police Department found EmFinders EmSeeQ<sup>®</sup> to be an effective technological solution to this problem.

In 2007, Forbes magazine named Frisco, Texas the seventh-fastest growing suburb in the United States. According to census figures, the city's population tripled from 33,714 to over 100,000 between 2000 and 2008. This population boom directly impacted the police department, which faced a corresponding increase in emergency situations. Among these, wandering cases involving cognitively or developmentally disabled individuals stood out as particularly life-threatening, challenging, and resource-intensive. The increased incidence of Alzheimer's disease and autism, coupled with the high tendency for people with these afflictions to wander and become lost was especially alarming.

### ALZHEIMER'S & AUTISM FACTS

There are currently 5.3 million Americans living with Alzheimer's disease and a new case is diagnosed every 70 seconds. By 2050, the Alzheimer's Association expects nearly one million new cases to be diagnosed each year. Furthermore, 1.5 million people in the US have autism, which is recognized as the fastest-growing developmental disability with an annual growth rate of 10-17%. An online survey conducted by the National Autism Association showed that 92% of children with autism are prone to wandering, while the Alzheimer's Association states that over 60% of those with dementia are likely to wander throughout the course of their disability.



### CHALLENGES IN LOCATING DISABLED WANDERERS

Locating disabled individuals in emergency wandering situations traditionally requires a large number of law enforcement officials to span a wide geographic area in a race against the clock. Terrain and environmental factors can reduce the effectiveness of technologies such as GPS and put the wanderer at greater risk.

*“GPS won’t work inside of a building,” notes Frisco Police Chief Todd Renshaw. “If the person is in a parking garage, or behind a wall or other structure, it wouldn’t hit the satellite. Environmental factors like weather also hamper GPS systems. Then you have Radio Frequency technology, which is limited to about a one-mile range on the ground and can’t give you an exact location right off the bat; you still have to comb the area and hope the person is there. But cellular technology overcomes all of these problems.”*



Because these searches are extremely time sensitive, dog teams and/or helicopters are frequently brought in to help locate the missing individual. Such searches can cost upwards of thousands of dollars per hour and require large dedicated teams.

*“You have a situation where the wanderer is mentally impaired and when they wander off they don’t have a normal routine...It’s anything but normal,” notes Chief Renshaw. “Inclement weather, bodies of water, traffic, or just any kind of danger that they could wander into all pose challenges in addition to the fact that they may not know who they are or have identification. They may think they know where they’re going but they don’t. Wanderers can end up from Houston to Oklahoma, not knowing where they are. If you don’t find them in a short period of time... there was a lady who was found on the side of the road in Oklahoma and she froze to death.”*

## **EMFINDERS EMSEEQ**

The Frisco police decided to investigate a new technological solution called EmSeeQ from EmFinders. Pronounced, “M-Seek,” EmSeeQ is a watch-like device that can be worn by children and adults who are cognitively or developmentally impaired and have the potential to wander. EmSeeQ is the only solution that is integrated directly with the national 9-1-1 network. The device utilizes U-TDOA location technology via the cellular network — the same technology used to locate over 60 million people who dial 9-1-1 from mobile phones each year in the US. In addition to improving location and recovery times, EmSeeQ requires zero investment from law enforcement.



EmSeeQ removes the time-sensitive “search” element from search-and-rescue missions because police do not need to physically comb a geographic area. The technology is easily implemented — law enforcement agencies are not required to purchase any equipment or conduct any training. Because EmSeeQ is integrated with the proven 9-1-1 system, every police agency in the country can receive location information from EmFinders simply by following instructions from the 9-1-1 dispatcher as they normally would. As a result, wanderers — no matter how far from home — can be recovered by the police agency closest to their location.

## **OFFICIAL 9-1-1 DEMONSTRATION**

An official demonstration of EmFinders EmSeeQ was conducted in coordination with Frisco law enforcement at the Frisco area 9-1-1 Public Safety Answering Point (PSAP) on many occasions. A law enforcement official wearing the EmSeeQ device was sent to an undisclosed location to act as a missing wanderer. 9-1-1 was dialed to report the missing person and a case number was received. This case number was then provided to the EmFinders Operations Center, who activated the device on the wanderer’s wrist.

***“The demo was just flawless,” states Chief Renshaw. “For the end user it was simple. When they activated the unit, we received the location of the wanderer instantly. As soon as it activated through the 9-1-1 system it came up on the PSAP operator’s on-screen map and showed exactly where the person was wandering. The officer was able to drive straight to him. It was very simple to use and was about five minutes until they rescued the person.”***

### ZERO COST TO LAW ENFORCEMENT

EmFinders sells the EmSeeQ device and service directly to at-home caregivers and long term senior communities, leaving no cost to law enforcement. When law enforcement agencies are forced to purchase equipment, they must first select a technology and then raise funds before choosing which families will receive the equipment. As a result, only a select number of families in any area are given the opportunity to be protected with the technology. The chosen families are not protected nationwide, so many feel forced to remain close to home. Coordination with other law enforcement agencies is also complicated when the agencies use disparate technologies, if any at all.

*“Raising funds is very hit or miss because not everybody can do it,” states Chief Renshaw. “When the law enforcement agencies themselves don’t have to buy anything, you’re really benefitting the consumer. If Frisco bought some technology, they may not buy the same technology in Plano or Dallas or somewhere else, and then you have a mish-mash of different technologies that don’t work together. Having a system that uses 9-1-1 as the locator makes a lot of sense; we all have 9-1-1 systems that work the same way.”*

*“EmSeeQ will make things a lot easier when somebody goes missing. If they are wearing that device, it’s going to turn potentially hours of manpower into minutes. It saves time, improves results, and everybody comes out winning.”*

– Chief Renshaw,  
Frisco Police Department



## ABOUT CELLULAR NETWORK-BASED LOCATION

Cellular network-based location relies on the relative location of cell towers to a cellular device such as a phone or tracking device. Unlike GPS, cellular network-based location works not only outdoors, but can provide a rapid and accurate location indoors, under cover and in dense urban settings. It does not suffer the limitations inherent in GPS, since it does not rely on line of site to a satellite. EmFinders EmSeeQ uses the cellular network-based location technology called U-TDOA.

U-TDOA is a location technology used by the Phase II E 9-1-1 (enhanced 9-1-1 for location of wireless phone users calling 9-1-1). Each year, 60 million 9-1-1 callers are successfully located using U-TDOA technology in the US alone.



## BENEFITS OF U-TDOA TECHNOLOGY

- **Direct to Law Enforcement** — EmFinders EmSeeQ leverages U-TDOA via the existing 9-1-1 system to provide location information directly to 9-1-1 Public Safety Answering Points (PSAPs), who then dispatch law enforcement.
- **Speed** — Over 50 official 9-1-1 PSAP demonstrations of EmFinders EmSeeQ have been conducted across the country to-date. In each of these tests, once the EmSeeQ device received the activation signal from the EmFinders operations center it took an average of 15 minutes for 9-1-1 operators to receive the location of the wandering individual.
- **Range** — Using U-TDOA, EmFinders EmSeeQ can quickly locate wanderers across the entire country.
- **Accuracy** — Works well outdoors and indoors and in both rural and urban settings. Does not rely on line of site to a satellite. Fully compliant with stringent FCC E 9-1-1 location accuracy requirements.

### **BENEFITS OF EMFINDERS EMSEEQ**

- No Cost to Law Enforcement
- Uses existing cellular telephone location technology; no additional public investment in hardware or software is required
- Integrated with 9-1-1 Systems
- Tested to ensure seamless integration with 9-1-1 systems and shows an individual's location to the 9-1-1 operator on the dispatcher's electronic map
- Works with Phase 2 compliant Public Safety Answering Point (PSAPs)
- No Additional Training
- Simplifies and Expedites Locating a Missing Person
- Missing person searches cost taxpayers more than \$1 billion annually. EmFinders can help reduce that cost without any investment in new technology, training or public safety workers

**To request more information on EmFinders EmSeeQ, please visit our website at [EMFINDERS.COM](http://EMFINDERS.COM) or call 972-439-1960.**