NEON® Personnel Tracker Grand Central Terminal Case Study

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"We know that having the right technology in the hands of a first responder can save critical minutes or seconds — and reduce injuries and save lives."

-William Bryan,
Secretary DHS S&T

Summary

In October 2017, TRX Systems' NEON® Personnel Tracker solution provided 3D tracking of law enforcement, EMS Personnel and other first responders during a critical incident training exercise at Grand Central Terminal in New York City hosted by the Department of Homeland Security (DHS).

NEON® Personnel Tracker was one of several new technologies selected by the DHS Science and Technology Directorate (S&T) to be tested for the ability to improve first responders' preparedness and response to a major incident within a large public facility. TRX demonstrated 3D tracking of first responders from NYPD, FDNY, MTS and NY State police during the evaluation of the NEON system's impact in support of a large critical incident response.

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TRX Systems Overview

TRX Systems is the developer of the NEON® Location Solution, delivering 3D location and mapping indoors, underground and in dense urban areas where GPS is not available or is unreliable. NEON delivers ubiquitous, low-cost, 3D indoor location through the use of advanced sensor fusion, ranging, and dynamic mapping algorithms.

TRX Systems got its start in technology research in the public safety market, responding to the need to safeguard public safety personnel when they are operating indoors and in GPS-denied areas. Working with the public safety industry to solve this extremely important and challenging problem has enabled TRX Systems to develop state-of-the-art, cloud-based solutions based upon patented technology that seamlessly locate public safety, military and industrial personnel both indoors and out, anywhere GPS is not available or is unreliable.

The TRX Systems team is comprised of industry experts in sensor fusion, RF ranging, crowd-sourced map building, statistical modeling, control theory, and robotics. TRX Systems has strong primary research expertise combined with strong product delivery capabilities. The company has a large portfolio of intellectual property including 23 patents issued in the United States and 15 internationally.

Safety & Security

Commercial

Defense

Safety and productivity, through indoor location. That's our mission at TRX.

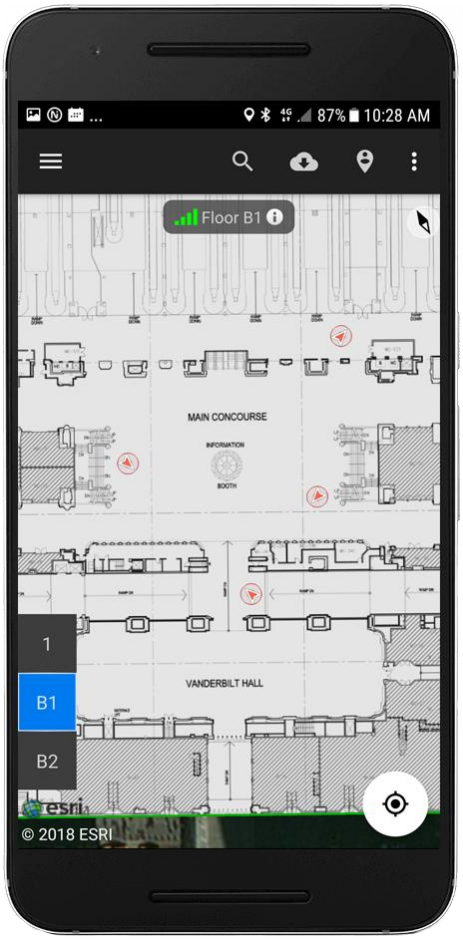
Challenge

As recent incidents in the United States have demonstrated, such as the tragic shootings in Florida and Nevada, proper resource management of emergency response personnel is paramount. A critical issue can arise when remote commanders unknowingly dispatch too many resources to one incident, leaving insufficient resources for another incident. The most efficient dispatch of personnel and resources can save critical seconds in emergency situations.

Solution

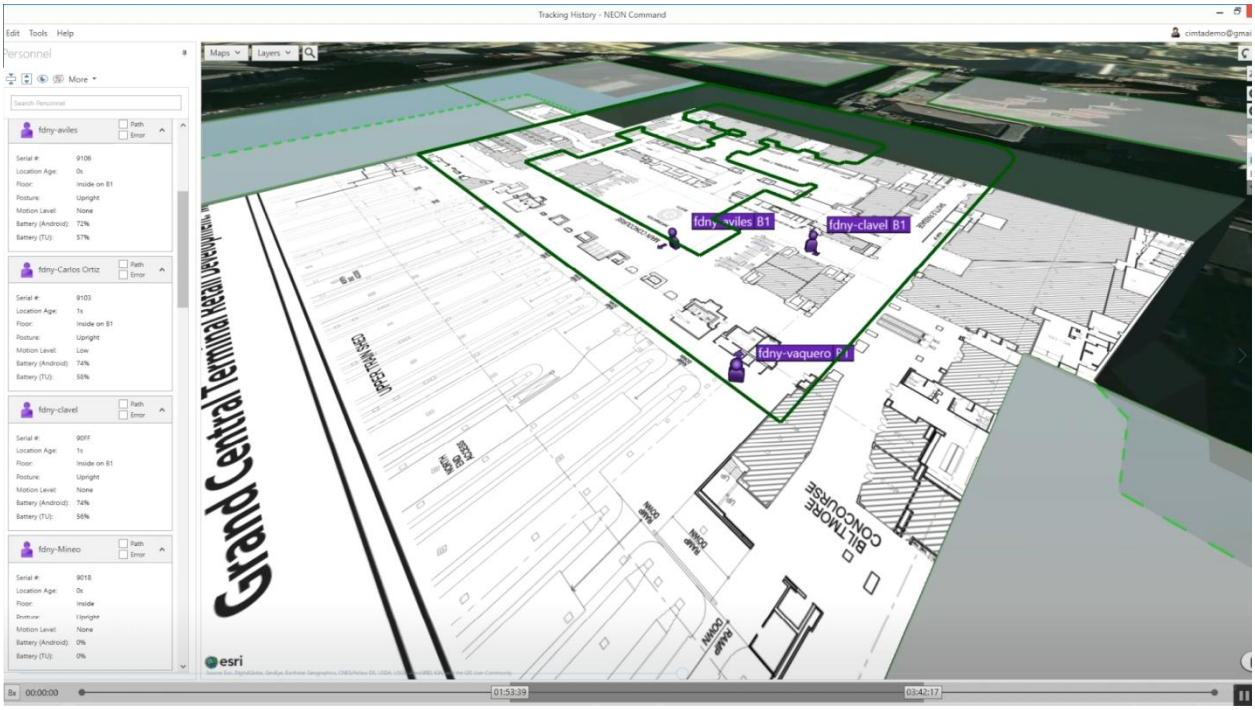
To ensure better preparation when faced with similar emergency situations, over 200 New York emergency responders, including members of the New York Police Department (NYPD), Metropolitan Transportation Authority Police Department (MTA-PD), New York State Police, National Guard and Fire Department of New York (FDNY), conducted a critical incident training exercise last October at Grand Central Terminal. The Department of Homeland Security (DHS) Science and Technology Directorate (S&T) inserted relevant technologies into the exercise to assess their capabilities to improve first responders' preparedness and response to a large-scale, urban, critical incident. Among others, DHS selected TRX Systems' NEON Personnel Tracker to assist in the effort to provide 3D tracking of first responders.

NEON® Personnel Tracker delivers mapping and location in environments where GPS is unavailable or unreliable indoors, outdoors, and underground. By delivering real-time personnel tracking in these GPS-denied environments, NEON improves situational awareness, command effectiveness and safety for first responders. NEON Personnel Tracker delivers location in both 2D and 3D and provides tracking and visualization of personnel in complex indoor and outdoor environments. Accurate tracking is accomplished using NEON's patented location algorithms which leverage all available device sensors including inertial, magnetic, pressure, light, Bluetooth, Wi-Fi and GPS signals (where available) to calculate the user's location.



NEON Personnel Tracker Android UI

The critical response exercise included testing throughout Grand Central Terminal indoors and outdoors, stationary trains, track platforms and other underground spaces. Outside, first responders set up an incident command post and an operations center to coordinate the simulated response. When responders arrived on-scene at the command post, NEON was quickly issued to them and, with no prior training, they entered this large multi-floor building and could be tracked from computers set up in the command post as they moved from the street level and then down multiple levels to the tracks in Grand Central Terminal.



NEON Command User Interface

Emergency response personnel conducted the exercise to evaluate tactics, techniques, and procedures they would utilize while responding to a large scale critical incident. “TRX’s selection by DHS to participate in this important exercise allowed us to get invaluable experience with a large scale critical incident response,” said Carol Politi, President and CEO of TRX Systems. “The feedback from police, fire and EMS personnel that used NEON Personnel Tracker will enable us to better integrate NEON within emergency responder operations.”