

The Charleston Defense Contractors Association has been able to re-strategize its session locations, as well as reduce the amount of waste in food costs, by better understanding attendee behavior and traffic movement.

By Claire Swedberg

Tags: [Defense](#), [Efficiency](#)

Feb 07, 2018—The [Charleston Defense Contractors Association](#) (CDCA) reports that it increased efficiency at its December 2017 trade show, while also improving services for attendees, with the use of data from an RFID system that tracked the movements of conference goers as they wandered around the event. The system, supplied by [Professional Solutions Delivered LLC](#) (ProSoDel), is a UHF RFID crowd analytics solution employing Portable Technology Solutions (PTS)'s [Tracer Plus](#) and [ClearStream RFID](#) software.

The CDCA has used the technology at the last two of its annual Defense Summits, held at the North Charleston Convention Center, and modified some of its food and organizational planning in 2017 based on the results of the 2016 RFID data. That included better planning regarding the amount of food served at lunch time, and how to organize spaces for breakout sessions based upon previous audience sizes.



The annual conference attracts nearly 1,500 participants from around the country, many of whom register within weeks of the event, says Beth Meredith, the CDCA 2018 Defense Summit's committee chair. Some even register on the day they arrive. "Therefore, we had historically printed badges during check-in [as opposed to before], which often caused long lines and delays," she recalls. "During the planning process for our 2016 summit, we started considering ways to improve our registration process."

In the course of the company's research, it discovered RFID bracelets that were being used by its CDCA member company, ProSoDel, at another event. "Initially, we were simply looking for a way to streamline the registration process and pre-print badges for attendees," Meredith states, "but we began to learn more about what RFID technology could do for us."

ProSoDel, the solutions provider that offered the RFID-based solution to the CDCA as a pilot, is now providing the same system to exhibits and agencies around the country, based on the results of the two-year pilot, according to Matt Williams, ProSoDel's executive VP.

The system consists of fixed RFID portals at key chokepoints, RFID tags embedded in visitor badges and PTS's ClearStream RFID middleware to capture and interpret the collected RFID read data, then forward it to ProSoDel's cloud-based software. ClearStream RFID serves as a mapping tool that allows users to map fixed RFID readers into an existing software system. By

using ClearStream RFID, ProSoDel can not only capture read events that it then interprets as real-time data about the number of individuals who have entered or left a given space, it also can provide such analytics as traffic averages, dwell times and the frequency of visits by individual attendees.

With the implementation of RFID, the CDCA was interested in knowing how many of its attendees entered and left two key areas: the ballroom and the exhibit hall. The latter was used for exhibitors at booths, as well as with small breakout rooms for some sessions, while the ballroom accommodated larger speaking events and lunches.



Each of these large spaces had two entrances. An RFID portal was installed at the two entrances to the exhibit hall itself, says Jared Causey, ProSoDel's senior systems developer. The ballroom could be accessed from the main lobby or from a hallway between the exhibit hall and ballroom, he explains, and each entrance was also equipped with fixed RFID readers.

The readers, provided by [Zebra Technologies](#) and [Alien Technology](#), were installed with antennas on the ceiling. The antennas were pointed in opposing directions in order to determine the direction in which each badge was moving.

As attendees signed up for the event, they first used a third-party registration service. The data collected was linked to the ProSoDel management software, which issued a name badge that came with an embedded RFID tag containing a unique ID number that was then stored with the details that the individual input upon registering. That included his or her name, the company or agency he or she represented, and the category of attendee. In 2016, the CDCA tracked everyone onsite, while during the second year, it tracked only paying visitors, which required a total of 1,200 badges.

The system provides a variety of options for users, Williams reports, including the ability to track an individual or simply monitor the number of people moving into and out of specific areas. The CDCA was interested in observing traffic patterns, rather than tracking individual attendees. The system was highly transparent, he says. Users could view the RFID tag in the back of the badge and could easily access information about the tracking system.

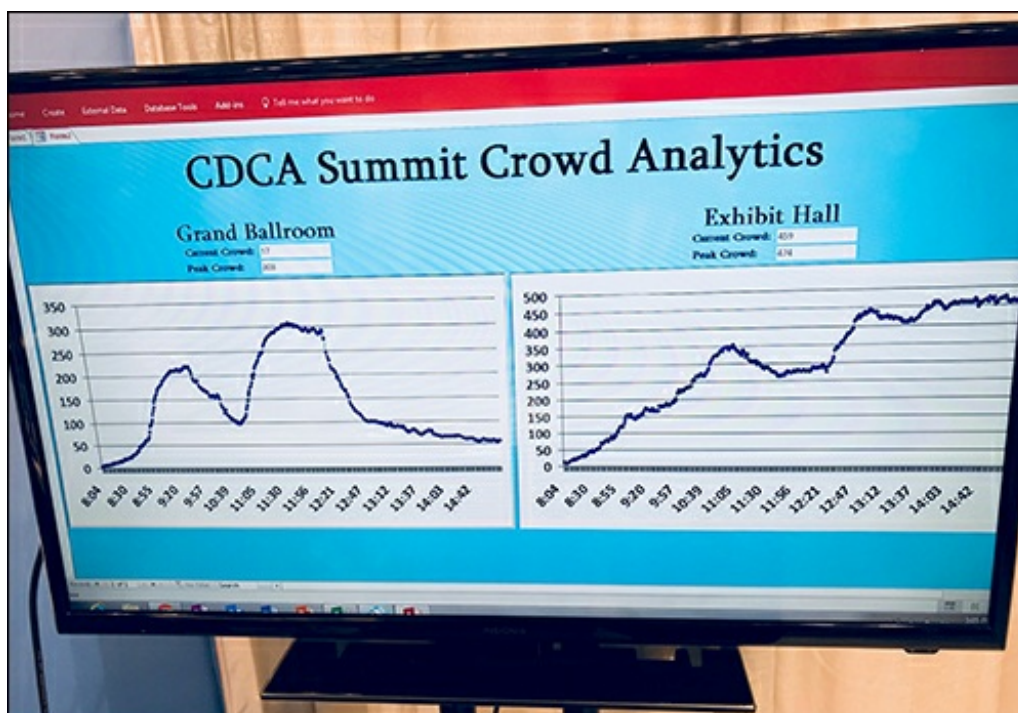


As visitors moved toward the exhibit hall or ballroom, the RFID readers captured their tags' movements. The ProSoDel software then managed each of those read events.

The benefits began when attendees arrived, Meredith says. Starting with the 2016 summit, the pre-printed RFID badges helped to streamline the check-in process. While that streamlined registration was the initial motivator for piloting RFID, she states, "We started to appreciate other uses for the data that could be collected as the scanners picked up the chips in the attendees' badges." Understanding the traffic flow was one such gain, Meredith says. "During the summit," she explains, "we were able to see the volume and flow of attendees from place to place at any given time of the day."

The organization then used that data for its 2017 exhibit planning. It found that it averaged fewer than 600 people in the dining area at any given time—less than half of the overall number registered for the summit. With that knowledge, it was able to then plan the 2017 meal based on actual attendance numbers. "With food and beverage costs being one of our largest expenses," Meredith says, "this data helped us control costs and eliminate food waste. By controlling those in 2017, we were able to reallocate resources to other expenses. "

The 2016 data revealed that no matter the day or time, more people were in the exhibit hall than the ballroom. Using that information, the CDCA opted to move more break-out events to the exhibit hall, so as to increase participation. In years past, it had held key speakers, panels and technical tracks in the ballroom, Meredith says. "After the 2016 crowd analytics," she adds, "we decided to move the technical tracks to the exhibit hall, plus added separate spaces for Q&A sessions to keep people engaged."



What's more, event organizers gained a greater understanding of how many people actually attended the technical tracks. In 2016, the association ran three separate technical tracks at the same time in the ballroom, which required that the venue staff divide up and reset the space multiple times. With the RFID data, it found that only about 200 people attended each track.

"By moving technical tracks to the exhibit hall in 2017," Meredith recalls, "we were able to create the Briefing Theater space to allow seating for around 250 people." People were thus able to attend more sessions since they were not all held concurrently. "By taking the RFID data from 2016 to reinforce our decisions," she states, "we saved the time and money by controlling our staffing needs for CDCA and the venue."

Based on the data collected during last year's event, Meredith reports, the CDCA has learned that attendees did move from the ballroom to the exhibit hall during the appropriate times. This, she says, demonstrated that "we were getting the message to the attendees of where and when events were taking place." The CDCA also found that lunch attendance was around the same level as at the 2016 event.

"By using the 2016 RFID crowd data, we were able to make informed decisions in 2017 that allowed us to improve our summit," Meredith says. The group now has more commitments from companies looking to sponsor in 2018 than in years past.



PTS offers ClearStream to sample, at no cost, to companies such as integrators building a new solution. "It doesn't cost anything to try our software," says Brad Horn, PTS's CEO. In addition, deployments such as the one ProSoDel has offered are the kinds of projects PTS hopes to see more of. "It's amazing what we see end users do with this technology—it's only limited by their creativity," he states. "Customers like this help push the technology in the direction we want to go."

Looking ahead, Meredith says, "We are in the initial planning stages for our December 2018 summit. We will likely continue to use RFID technology, as we have in the past two years." However, she notes, the organization may explore better locations for scanner installations, and plans to review the demographic details of who attends which sessions. "We have also discussed how the data gathered may help us better understand the interests of current and potential members of CDCA."