

Tactical Use of Mobile, Throwable Reconnaissance Robots

Some tactical call outs such as narcotics raids, hostage rescues and active shooter situations will always require dynamic SWAT operations that rely on speed and overwhelming force to accomplish the mission. But in recent years tactical units have moved away from this approach on many call-outs. Faced with trigger-happy suspects armed with automatic weapons, teams are slowing things down and taking a step-by-step approach that reduces the risk to their operators and to the public. Their philosophy is simple: when the element of surprise is not crucial to success, protect the lives of the officers by letting reconnaissance robots take the point.

The tactical teams of the Alameda County Sheriff's Office in Northern California and the Des Plaines, Illinois, Police Department are just two of the more than 125 U.S. law enforcement agencies that have adopted this approach. Although the geography and demographics of their respective jurisdictions are very dissimilar, both agencies have integrated a more deliberate robot-based protocol for conducting many SWAT operations.

No Longer Going In Blind

Alameda County covers more than 700 square miles, just across the Bay from San Francisco. Home to nearly 1.5 million people, the county includes the city of Berkeley at its north border, Oakland at its center and Livermore to the east. The Alameda County Sheriff's Office provides judicial, correctional and law enforcement services with a staff of more than 1,500, including 1,000 sworn personnel. Captain Dennis Houghtelling has been involved in police tactical operations for 17 years, including four with the Alameda County Sheriff's Office (ACSO). Following a 2008 Urban Shield exercise, ACSO acquired a Recon Scout reconnaissance robot, and immediately began incorporating it into the training protocols for their 36 tactical operators. Several weeks later, they began taking it along on every call.

"We quickly found that it's much safer to send a small robot into a dangerous situation than it is to send in officers or deputies," says Houghtelling. "If we suspect that there is an armed or dangerous subject inside, we'll always deploy the Recon Scout to gain situational awareness. Any member of our team can insert the robot into the environment, and

we have several people who are very good at moving the robot through the structure and monitoring the video it transmits. Once we get a clear picture of what's actually going on, we can more confidently plan our next steps. Before we got the Scout, there were always so many unknowns when we went through a door. We didn't know if there were people inside, we didn't know where they were located and we didn't know if they had weapons in their hands. Now, the robot is providing that information. We are no longer going in blind."

One of Alameda County's first uses of the robot was on a barricaded suspect call, involving a suicidal man who had doused himself with gasoline and was holed up inside a two-story house. The individual had piled furniture against the doors and was reportedly armed with two swords.

"One of our operators was able to move up to the structure and throw the robot through an open second story window," said Houghtelling. "The robot quickly spotted the subject, who was wildly swinging the swords in the air and using them to stab the floor. Our negotiations were not progressing very well and we considered introducing gas, but after seeing his

actions and the presence of gasoline, we decided against that. For over an hour we were able to use the robot to follow his actions, and see how agitated he was. Eventually, we were able to talk him into peacefully surrendering."



Summary

Agencies Alameda County Sheriff's Office
California
Population: 1,500,000

Des Plaines Police Department
Illinois
Population: 60,000

Challenge Gain situational awareness on barricaded subjects to protect operators

Solution Deploy the Recon Scout® Throwbot™ and Recon Scout XT

Benefits

- Able to clear rooms in advance of entry teams
- Gain information about the subject's location and weapons
- Can use the robot and a canine unit to search for subjects
- Robot reconnaissance helps guide entry team position/tactics



An Armed Suspect in Castro Valley

A few weeks later, the Alameda tactical team responded to a nighttime call out in Castro Valley involving a man with a gun who was threatening to commit suicide and might be holding his mother against her will. When the first police units arrived on the scene, their efforts to contact the subject were met with no response. The tactical team established containment, and again attempted to make verbal contact with the subject. Receiving no reply they decided to introduce the robot through a first floor window at the rear of the house.

"We did not know if the subject was already deceased, and we wanted to know if his mother was in the house," says Houghtelling. "A situation like this can be dangerous for our deputies because the armed subject might attack them with a weapon in an effort to commit suicide-by-cop. We tossed in the robot, and on the OCU screen we immediately saw him moving through the house. We moved the robot throughout the house and could see one of the bedroom doors was closed. Eventually, the subject picked up the robot and threw it outside. Because we now knew that the subject was alive and that his mother was possibly still inside the house, we were able to handle this incident differently. After some time, we were able to get the subject to move to a back door where we took him into custody."

Alameda County also uses the robot on search warrants and many other high-threat situations. In some cases, they will first use the robot to clear rooms and concentrate their focus on a given room or closet, then send in a canine to determine if someone is inside. In those cases, the robot is used to watch the dog as it searches the space. All of this reconnaissance can be obtained without sending an entry team through the door. As an added measure of safety the operator directing the robot is usually stationed behind Alameda's armored tactical vehicle.

Searching a Three Level Structure in Des Plaines

In December 2008, the Des Plaines Police Department used seizure funds to acquire its first Recon Scout XT. Less than two months later, they acquired a second unit. Des Plaines is a city of 60,000 citizens located 20 miles northwest of Chicago. In many respects, Des Plaines could not be more different

than Alameda County, but talk to Sean Flanagan of the Des Plaines tactical team and you soon find that the challenges they face are universal.

"We only had our robot a couple of weeks when the patrol division called us out to a residence around 6:00 p.m. on a very cold winter night," says Flanagan. "They had a situation where a lady said that her boyfriend had been smoking crack all day and had grabbed a handgun and was threatening to kill someone. The lady had run out of the house and called 911. On my way to the scene, I swung by the station and grabbed the XT kit. We had not even trained with it yet, but one of the deputy chiefs on the scene knew that we had it and thought it might come in handy. By the time we arrived the patrol officers had cordoned off the house, but they had not seen nor heard from the subject."

Eventually, the Des Plaines tactical team began negotiating with the subject, but he was uncooperative. They introduced OC gas, which generated no results, and then tried CS gas, which was also unsuccessful. By now an armored vehicle from nearby Rosemount Police Department arrived on the scene, and they used it to approach the house and deploy the robot.

Making It Hard On The Bad Guy

"We drove our team down the driveway in the armored vehicle and positioned the vehicle to block the windows on that side of the house," says Flanagan. "We then breached the door, threw in the robot, and pulled the entire team back behind the vehicle. Up until that time I was the only one who had ever used the robot, so I used the OCU to move the robot from room to room on the first floor, looking for the subject. Finding nothing on the first floor, we sent in the entry team to fully clear that level using mirrors and shields to search closets. At this point, several members of the team heard coughing coming from somewhere in the house, so we knew he was still inside, but we had no idea where."

Flanagan then tossed the robot upstairs and cleared almost the entire level, except for a closed closet door, outside of which sat the man's dog. Figuring that the subject might be hiding in there, Flanagan positioned the robot to watch the door as the team moved up the stairs. Eventually he found that closet to be empty, so he turned his attention to the basement.



"We threw the robot down the stairs and began to search the entire area, and once again we found a closed door," said Flanagan. "We could see that there was no ductwork going into this room, so we figured our gas never reached this area. We called out to him, but heard no answer. We thought about trying to breach the door, but we discovered that there was a small window to that room, so we decided to fire a gas round through that window to flush him out. Within seconds, we heard shot. A few minutes later we used mirrors to look through the window and saw that he was sitting with a gun in each hand, and we confirmed that he had shot himself.

"This robot does the same thing as a mirror or a camera on a pole, but it does it from 100 feet away," says Flanagan. "It provides a reactionary gap, and increased safety. Even knowing how the rooms and doors are configured is a big advantage and helps us plan our movements ahead of time. We trained with the robot recently and we asked our role player to hide in a building. We then conducted a covert search using the robot and found him immediately, and he says, 'Hey, that's not really fair for the role players anymore if a robot can find them.' And I said, 'Well, that's the whole point, isn't it – to make it hard on the bad guy.'"