

# Teaming Up for LAW ENFORCEMENT

# ROBOTS

By Michele Coppola

*Over the years, law enforcement has found a variety of uses for robotic technology to protect communities and keep officers safe. In addition to bomb disposal, robots can be used for reconnaissance and tactical assists. Those with two-way audio systems can be deployed by police to communicate with hostages or suspects.*

An Oregon sheriff's office has taken a unique team approach to maintaining and deploying robots, extending their use to support routine patrol searches and K-9 units.

Established in 2008, the Washington County Sheriff's Office Remotely Operated Vehicle Team (ROVT) has grown to include nine members and five robots. To be on the team, a person must have at least three years of law enforcement experience. It is a secondary assignment that is in addition to team members' regular duties.



“I have people from just about every division on the team: three from the patrol side, two detectives, one drug team guy and three of us from the jail side,” says Sgt. Tristan Sundsted.

“When the lieutenant decided to set up the team, they asked who in the agency was interested in applying police robotics,” he explains. “Most are people who have played computer games or have a similar connection. It’s been interesting over the years. There are basically three disciplines that people fall into on my team. There is the mechanical aspect, one guy had a mechanic background working on small engines. A few members are robot drivers who have a video game type of background and who are good at manipulating the robots and knowing where the robot is in relation to other objects while in operation. Then there are the technical folks like me who do the electronics and maintenance.”

The team trains once a month to keep skills sharp. The team’s five robots were all purchased with grant money. All can transmit video/audio. The team uses two small, lightweight, throwable, wirelessly controlled robotic cameras. Weighing little over one pound and quiet, they can be thrown into a building and stealthily provide video/audio reconnaissance. The team also has two rugged, water-resistant, micro-tactical robots weighing about 25 pounds that have pan/tilt/zoom cameras and can climb stairs, climb over loose clothing, right themselves and transmit video/audio. The team’s largest robot, weighing about 225 pounds, transmits video/audio and has a manipulator arm and can be used to open doors and push furniture around if necessary.

“I have discovered that our team is pretty unique in the Northwest and people are interested in how we operate our robots and developed our team,” Sundsted says. “I belong to the Association of Unmanned Vehicle Systems International and I began talking to other agencies and realized most have their robots assigned to their SWAT or bomb squads. As far as I know we are the only ones in the Northwest who have a robot-specific team. We do all the maintenance on them and train with them so the tactical guys can worry about tactics.”

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**-Sgt. Tristan Sundsted,  
Washington County Sheriff's Office**

A micro-tactical robot is positioned on a paved surface. The robot has a black frame, four large, treaded tires, and a tall, thin mast with a camera mounted on top. A red cable is attached to the robot. In the background, several police officers in dark uniforms and helmets are standing near a building. The scene is outdoors with trees and a clear sky.

Sundsted says the “workhorses” for his group are the two micro-tactical robots, which as part of the field search robot (FSR) program, are carried in the patrol cars of on-duty ROVT members for use in tactical as well as routine patrol situations, such as responding to a building alarm. They allow a rapid way to get a first look at an incident. They are also used in a program that trains K-9s to work with robots.

“I was fairly impressed. The dogs have responded well to the robots and have adapted to it,” Sundsted says.

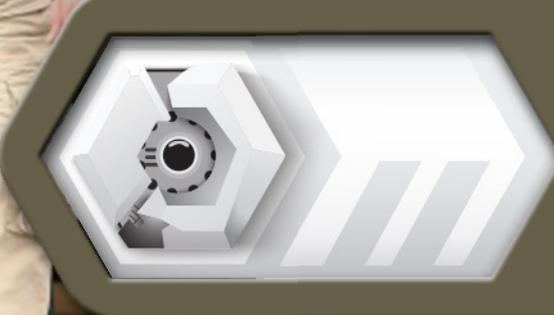
The two smallest robots are employed mostly by the tactical team, but can be used to supplement the FSR program for patrol operations as well. All robot team members go about their usual duties and respond to situations requiring the robots and their expertise as needed. The robot team automatically responds to SWAT situations.



Photo courtesy of the Washington County Sheriff's Office



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*"Using robots keeps our deputies much safer"*



*Robots were used to search the building and record him with a rifle*

"Our guys run the robot and search and the tactical guys can concentrate on their tactical work," Sundsted says.

The amount of robot use by the department fluctuates from year to year. Sundsted says field search robot calls average two or three calls a month, but there are times they have been deployed one or two times a week.

"Using robots keeps our deputies much safer," Sundsted says. "They don't have to go in blind. They can send the robot in and see the layout before they go in. A lot of times you can communicate with the suspect or hostage using a robot."

Earlier this year, a man who attempted to rob a car dealership surrendered after a six-hour standoff with law enforcement. Robots were used to search the building for him and recorded him with a rifle, according to Sundsted.

The Washington County Sheriff's Office has about 375 certified jail and enforcement staff and 540 staff overall. According to the U.S. Census Bureau, Washington County has an estimated population of 554,996. Located approximately 20 miles to the west of Portland, the county has a total area of 726 square miles.

For more information, contact Sgt. Tristan Sundsted, at [tristan\\_sundsted@co.washington.or.us](mailto:tristan_sundsted@co.washington.or.us) or (503) 846-2383.



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