

Robots in Security: Key Considerations



Securitas is continuously evaluating new tools and processes that will enhance security solutions. Over the last 18 months we have been diligently assessing various robot products and applications, both through selected collaborations as well as through our own 30+ field deployments. Our summary observations on the potential of robots in the security arena and related considerations are provided below.

Although they are in an early stage of market entry, when properly deployed, robots have the potential to provide advantages in certain security environments. These advantages include operational efficiencies, such as force multiplication in large patrol areas; reduced risk, by employing robots in high risk or dangerous environments such as high crime areas; and enhanced job satisfaction and retention by having robots perform low function, automated tasks that free up security officers for activities that require advanced intellect or interaction. Assessing upfront scenarios in which robots can be best applied – or not – is key.

What can security robots do well now? There are four areas of security that robots have become increasingly adept at performing. These are:

- Capturing and monitoring data, such as license plates (where legal)
- Using sensors (light, sound, temperature, proximity, distance) to identify situational awareness and enable Remote Guarding officers to make decisions on the robot's next actions
- Providing video feeds that, often in conjunction with sensors, deliver a comprehensive view of the threat landscape, enabling enhanced analysis and decisions by remote guarding officers
- Functioning as a visual deterrent, due to the mere presence of the robot and the ambiguous extent of its capabilities

What have been the results of field deployments? To date Securitas has deployed over 35 robots with selected clients. Over half of these deployments have been terminated. The primary reason for the terminations has been functionality gaps; i.e., disparities between expected performance and actual



field operation. To be clear: the robots have functioned as designed, but real-world applications have proven more complex than product testing; particularly in scenarios where the robot is deployed on a stand-alone basis

The most effective way to deploy a security robot is in collaboration with a human security professional. Robots can provide notable security advantages, but currently work best as complementary tools within existing security services. For this reason, many of today's robots are viewed as "cobots" or "collaborative robots." For example, our Remote Guarding officers underpin robot capabilities with the essential human element, enabling real-time, highly confident detection and action across a wide range of activities. This type of collaboration has been a key component in the successful deployments to date.

Costs remain a significant factor. Depending on functionality, security robots' pricing ranges from \$25,000 to \$95,000. In the near term, as robot technology and applications continue to evolve and new sensors and capabilities are put in place, the cost of building, programming and maintaining robots will likely increase. Similar to most new technologies, Securitas believes robots' price/performance curve will improve in the intermediate future. In the meanwhile, some manufacturers are combatting the cost hurdles by using pre-existing mobile platforms and simply programming the security components. Others are creating a tiered pricing structure based on functionality. These tactics have made some impact, but unless the robot can be utilized essentially on 24x7 basis, costs compared to on-site officers will continue to be an issue.

Robot technology, vendors and applications will continue to churn. As with all technology evolutions, new robot technologies will rapidly change as new manufacturers continue to enter the market with new products, and legacy manufacturers fight to enhance existing products. As one example of this churn, three manufacturers that exhibited at security industry trade shows in 2017 have since pulled their offerings and/or discontinued their manufacturing. In such a rapidly changing environment, stranded investments are frequent and can be financially and strategically painful.

Securitas remains technology and vendor agnostic. Securitas believes our neutral approach to vendors and technologies enables us to deliver unbiased counsel and solution options for our clients. Why? Robots span a broad spectrum of applications, functionality, pricing and strategic direction. Likewise, manufacturers' advantages in features, capabilities, costs and market position can change quickly. By assessing a client's needs across the full range of vendors' offerings and capabilities, the best fit for each unique client application can be identified and then consistently refined.

Looking ahead, we expect the robot landscape to continue to evolve, including increased operating proficiencies; an expanded array of manufacturers; and, ultimately, viable price/performance benchmarks. Throughout this evolution, Securitas is committed to systematically researching offerings and options and providing clients with class-leading solutions that best meet their security goals.