



Helping to boost performance of MicroRobots.

Summary

In order to improve their latest reconnaissance micro-robot, this customer partnered with Beacon EmbeddedWorks to utilize their embedded expertise to increase processing capabilities. This would introduce a more robust robotic system to military and law enforcement customers.

Challenge

Venturing into unknown territory is just part of the job for today's military and law enforcement professionals. Many of these situations can even be life threatening, especially when they are faced with a hostile environment. As a leader in tactical robotics, the customer was looking to provide a more robust robotic system so that reconnaissance could be performed more safely. The client's main goal was to increase the range of control and field of view for their current line of robots to make exploration of these tough environments more thorough. With a tight timeline, the customer sought our embedded technology expertise to increase processing and camera input capabilities.

Customer Profile

A leader in advanced robotics, designs, engineers, and manufactures tactical robot systems for law enforcement and military. Available in over 30 countries, the micro-robot systems are used to provide immediate reconnaissance and protection of personnel in dangerous environments.

More Information

Why choose a Beacon EmbeddedWorks SOM?

See what differentiates our SOMs. beaconembedded.com/system-on-modules/

About Beacon EmbeddedWorks

Beacon EmbeddedWorks is a full-service provider of innovative System on Modules (SOMs). Backed by a suite of customization, security, and support services, our dependable, pre-certified, and feature-dense embedded solutions serve the most strenuous applications.

Solution

Beacon EmbeddedWorks assembled a team of software and electrical engineers to begin development on the customer's line of reconnaissance micro robots. After assessing the available options, our team recommended that the Torpedo + Wireless System on Module (SOM) was the best solution for the robot's software. The SOM would serve as the main processing unit for the robot. Its wireless component would allow for easy connection to the robot's controller while the increase in processing performance would provide the necessary increase in range of control. Furthermore, compact form factor was ideal for the size requirements of the micro-robot.



Extending the field of view was another area that the client was looking to expand on. Using the Torpedo + Wireless SOM, Beacon EmbeddedWorks was able to incorporate dual camera inputs, improving visibility from the prior one-camera design. With dual cameras, the micro-robot had near 360 degree perspective of the surrounding area, allowing it to survey an area more quickly and efficiently.

Results

Utilizing the SOM as an off-the-shelf solution, the customer is able to speed production time to get their robots to market faster. The expanded capabilities of the micro-robot allowed the user to control the system from farther away and receive multiple views of the surveyed area. The Torpedo + Wireless SOM is now being used as a building block for future generations of their products. We continued partnering with the customer on other initiatives including fast boot capabilities. This project was successful in reducing the start-up time required for battery-powered devices to less than 1 second.

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