

Artificial Intelligence

Could a camera-wearing dog pick you out in a crowd? SOCOM might find out.

By: **Eric Tegler** 10 hours ago



Hawkeye Systems is offering high resolution body-worn — and K9-worn — cameras to Special Operations Command. (Courtesy)

Los Angeles-based startup Hawkeye Systems is already in the movies because Sony Pictures Studios uses its technology. But Hawkeye’s leaders want the military to use their tech as well.

The company is offering high resolution body-worn — and K9-worn — cameras to Special Operations Command and has longer term ambitions to provide airborne ISR systems and imagery.

Hawkeye’s wearables have been demonstrated for SOCOM at Camp Atterbury in Indiana and at the Special Operations Forces Industry Conference in 2018. Corby Marshall, the company’s chief executive officer, said military representatives who saw the technology were “blown away.”

SOCOM officials, for their part, acknowledge evaluating Hawkeye’s cameras but stressed that the organization “currently does not have a program of record for body-worn cameras.”

But what may have impressed them?

As opposed to the consumer-grade wearables SOCOM uses from manufacturers such as GoPro and Axon, Hawkeye Systems promises the possibility of higher image resolution, a 360-degree field-of-view and the potential to pair denser image data with artificial intelligence.

“We’re working to create a technology that takes [resolution] from 720 [pixels] to 4K, 8K,” Marshall said. “It’s wildly better with some AI features around physical, biometric and chemical sensors on the same camera that the dog is wearing.”

But Hawkeye doesn’t make cameras or optics. What it does is provide imagery interpretation software.

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“It’s the software, simulation and image interpretation that we are really good at,” Marshall said. “That comes from 25 years solving problems in the movies.”

Marshall’s partner, Lucas Foster, is a Hollywood movie producer with over 50 film credits including the action thriller “Mr & Mrs. Smith” and is a principal in Headcase VR, a West Hollywood studio specializing in advanced virtual reality content creation. Hawkeye’s third principal, Michael Mansouri, is a filmmaker and co-founder of Radiant Images, an LA-based digital cinema 3D/VR technology developer and camera supplier for the motion picture industry.

The pair’s entertainment background combines with Marshall’s military experience as a West Point graduate and Army artillery officer who served with the 10th Mountain Division task force in Somalia. In the private sector he most recently worked as vice president at AppOrbit, a firm offering automated application modernization and management.

In 2015, the trio recognized it could leverage two key areas of movie/VR expertise – volumetric imaging and light field capture – in advanced ISR applications.

In simple terms, volumetric imaging captures a subject in three dimensions. Using multiple camera views, it captures depth, generating a decipherable “point cloud” which can then be interpreted by AI.

With the right equipment, Marshall argues that Hawkeye’s software “could tell you that that building has 250,000 square feet. I can give you volumes without lasers or data lights. I can do it optically.”

Light field capture gathers information about light emanating from a scene using a plenoptic, or multi light sensor, camera. The intensity of light and the direction that the light’s rays are traveling in space can be divined in a way that is not possible with the human eye. The data can be particularly useful in facial recognition.

Hawkeye’s ability to interpret volumetric and light field data stems from its experience with virtual reality. The techniques are the building blocks of the VR tech that allow a viewer to virtually walk around a scene and see it from any vantage point. Such capability is highly desired within the intelligence community.

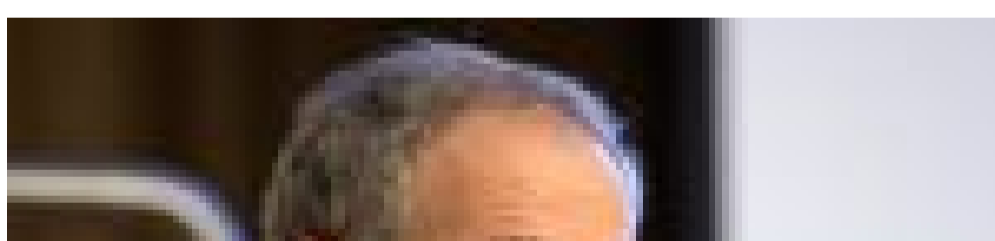
In the meantime, the company hopes to get its foot in the door with dog-worn camera technology. Marshall said SOCOM is interested in leveraging Hawkeye’s dog cam 360-degree view and high-resolution imagery for intel gathering.

“I can put the camera we’re working on with them now on a dog, send it through a bazaar and identify everybody in that bazaar [using AI] because of the quality of the video and possibility of using facial recognition with it,” Marshall said.

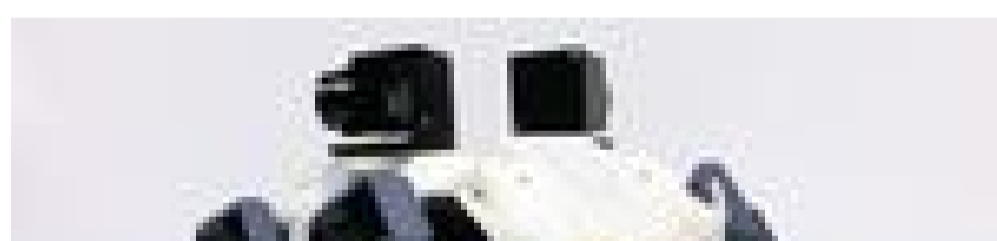
In the future, cameras could feature millimeter wave capability to detect whether an individual has a weapon and what kind, whether it’s a knife or gun, it might be. Hawkeye is ultimately hoping to use a camera system it’s developing called AXA with 360 view, volumetric, light field and other image processing capabilities for airborne ISR platforms.

Marshall says he expects to close a deal for K9-worn cams with SOCOM in the next several months.

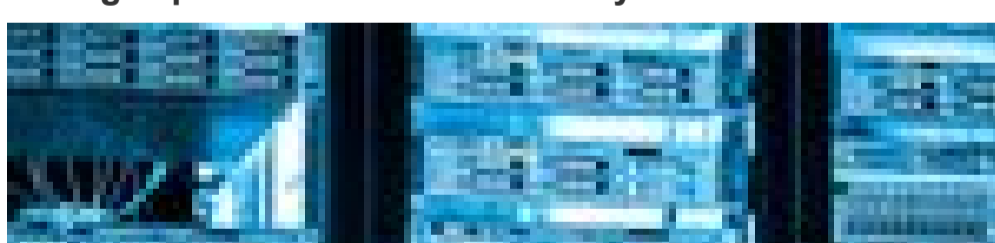
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