HSARPA seeking video software technology to interpret complex surveillance stream
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The Department of Homeland Security is sponsoring an April 26 industry conference in Washington to outline requirements for surveillance-camera technologies to isolate and identify terrorist activity.

Called *Automated Scene* Understanding (ASU), the technologies would help monitor and interpret the increasingly complex information being generated by closed-circuit TV (CCTV), infrared cameras and other sensors.

The department's Homeland Security Advanced Research Projects Agency (HSARPA) issued a broad agency announcement (BAA) April 12 seeking proposals for the ASU technology (http://216.35.173.248/EPSData/DHS-DR/Synopses/37711/HSSCHQ-04-R-0063/BAA04-05-4-09-2004-PBM.pdf).

HSARPA plans to spend about $3 million developing the technology in fiscal 2004. White papers are due May 17 and proposals are due by July 12. HSARPA will make its selections and begin contract negotiations by Aug. 30.

The day-long bidders conference will be held at the Marriott Wardman Park Hotel. There is a $120 registration fee (http://www2.eps.gov/spg/DHS-DR/OCPO/DHS-OCPO/HSSCHQ%2D04%2DR%2D00634/Attachments.html).

"There hasn't been a tremendous amount of funding" for surveillance technology, said James Davis, assistant professor of computer science and engineering at Ohio State University. "But now, with the national interest in homeland security, there's a new resurgence in video security," he told Homeland Security & Defense April 19.
Davis, who plans to submit a BAA proposal, is developing a video-equipped computer surveillance system to monitor people and identify their activities. The system calls attention to unusual behavior such as someone loitering outside a building in the middle of the night.

The large number of surveillance cameras that feed into typical operations centers make viewer fatigue and distraction "a major problem," Davis said. Security personnel now often monitor as many as 20 different cameras.

But Davis and other researchers are developing technology that distills all those video streams, analyzes them for certain pre-programmed behavior -- such as a person wearing an overcoat on a hot day or a small boat lingering near an airport's waterside runway -- and sounds an alarm when certain criteria are met.

In that way, "the severity of the information overload is severely reduced," Davis said. Information overload is not the only concern, said security consultant James Francis. "It's also getting information to the right people who can actually do something with it,"

Francis, senior vice president of New York City-based Aggleton & Associates, said April 19.

He said there is a "tremendous need" for technology that can sort through a flood of data "because we're always going to be constrained by insufficient manpower."
Francis doesn't think the video-computer technologies will dumb-down security officer duties.

"We are already seeing the technology is requiring a higher [skill]-level person sitting behind those consoles," he said. "You've got to be able to understand what to do with the information when you get it." Getting enough people trained to install the complex systems is a greater concern, he said.

Part of the BAA seeks proposals and white papers for *scene* understanding and data fusion capability for the Coast Guard's port and coastal surveillance testbed, known as Project Hawkeye, in South Florida.

HSARPA is budgeting $2 million in fiscal 2004 to prototype and test technology that combines data from vessel transponders, CCTV, infrared cameras and radar into a comprehensible information stream for Coast Guard command centers to identify suspicious, unusual or dangerous activity.
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