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Obscure U.S. Agency Seeks Gizmos to Combat Terrorism

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Americans worried about terrorism on their home turf will soon be able to buy a $3 sensor the size of a credit card that will show whether they have been exposed to a dirty radioactive bomb.

Behind the development of the tiny dosimeter, which features a baby blue or pink stripe that blushes deeper the greater the radiation exposure, is a tiny government agency that labored in obscurity -- until now.

The 70 employees of the Technical Support Working Group are the nation's talent scouts for antiterrorism gadgets. Their job is not to build the stuff but to fund it and ensure that gizmos find their way out of the laboratory, onto the market and into the hands of those who may need them.

That, of course, became all the more pressing after Sept. 11. Since then, some 16,000 proposals have landed on the desks of the group's staffers. Only 120 made the cut. But now the agency is preparing for a new onslaught of proposals. It expects this week to issue its first public call for antiterrorism gadgets on behalf of the new Department of Homeland Security, which has promised to kick $30 million into the group's budget.

The proposal for the dosimeter arrived at the agency about a year ago and quickly got plucked out of a "blur of probably 400 or 500 proposals reviewed that day," according to Todd Brethauer, a 22-year Navy veteran who is now the agency's top science adviser. It was, he says, nothing short of "a eureka moment." The dosimeter's low price was a big attraction.

While national-security spending usually brings to mind billion-dollar defense contracts, many of the agency's projects are considerably smaller and some even come in single-size portions. The agency has forked over a relatively modest $105,000 to J.P. Laboratories of Middlesex, N.J., to speed the dosimeter's journey to emergency workers who respond to terrorist acts and eventually to the commercial market.



These days the agency's analysts are wearing them around the office to demonstrate their portability. Starting this month firefighters in Chicago and Seattle will road-test the devices.

Other projects in the group's pipeline also aspire to a wide commercial market. Under development are undershirts that for four to eight hours will cool a person clad in body armor. Simply load a hunk of ice into a backpack and the garment sends refreshing water cascading through a series of channels.

Official logo of the Technical Support Working Group

The Chemical Biological Response Aid, or CoBRA, is a rugged laptop with wireless communication, a digital camera and a scanner that can be used to collect and disseminate information at disaster scenes. One convenient feature is that it can be decontaminated by running it through a dishwasher. The group subsidized development of the device with a $600,000 grant in 1998, and the manufacturer, Defense Group Inc. of Alexandria, Va., has signed a $14 million contract to supply them to FBI bomb squads.

A list of works in progress claims that a sniper detection and warning system would be able to "identify a potential sniper before the first shot." Jeffrey M. David, deputy director of the program's oversight group, declined to discuss how exactly that might work because the system is so classified it can't be discussed with people who don't have clearance. "I can't tell you why I can't discuss it, because then I'd be discussing it," he explains.

The group's offices are a far cry from weapons expert Q's workshop in the James Bond movies. Most of the work entails sorting through thousands of one-page proposals dubbed quad charts, because each is split into quarters -- a picture, a description, technical details, and cost and schedule projections. Still, disabled pipe bombs and night-vision goggles sometimes can be found around the office. Mr. David nearly tripped over a bomb-squad robot on his way home one recent evening.

A joint venture of the State and Defense Departments, the program has been a low-profile and low-budget operation since its start in 1986. In the past it quietly catered to the antiterrorism needs of agencies ranging from the CIA to the Food and Drug Administration.

The program always has operated a little bit on the fly. Because Mr. David once heard that in Washington projects don't die so long as they have a coffee cup and a logo, he sketched an agency seal himself while working in bed one night. It depicted a shield representing defense projects, a sword for offensive projects and a globe for its international program. A contractor turned the sword into a bayonet because that was all he had in his computer art folder.

Now the agency's services are in demand. Ten years ago, it had about $8 million to give out. This year, depending on how much other agencies contribute, it could have as much as $200 million.

Its goal is to promote rapid prototyping of products by making grants to companies, laboratories and universities with projects on the drawing boards. So far, more than two-thirds of the projects the group has funded have resulted in usable products. Overhead, salaries included, consumes just 8% of the budget. The rest goes to funding products, such as a portal that sniffs people for traces of explosives. It looks like a big metal detector but blows air at a subject to gather bomb residue. A prototype has been used at military bases in the Persian Gulf and Europe and it eventually may be used at airports, agency officials say.

The program is now helping the Homeland Security Department transform its own high-tech wish list into real gizmos and gadgets. On the list of requests: a system to screen railroad passengers and baggage at the rate of 200 people an hour, new methods of detecting underwater mines at ports and transportable water treatment and distribution systems.

Although Washington-area airports and roads were snarled as a result of a blizzard, 500 businessmen and scientists showed up Feb. 19 at an underground auditorium near the Pentagon to listen to hours of lectures on the requests.

There was some reverse sticker shock among listeners as Mr. Brethauer and other staffers plowed through the catalogue, which he referred to as "the hymnal." Some of the products requested are priced too low for the taste of companies more used to developing high-priced technology for the Pentagon. Chemical decontamination kits must cost less than $10 per package and have a two-year shelf life. Air-sampling systems for office and apartment buildings are supposed to cost only $2,500.

The numbers amazed John D. Gorman, chief scientist at Science, Engineering and Technology Associates, an Arlington, Va., company. A single product for the Pentagon's Defense Advanced Research Projects Agency would receive funding of $20 million to $50 million, he said. "Here they're trying to get 40 to 50 projects out of $50 million."

In the case of the dosimeter, the agency required that the device work in a range of temperatures, so that it could be used by emergency workers from Alaska to Arizona. It had to be impervious to sunlight. And it had to be 10 times as sensitive as the prototype, for use in the event of a low-radiation nuclear event such as a dirty bomb, not only a high-radiation event such as a Chernobyl meltdown.

"My initial reaction was, 'I cannot,' " said Gordhan Patel, the dosimeter's inventor at J.P. Laboratories, which he founded. To meet the group's requirements, Mr. Patel shelved all of his small company's other projects. His son quit his job as a marketing vice president at Sun Microsystems to take over the administrative and licensing side of his father's business.

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