

7] Army To Evaluate Thermal Beacon Alternative IFF Technology

By B.C. Kessner

TEL AVIV, Israel--Thermal Beacon, an Israeli company specializing in innovative thermal Identification Friend or Foe (IFF) emitters, is preparing for an Army evaluation of its technology in the United States.

"As we speak, a demonstration unit is on its way to Ft. Belvoir, Va.," Avi Peer, Thermal Beacon's CEO, told Defense Daily yesterday. "The evaluation is scheduled to last a minimum of 30 days."

The company's technology exploits existing thermal vision systems and adds an identification code that signals warfighters belonging to 'own forces.'

Peer said Thermal Beacon is trying to penetrate the U.S. military market to help reduce incidents of fratricide that have happened, and unfortunately, will continue to happen in conflict.

"We do not claim to have the silver bullet that can eliminate all incidents, but we do believe that we have the technology to reduce the number of accidents to an absolute minimum," Peer said.

Today's IFF systems are radio frequency (RF) based, and they are rather expensive; vehicle mounted IFF systems typically run in the tens of thousands of dollars.

Thermal Beacon's systems radiate in the thermal spectrum, most efficiently in the three to five micron range, and do not emit radiation in the visible or near infrared regions. According to Peer, at costs in the "very few" thousands per unit, they are also relatively inexpensive. "You could buy 10 or more of these for the price of just one traditional IFF unit."

One of Thermal Beacon's systems is compact enough to be helmet-mounted, designed to provide personal, highly reliable protection and identification of all soldiers in the field.

Is the price of those units such that they could be deemed cost effective?

"It depends--how much is a human life worth?" Peer replied.

Steyer-Daimler-Puch Spezialfahrzeug recently chose Thermal Beacon's multi-spectral, omni, medium range (MS-OMR) emitter to equip a fleet of Pandur armored fighting vehicles (AFV) purchased by an undisclosed European country.

MS-OMR emits in the three to five micron range. On the ground, the point-to-point range of the system is about two and a half miles, Peer said. Airborne thermal systems can achieve more than 50 percent additional detection range, depending on atmospheric conditions and things like fog, rain or snow, he added.

The company also offers a wide spectrum emitter that operates in the three to five as well as the eight to 12 micron ranges. That system was recently exhibited on a RAFAEL armored personnel carrier at the

Eurosatory defense exhibition in Paris. Peer said there was a lot of interest at the show in the company's systems, which also include high- powered laser illuminators and pointers. "We made a lot of new contacts there."

Though customers rarely bring their checkbooks to trade shows anymore, Thermal Beacon is hoping the recent sales and exposure-- including especially the evaluation in the U.S.--will bode well for the company.

Peer said that the emitter could also be used as an identification device in vehicles and watercraft and law enforcement, emergency services and search and rescue personnel could use the devices.

Especially when it comes to military applications, the U.S. has more thermal vision systems to take advantage of these emitters than anyone else.

But what if the enemy has thermal imaging devices of its own operating in these spectrums--wouldn't they be able to see the IFF signals?

"Yes, of course," Peer said. "You have to remember, these are designed to reduce the chance of fratricide, not reduce the chance of detection. If you're going to be detected [by thermal devices], you're going to be detected by the heat of the vehicle, not the added identification code."

With thermal systems, there is no day or night, rather the image they produce is generate by mapping thermal signatures. Even during transition periods from day to night, when cooling differences between the air and ground sometimes results in tricky inversions that can hamper forward-looking infrared (FLIR) systems, the thermal IFF systems will be unaffected, Peer said.

"No matter what the situation, in terms of...degrees centigrade per pulse, we'll be transmitting high and above the clutter," Peer said. "Friendly forces will always be able to see them loud and clear."

As to authentication of the signal--and the question that begs to be asked once there is a fear of devices falling into enemy hands-- there is a way to handle that, Peer said. "A means exists to validate the signal, I'd prefer not to elaborate on that."
