IED 2006 WELCOMES THE PRESS

International and national, civilian and military press were drawn to the IED 2006 Symposium and Exp, June 12-14, 2006 in Fayetteville NC produced by the Lodestar Group. The unique forum, bringing researchers, soldiers, industry, and military and government leaders together to discuss the IED issue, also offered a showcase for emerging technologies and new products and services.

IED 2006 Symposium and Expo welcomed press representatives from:

- The Washington Post
- Janes Defence Weekly
- Domestic Preparedness Journal
- The Metro Herald
- Raleigh News and Observer
- Fayetteville Observer
- The Paraglide

Expo aims to defeat bombs

Vendors pitch gear to protect troops

BY JAY PRICE
STAFF WRITER

FAYETTEVILLE – It was all there, the tiny booths, the blue blazers and khaki pants, the sales reps on cell phones to the home office: the trappings of the humdrum trade show.

At least until one vendor launched a robot truck designed to pull a tiny trailer laden with plastic explosives across the floor at 35 mph and another salesman yanked the cord on his simulated suicide vest.

Instead of selling restaurant equipment or computers, the 48 vendors at IED 2006 were offering their solutions to one of the Pentagon's tough... to stop ...

... how to stop ...ering device, the bombers switch to another. If it becomes known that, say, dead animals beside the road are a favored place to hide bombs, the insurgents bury the explosives or put them under concrete. Now, some devices are triggered by infrared signals and can penetrate a vehicle 50 yards away.

There were nearly 11,000 IED attacks in Iraq last year. More than 800 U.S. troops have been killed by them and thousands wounded. The Pentagon is spending more than $3 billion on the problem this year.

The lure of that money has set off a gold rush of ideas and inventions such as those on display in Fayetteville on Tuesday.

"There's not a silver bullet out there," said exhibitor Brey Hopkins of Colorado-based Pointer Industries, which makes jammers — devices that block the signals that trigger bombs. "My concern is that the federal government is spending a lot of money trying to find a silver bullet. Meanwhile there are a lot of cost-effective interim solutions available, and troops are losing their lives."

Expo organizers held the event in Fayetteville so troops from the state's military bases who would actually use the equipment could give vendors feedback.

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IED

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Soldiers in their new gray-green camouflage mingled with Marines in green, checking out truck tires that won't go flat even after being riddled by shrapnel, ground-penetrating radar devices that mount on the front of Humvees and several types of unmanned aircraft, one as small as a child's kite.

There was training equipment, such as simulated bombs. There were water-cooled vests for explosives experts who have to don bulky bomb-resistant suits in the blazing heat of the Middle East. There were tiny video cameras on long, long poles and a potential replacement vehicle for the armored Humvee with an angled body to deflect bomb blasts.

Raleigh-based Carolina Unmanned Vehicles offered several sizes of "Helikite" — part helium balloon, part kite. It can keep a surveillance camera in the air almost permanently, monitoring the roads for up to five miles.

"It's 24/7 surveillance," Michael Rogers said. "You can monitor the roads leading to a base continuously. A guy tries to plant an IED — you got him."

Some companies brought scarred sales props: a truck tire with ball-bearing shrapnel still embedded and a panel of armored glass starred with bullet strikes.

Hopkins' company was showing a signal jammer the size of a stereo receiver that costs about $20,000 and is used by some Special Forces troops in Humvees.

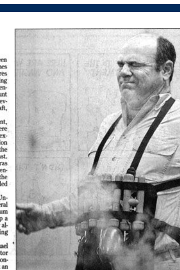
Insurgents, he said, like to fashion triggering devices from off-the-shelf items such as remote-controlled toy cars and trucks or garage-door openers, and the system blocks about 90 percent of the frequencies in use.

"But they are starting to use more cell phones and hand-held radios, and we're expecting them to move into satellite communications soon," he said. The company has developed a jammer that blocks those fre...

"There...

... Arel- ... have something

Staff writer Jay Price can be reached at 829-4526 or jprice@newsobserver.com.



Tony Trivelli of Combat Training Solutions shows off a vest intended to train troops about explosive devices.

STAFF PHOTO BY SHER STONEMAN

IED FATALITIES BY MONTH

Since July 2003, 837 U.S. troops have been killed by improvised explosive devices.

THE NEWS & OBSERVER — WEDNESDAY, JUNE 14, 2006

Experts talk explosives

By Kevin Maurer
Staff writer

Roadside bombs are a global problem that will plague U.S. forces in future conflicts, experts said Tuesday during the IED 2006 Symposium and Expo in Fayetteville.

Soldiers, researchers and business owners from around the nation are meeting in Fayetteville this week to share ways to defeat the bombs, which are called improvised explosive devices, or IEDs, by the military.

"The next country we have to intervene in, IEDs will be a threat," said Marine Col. Brian Green.

Green is the acting technical director for the Joint Improvised Explosive Device Defeat Organization, which is a ... clearinghouse for information and training on how to defeat the bombs.

Green said bomb-making tactics migrate between battlefields in Iraq and Afghanistan. One insurgent teaches another.

"It is now a global problem," he said.

The weapons have been effective ... essentially ... propaganda tools. "What they are trying to do is wear down our will to fight," Green said.

Tuesday's panel discussions at the expo focused on a soldier's view of the problem.

Marine Lt. Col. Patrick Kelleher's Humvee was hit by a roadside bomb one year ago this month. Kelleher, then commander of Marine Combat Logistics Battalion 8, was leading a convoy near Baghdad when he was hit.

Fire and smoke engulfed the Humvee. Luckily, Kelleher said, no one was hurt, and the Humvee was not severely damaged. The bomb was small.

"Small is relative when it blows up the outside of your door," he said during his presentation.

Kelleher's unit was responsible for moving supplies near Fallujah. He was also in charge making sure the supply routes were clear and safe. The Marines encountered roadside bombs almost daily, Kelleher said. Several Marines were wounded, but no one was killed.

Green and Kelleher agreed that early detection and training were the best remedies. But insurgents are skilled at hiding the bombs in piles of trash or attaching them to trees or behind guardrails.

The bombs are often equipped with electronic detonators that can be activated by walkie-talkies or cell phones. Recently, the bombs have been buried in the middle of highways and shaped to punch through armored vehicles.

Keeping ahead of the insurgents is difficult, Green said.

His organization has teams in Iraq and Afghanistan studying insurgent tactics, which change frequently. "They learn from watching us ... are innovative," Green said.

When soldiers placed heavy armor on their vehicles and jammed radio transmissions, the insurgents built larger bombs that were set off by pressure plates on the road.

Green said the only way to mitigate the threat is by stopping the bomb makers.

"It is a game of cat and mouse," he said.

Staff writer Kevin Maurer can be reached at maurerk@fayettevillenc.com or 486-3587.

'What they are trying to do is wear down our will to fight.'

Marine Col. Brian Green

The Fayetteville Observer — WEDNESDAY, JUNE 14, 2006

On the Web
www.fayettevillenc.com

IED prevention

Go to our Web site to view a slide show showcasing some of the technology featured at the IED 2006 Symposium and Expo.

PARAGLIDE

June 22, 2006
Volume LVX Number 310 — Telling the Fort Bragg story — www.paraglideonline.net

IED symposium bridges gap between suppliers, Soldiers

by pc. Jerome Bishop
1st TvC PA

Just five years ago the term "improvised explosive device" had almost no meaning among the general population. Through the ongoing war on terror, it has unfortunately become a household term and an even larger threat.

Today, service members and civilian companies are finding new ways to defeat and overcome the number one killer of troops in Iraq and Afghanistan. Events like the IED Symposium and Expo which took place June 12 through 14 outside of the Cumberland County Coliseum Complex in Fayetteville, are making it possible for the best and brightest from around the country to find ways to render terrorist's top weapon inoperable.

The company responsible for organizing the symposium, Lodestar Group LLC, which is based out of Raleigh, N.C., and specializes in defense industries. It brings the companies' technologies, experience and solutions to the people who need them.

Not only was the event organized to bring suppliers, manufacturers and operators together, but also to spread knowledge and understanding on ways to counter IEDs.

Several combat-proven commanders, along with two panels from several research and academic communities came together to discuss cutting edge technologies and how they can be supplied and applied to the war effort.

"We wanted to bring technological and academic heads together to see technologies that are germinating right now," said Robert Besal, retired Navy rear admiral and executive vice president of the Lodestar Group.

"We felt this was an opportunity to bring operators together with the suppliers and the manufacturers. We also wanted to give the

See IED, pate A

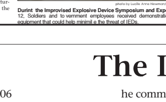


photo by Lucille Anne Newman/Paraglide

Durint the Improvised Explosive Device Symposium and Expo June 12, Soldiers and to vernment employees received demonstrations of equipment that could help minimil e the threat of IEDs.

Jane's — Intelligence and Insight You Can Trust

US soldiers back aerial fix for IEDs

Nathan Hodge JDW Staff Reporter
Fayetteville, North Carolina

Overhead surveillance is one of the most useful tools for countering the threat from improvised explosive devices (IEDs), according to two US military officers who recently returned from duty in Iraq. US Marine Corps Lieutenant Colonel Patrick Kelleher commanded Combat Logistics Battalion 8 in Iraq, where his marines had a number of "incredibly close calls." Col Kelleher said his battalion was hit by one or two IED attacks per week during his most recent deployment.

"Unless you have overhead ISR [intelligence, surveillance and reconnaissance], you are pretty much limited to visual detection," he said." If every convoy had its own unmanned aerial vehicle that you could fly from the back of the convoy and check your route, that would be great."

Army National Guard Lieutenant Colonel Randy Powell was deployed as part of a heavy brigade. Col Powell agreed that overhead cover was critical. He recalled how his unit moved several Iraqi battalions in a bus convoy, using army aviation and attack helicopters to provide surveillance.

USMC Colonel Brian Green of the US Department of Defense's Joint IED Defeat Organisation (JIEDDO) said having an unmanned aerial vehicle fly with every convoy was an attractive idea, but "it's harder than it looks" because overhead sensors have a narrow field of view. He added: "Video cameras have a huge volume of data they have to process. How do you get that down to a soldier in a convoy, moving at 60 miles per hour?"

The efforts of JIEDDO may be paying some dividends.

Brigadier General Carter Ham, deputy director for regional operations for the US Joint Chiefs of Staff, told reporters in a June 14 Pentagon briefing that the US military is "seeing good progress" in the detection of IEDs and the identification of bomb-making cells. "But the overall numbers [of IEDs] have increased over the past several months," he added.

IED 2006 SYMPOSIUM AND EXPO

Protecting our soldiers

Contractors showed off products Monday that could be used to protect military personnel from one of the most serious threats in Iraq and Afghanistan — roadside bombs, also known as improvised explosive devices, or IEDs. The items were displayed on the first day of the ... Symposium and Expo, which runs for three days at the Crown Center. ...

The Fayetteville Observer — North Carolina's oldest newspaper — Established 1816 — TUESDAY, JUNE 13, 2006

DRAGON EGG SYSTEM
- Maker: Octatron
- Price: $11,000
- Description: The first ... wireless ...

... A remote-controlled mine sweeper. A ground penetrating radar that can "see" several feet into the ground is mounted on the front of a riding lawn-mower chassis.

R-500 IED SEEKER
- Maker: Applied Marine Technology Inc.
- Price: Under $10,000
- Description: A remote-controlled robot with a camera that can be used to inspect potential bombs. The unit can run for an hour on a single battery.

Staff photos by Mike Spencer

IMEESS (Improvised Munitions Explosive Effect Simulator System)
- Maker: Mil-Sim-Fx International Inc.
- Price: $10,000 for basic kit including remote detonators, trip wire and other products needed for IED training
- Description: Provides realistic training using nonpyrotechnic explosions. The products use carbon dioxide tubes and talc powder to simulate explosions. IMEESS products are reusable and can be loaded with nonlethal ammunition.

Expo in Fayetteville displays tools to fight hidden enemy in Iraq

Associated Press

FAYETTEVILLE | Ground-penetrating radar, signal jammers and aerial surveillance cameras are among the tools to combat improvised explosive devices on display in this military town at the IED 2006 Symposium and Expo.

Sgt. 1st Class Bernard Arellano from nearby Fort Bragg said he liked bomb-resistant tires that won't go flat, but he preferred the ground-penetrating radar.

"I'd rather detect it before it goes off," he said.

Carolina Unmanned Vehicles from Raleigh showed off different sizes of the Helikite, which can hold a surveillance camera in the air almost indefinitely, to keep watch as much as five miles away.

"It's 24/7 surveillance, You can monitor the roads leading to a base continuously. A guy tries to plant an IED – you got him," said Michael Rogers.

Signal jammers made by Pointer Industries of Colorado and priced at about $20,000 can block about 90 percent of the frequencies in use, typically from remote controls designed for garage doors and toy cars, said company representative Brey Hopkins. Some Special Forces troops use the jammers in Humvees.

Hopkins said the company has developed a jammer that also blocks signals from cell phones and hand-held radios.

"There's not a silver bullet out there," Hopkins said. "My concern is that the federal government is spending a lot of money trying to find a silver bullet. Meanwhile, there are a lot of cost-effective interim solutions available, and troops are losing their lives."

The expo gave troops the opportunity to tell 48 vendors about real-life experiences.

Soldiers participated in a panel discussion Tuesday.

Fighting Roadside Bombs: Low-Tech, High-Tech, Toy Box
Pentagon Seeks New Approaches To a Deadly Problem in Iraq

By Renae Merle, Washington Post Staff Writer
Saturday, July 29, 2006; Page A01

Robert Pervere's fight against insurgents in Iraq started with an Emaxx monster truck from Debbie's RC World Inc. in Chesapeake, Va., a $335 toy that he turned into a weapon for U.S. troops against roadside bombs. The 24-year-old engineer replaced about 80 percent of the toy's plastic parts with aluminum, fastened two small surveillance cameras to the top and made room for an explosive that could blow up suspicious objects from hundreds of feet away.

"I get paid to play with [radio control] cars," said Pervere, who helped build the prototype for Applied Marine Technology Inc., a Virginia-based defense contractor that has said it expects to begin receiving military orders in September. "This has been a very rewarding project, working on a tool that's going to be out the door saving lives shortly."

AMTI's remote-controlled bomb-detecting device. (Applied Marine Technology Inc.)

After more than three years of war in Iraq, roadside bombs remain the deadliest single threat to U.S. troops, and countering them has emerged as one of the chief technological problems of the conflict. The Pentagon has spent tens of millions of dollars on the most obvious fixes -- adding armor to vehicles and deploying jammers to block radio signals used to explode the devices -- only to see the insurgents develop larger, better-concealed and more complicated explosives triggered by cellphones, garage-door openers, pressure hoses and other methods. Soldiers have even developed solutions of their own: Many Humvees in Iraq are outfitted with metal devices the size of a hockey stick that can catch tripwires or detect heat-sensitive triggers on roadside bombs.

Now, a Pentagon agency with a $3.3 billion budget and a staff of 300 has a mandate to focus the defense industry on the problem. The undertaking has attracted not only the country's top weapons makers but also dozens of small businesses like AMTI, all pitching a science-fiction gallery of possible solutions.

Lockheed Martin Corp. has established a corporate team with $22 million in internal funding, according to documents reviewed by The Washington Post, that is looking for "best of breed" technology, including ways to study attack patterns. International Business Machines Corp. has a system it says will create a digital image of often-traveled roads and alert soldiers to changes that could indicate bombs hidden in trash, rocks or animal carcasses.

General Dynamics Corp. is pitching a laser-based system adapted from Israeli technology that it says could burn away trash often used to conceal bombs and disable the devices. The Massachusetts Institute of Technology is studying whether there is a way to sniff out bombs with electronic polymers that mimic a dog's ability to smell. Octatron Inc. of St. Petersburg, Fla., is touting a low-tech approach: -- a 14-foot, 5-pound high-strength pole that the company says soldiers can use to place explosives next to suspected bombs from a distance.

Lawrence Livermore National Laboratory has a toy car of its own. After hearing complaints from soldiers that robots operated by wireless controllers were unreliable and subject to radio interference, Livermore came up with one attached to a 1,000-foot tether.

"This may not be super-high science, but it seem... to be useful," Milton Finger, a senior scientist at Livermore, ...b's $200,000 research project. "It sounds trite th... it's more than that."

The defense indust... ...b problem mirrors in some w... ...rist attacks, with man... ...p Grumman Corp., estab... ...arket.

The Washington Post

...he bombs is outrunning the technical creativity ... and the Pentagon now views the bombs as a long-term ... The search, Pentagon officials say, is not so much for a silver-bullet solution as for a wider set of tools that troops can use.

Sometimes "it takes us longer to do the counter measures than . . . it takes them to evolve to a new threat," said Marine Col. Brian Green, acting technical director of the new agency, the Joint IED Defeat Organization. IED stands for improvised explosive device.

Officials with the task force visited Paris and London last month to study technology under development by foreign vendors, and they are planning an industry conference in Washington in September. The office's Emerging Capabilities Cell met with several Washington area companies in May and June, an agency spokesman said.

In June, Green traveled to Fayetteville, N.C., near Fort Bragg, where he lectured contractors ranging from industry novices to titans like General Dynamics on the complexity of the problem.

"We are accepting all ideas and I would tell you I have seen quite a few that aren't worth five seconds' worth of review, but we take the time and we review every concept and technology that comes in the door," Green said. He said later that the office receives 20 to 30 ideas a week.Concern about the bombs has migrated to U.S. law enforcement. EOD Technology Inc., which provides security in Iraq, is offering courses to state and federal law enforcement agencies on how to respond to roadside bombs. The company encountered the bombs in Iraq and "we're transferring these lessons for use in the homeland," chief executive Matt Kaye said.

The Pentagon has made some progress. The number of bombs detected before they detonated has increased, according to the Joint IED office. The office did not provide figures to back up that assertion.

Still, the number of attacks continues to rise and roadside bombs remain the deadliest weapon used against troops. There were 11,242 roadside bomb attacks through June of this year, compared with 5,607 in all of 2004 and 10,953 in all of 2005, according to U.S. Central Command. They are the leading cause of U.S. casualties, accounting for about 33 percent of deaths, according to the Brookings Institution.

Military officials would not discuss in detail the technology they have deployed so far, fearing that any information could give insurgents an edge. They also would not say how quickly any of the new technologies may be put into the field. One new effort is to combine several signal jammers in a single device, protecting troops against a wider array of detonators. Competition for that program is expected to begin in the fall. Much of the challenge, industry and military officials say, is detecting bombs with enough warning for soldiers to stay out of range. A safe distance depends on the size and type of device, but with a roughly 100-pound high-grade explosive, a soldier would have to be perhaps 50 yards away to escape death and more than half a mile away to escape serious injury from the blast and bomb fragments, said Vilem Petr, assistant research professor at the Colorado School of Mines. "But even then the pressure pulls could still cause you to break an arm or a rib," he said. In a convoy traveling 60 mph, even small improvements in detection can save lives.

The work of the task force has rekindled interest in roadside bombs among weapons makers who said the Pentagon rebuffed earlier proposals to see if advanced technology could help with the problem. Chicago-based Boeing Co., the maker of the F-18 jet, began studying the matter in 2004 and approached the Pentagon with ideas that included putting sensors on unmanned drones and on the ground to hunt for explosives, said Patricia Stevens, manager of the company's IED Defeat Program. "The customer was not quite ready for them yet. There was not a high level of confidence that we could field them as quickly as they wanted them," said Stevens, who has been in her job since mid-May. "The customer has evolved. They picked the low-lying fruit," she said. Now the Pentagon is open to more sophisticated solutions.

Timothy M. Swager, head of the chemistry department at the Massachusetts Institute of Technology, said the military's requirements will not be easy to meet. Swager has spent years developing a system that can mimic a dog's sense of smell and thought he saw an application when the Defense Advanced Research Project Agency announced a search for ways to spot "chemical vapor signatures." DARPA wanted a system that worked at a distance of about 400 meters, or roughly 437 yards."Even dogs can't do 400 meters," Swager said. A gust of wind in the wrong direction or residue from a recent blast could throw off the typical system, he said. Swager offered one of the more exotic solutions suggested so far: pretreating road corridors with a chemical spray and using a laser to detect whether explosives are planted. He is researching ways to increase the sensitivity of his system to include other chemical vapors, including the components of C4 plastic explosive. "I am hoping that my expertise can play a role in solving part of that problem," he said.

The IED Problem: Solutions On Display, and On the Way

DomesticPrepardness.com, Wednesday, June 28, 2006
By Robert Besal

Enhancing the force protection and survivability of U.S. soldiers and Marines was the primary focus of the IED 2006 Symposium & Expo earlier this month at the Crown Center in Fayetteville, N.C. More than 600 attendees and 48 exhibitors participated in the mid-June event, produced by Lodestar Group, a defense marketing firm based in Raleigh, N.C. "Our goal was to bring together the innovators who develop and produce counter-IED technologies and equipment with the front-line operators," said Catherine Vilga, "Our goal was to bring together the innovators who develop and produce counter-IED technologies and equipment with the front-line operators." Catherine Vilga, president of Lodestar Group. "Based on our attendance statistics as well as exhibitor feedback, we certainly succeeded," she said.

Improvised explosive devices (IEDs) have caused over 890 U.S. deaths and more than 16,000 total casualties since July 2003, and are considered the greatest current threat to U.S. troops deployed to Iraq and Afghanistan. But Expo attendee Detective Leroy E. Morgan Jr. of North Carolina's Hoke County Sheriff's Department said that IEDs pose a serious threat to stateside law-enforcement officers as well. "Unfortunately, even little towns like ours are going to need some of this equipment [on display at the Crown Center Expo] in the next five to ten years," he commented. "We have no reason to believe" that the IEDs "won't find [their] way over here."

Lieutenant Colonel Patrick Kelleher, USMC, and Lieutenant Colonel Randy Powell of the North Carolina Army National Guard, combat-experienced battalion commanders who recently returned from Iraq opened the symposium by providing their joint warfighters' perspective. They also fielded questions from other symposium attendees, many of whom noted that it was the first time they had actually had a conversation with a company commander about front-line requirement...

Kelleher elaborated on the symposium theme – "Breaking the Ch... cussing the motivations and operating tactics of the insurgen... cipal steps in the IED attack process as construction... encouraged his audience to concentrate thei... counter-measure areas: using improved intelligence to ...ing and assembly of IEDs; developing better sensors to detect emplac... bombs; and enhancing group and individual protection through the production and distribution of better armor and the use of various other adaptive technologies.

www.domprep.com

The Prerequisites for Mission Success

Another speaker, Marine Colonel Brian Green of the Department of Defense's recently-established Joint IED Defeat Organization (JIEDDO) also provided an IED update briefing that included relevant JIEDDO organizational information as well as a "past, present, future" perspective of the IED threat. He also participated in a later symposium session to discuss the technological challenges that JIEDDO believes must be overcome to ensure mission success in an IED environment.

Many exhibitors commented favorably on the marketing opportunities presented by the sizable active-duty military audience participating in the seminars and visiting the ... exhibitor booths. AMTI demonstrated the company's remote-... which is equipped with a high-resolution camera that can ... ble potential explosive devices. Another remotely op... ...oped by NIITEK, featured a modified commercial chassis car... ...ine-search system that uses a front-mounted ground penetrating radar that can "see" several feet into the earth to detect buried explosives. Among the many other products on display were the Force Protection Industry's armored transport vehicle, the MUV-R, and a never-before-exhibited bomb-resistant guard post provided by Law Enforcement Associates.

The second day of the symposium featured panel presentations bringing together speakers from several of the nation's most highly respected academic and commercial research institutions, including the Johns Hopkins University's Applied Physics Laboratory, the Georgia Tech Research Institute, SRI (formerly Stanford Research Institute), and the MITRE Corporation. A number of industry representatives, from companies both small and large, discussed various emerging technology concepts and recommended ways to negotiate the requirements process more quickly in order to move innovative products from initial concept to front-line users as rapidly as possible.

One of the most-discussed presentations was provided by Marvin Leibstone, an internationally respected writer and commentator now serving as editor of Global Security & Trends Journal. After pointing out that the U.S. and allied counter-IED programs have been underfunded for years, Liebstone also noted that the insurgents in Iraq have, in contrast, steadily increased and improved their own IED capabilities and techniques. One important result, he said, has been the growth of a burgeoning anti-war movement in the United States itself.

The Expo's proximity to nearby Fort Bragg and Camp Lejeune provided exhibitors and symposium attendees with numerous opportunities to interact directly with the soldiers and Marines who are the end-users of the products and services that were on display. "We seldom hear from the actual boots-on-the-ground about the usefulness or supportability issues with our products," said exhibitor Henry Turtle of Scanna MSC. "By the time we get feedback from the field, it's months later, and the word has often filtered through many layers. This conference has been invaluable."

Rear Admiral Robert E. Besal, USN (Ret.), a former naval aviator, served in a variety of sea and shore assignments around the world during his 30-year career, including duty as commanding officer of the aircraft carrier USS America. Following his retirement from active duty, he entered the federal government's Senior Executive Service and served in several senior-level management positions in the Departments of Transportation and Homeland Security. He later became a senior manager in the Northrop Grumman Corporation's National Security and International Operations, and is currently an executive vice president, overseeing all program development, for Lodestar Group llc and defensetradeshows.com

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