

### DoD to Save Millions Annually by Changing Active RFID System

U.S. TRANSPORTATION COMMAND (DEC. 18, 2013)

Cynthia Bauer

U.S. Transportation Command and its partners have set the stage to save the Department of Defense at least \$5 million a year through a major yet mostly transparent change. By Jan. 1, USTRANSCOM, the Defense Logistics Agency, and the military services will have completed migrating their Active Radio Frequency Identification, or RFID, tags to the "ISO 1800-7" standard. The aRFID standard establishes how tags and interrogators communicate with each other.

USTRANSCOM is the "DoD lead functional proponent" for automatic identification technology, which includes the aRFID system. Previously, DoD's aRFID network operated using the "ANSI 256" standard.

The reality of ANSI 256 limits became apparent after more than a decade of war in Central Asia.

"Frankly, we were running out of tags since the ANSI standard has a limited number of unique tag ID numbers," said Andy Monday, chief of USTRANSCOM's Logistics Enabling Support Division. "Even though we emphasize tag reuse, many times the tags were lost or damaged after delivery. The ISO standard provides virtually unlimited unique tag ID numbers, essential for maintaining in-transit visibility of shipments."

Turning on the switch to ISO-only brings with it several additional benefits. ISO 18000-7 has become the global commercial aRFID communication standard, and the tags themselves are one-third the cost of the legacy ANSI tags. Using the ISO standard allows for competition among many aRFID vendors, which leads to a lower price for customers and fewer taxpayer dollars.

Together, the DoD, USTRANSCOM, the military services, DLA, General Services Administration, NATO, coalition partners, and others have been planning and then changing hardware and software over the past five years to make the switch possible.

"Our aRFID Migration Workgroup formed in 2009 to guide the effort, and by 2010 DLA began using the new ISO tags for its shipments," said Monday. "ANSI and ISO tags have both been in the system since 2010, but the ANSI tags will no longer be used on shipments after January 1."



Airmen steer a generator as it is pulled into a C-17 Globemaster III aircraft earlier this year at an undisclosed location in Southwest Asia. After Jan. 1, such equipment will bear Active Radio Frequency Identification tags that meet the more widely used international standard at less cost.

U.S. Air Force photo by Staff Sgt. Nathanael Callon

### Eight Teams Earn DARPA Funds for 2014 Robotics Finals

AMERICAN FORCES PRESS SERVICE (DEC. 24, 2013)

Cheryl Pellerin

WASHINGTON, Dec. 24, 2013 - On Dec. 21, at a racetrack complex near Miami, eight robots took their first steps into the future, one that scientists at the Defense Advanced Research Projects Agency envisioned for them as the world watched the Fukushima Daiichi nuclear disaster unfold in 2011.

Soon after, they established the DARPA Robotics Challenge. The challenge's first event took place in June with 26 teams from eight countries and whose last event will begin at the end of 2014 at the DRC Finals with a winning team, a robot, and a \$2 million award.

DARPA launched the challenge to help develop robots that can work with people to respond to natural and other kinds of disasters.

The competition—consisting of robot systems and software teams—was designed to be very difficult, at a time in robot evolution when real robots generally work on stationary bases in factories doing clearly defined repetitive tasks or in controlled laboratory environments, said DRC program manager Dr. Gill Pratt.

Participating teams, down from 100 when the program began, to 16 at the DRC Trials 2013 held Dec. 20-21 at the Homestead-Miami Speedway in Florida, represent some of the world's most advanced robotics research and development organizations.

The teams, DARPA officials said, are collaborating and innovating on a very short timeline to develop hardware, software, sensors, and human-machine control interfaces that will allow their robots to complete a series of tasks chosen for their relevance to disaster response.

In Florida, while thousands of spectators watched and often cheered, the 16 international teams, representing industry, academia and NASA, guided their robots through as many as eight individual, physical tasks that tested the robots' mobility, manipulation, dexterity, perception, and operator-control mechanisms.

Eight teams scored the highest number of points for all tasks completed and are headed for the 2014 finals. Pratt said DARPA has \$8 million to divide among the teams for further development, depending on individual team contract negotiations, to prepare for the finals.

The qualifying teams were:

1. 27 points, Team SCHAFT, Robot SOne, lead organization: SCHAFT Inc.;
2. 20 points, Team IHMC Robotics, Robot Atlaslan, lead organization: Florida Institute for Human & Machine Cognition;
3. 18 points, Team Tartan Rescue, Robot CHIMP, lead organization: Carnegie Mellon University, National Robotics Engineering Center;
4. 16 points, Team MIT, Robot Atlas-Helios, lead organization: Massachusetts Institute of Technology, Computer Science and Artificial Intelligence Laboratory;
5. 14 points, Team RoboSimian, Robot RoboSimian, lead organization: NASA Jet Propulsion Laboratory;
6. 11 points, Team TRACLabs, Robot Atlas, lead organization: TRACLabs Inc.;

7. 11 points, Team: WPI Robotics Engineering C Squad (WRECS), Robot Atlas-Warner, lead organization: Worcester Polytechnic Institute; and
8. 9 points, Team Trooper, Robot Atlas, lead organization: Lockheed Martin Advanced Technology Labs.

On the first day of the trials, speaking from victory lane next to the race track, DARPA Director Arati Prabhakar thanked the teams for their hard work, ingenuity, and collaboration with DARPA.

"We will show the world what's possible, what we need to work on, what it's really going to take for robots to step up when disaster strikes," Prabhakar said, adding that the teams would help build a better future with robotic capabilities.

Jyuji Hewitt, deputy director of the U.S. Army Research, Development and Engineering Command, called the teams' efforts a reality check into technology's "art of the possible." Dr. Brad Tousley, director of DARPA's Tactical Technology Office, said DARPA was happy with the teams, the robots, and the enthusiastic crowds.

"There are a lot of teams getting a lot of points," he said during a press briefing after the first day of the two-day event. "From our standpoint that shows real progress."

After the closing ceremony, during which Pratt awarded certificates to the eight winning teams, the scientist briefed the press, summing up the DRC's results.

"The technology has shown itself to be more advanced than I had expected—not by much but by a little bit. The robots were more reliable than we initially expected—not by a lot, but by a little. But that's only half of the picture," he explained.

"We're not quite sure of the [date for the 2014 Finals] yet but we will advance the robots significantly, much more than we have up until now," Pratt said. "We'll see how far we get." In the Miami trials the robots had to complete as many as eight separate challenges.

These included driving a utility vehicle over a short course, getting out of the vehicle and walking, removing rubble from a doorway and going through the door, climbing a ladder, using a tool to cut a hole in a wall, opening valves, and pulling a fire hose a short distance and connecting it to a standpipe.

During the finals next year, Pratt said DARPA will combine all the tasks into a more authentic mission for disaster response.



Team SCHAFT's robot S-One earned the highest score, 27 points, during the Dec. 20-21 DARPA Robotics Challenge Trials 2013. The team's lead organization is SCHAFT Inc., a Japanese robotics company.

DoD photo

"We're trying to move it from an engineer's test to an authentic test," he added, "and we're trying to do that at just the right rate so that it matches the maturity of the technology." Still, Pratt said, "I think we can make the finals a little harder than I had thought."

No matter how the finals turn out, the robot technology will have to be commercialized before it can be used in disaster response and mitigation, he said.

"What the commercial sector can do is to find a market for the technology. It may not be in disaster response, it may be in health care, agriculture, or manufacturing. We just don't know," Pratt added.

"But the most important thing is, after DARPA does its work, we count on the commercial world to reduce the cost, find the markets, and produce things of value," Pratt explained, and only afterward can the disaster-response community put the robots to work in those applications.

According to its DRC fact sheet, DARPA fully expects all those things to happen.

"Technologies resulting from the DRC will transform the field of robotics," the fact sheet says, "and catapult forward development of robots featuring task-level autonomy that can operate in the hazardous, degraded conditions common in disaster zones."

And of the very successful Florida DRC trials, DARPA's Toussley said, "Every time DARPA does a challenge we learn something new and we try and make that process better, and even better for the development of technology for the future."

### **DARPA Experts Break Language Barriers with Technology**

*AMERICAN FORCES PRESS SERVICE (JAN. 9, 2014)*

*Amaani Lyle*

WASHINGTON—Defense Advanced Research Projects Agency scientists will build on language processing tech-

nologies with improved speed and accuracy—offering an advantage to analysts in a variety of military and non-military scenarios, a program manager said today at the DARPA Congressional Tech Showcase here.

Dr. Bonnie Dorr, DARPA Human Language Technologies, demonstrated Raytheon BBN Technologies' "Byblos," one of several speech recognition systems that represent the state of the art in trainable, large-vocabulary, speaker-independent speech recognition.

"What's of interest here is gleaning information from the huge volumes that come through to us in foreign languages," Dorr said. "So it's really [addressing] the big data problem."

The natural language processing technologies can locate, identify, and organize information from a variety of sources and in at least 15 languages.

English-speaking analysts, once saddled with sifting through a barrage of information in foreign languages, can now use real-time filters to pinpoint information in audio and video broadcasts.

"The system goes into the video, pulls out the audio, separates it into sentences, renders it as text, and translates it into English so that the human, who speaks only English, can then read what this Arabic broadcast news is about," Dorr explained.

She added that despite a three-minute delay from a live broadcast, the real-time feed of identifying and aggregating individual pieces of information from raw data is remarkable.

The next chapter, Dorr said, involves developing what the translation output does to enhance information analytics.

"In the future, we want to be able to read through language to meaning because people don't always explicitly state all the assumptions that are underlying what they're saying," she said.

### **White House Lauds ONR-funded Researchers for Early Success**

*OFFICE OF NAVAL RESEARCH (JAN. 13, 2014)*

ARLINGTON, Va.—Focusing on undersea vehicles that have fish-like sensations, advanced ship design and more, four scientists sponsored by the Office of Naval Research (ONR) Dec. 23 learned they will receive the nation's highest honor for young scientists and engineers.

The researchers have been selected for Presidential Early Career Awards for Scientists and Engineers (PECASE) and will be honored at a ceremony at the White House early this year.

The president's recognition of these individuals reinforces ONR's mission to bring new and improved capabilities to warfighters by supporting ideas from the best and brightest minds in the country, said Dr. Walter F. Jones, ONR's executive director.

"ONR identifies and encourages young talent by staying at the forefront of the most groundbreaking research across a variety of fields," Jones said. "Our work with these up-and-coming researchers ultimately gives our sailors and Marines the advantage they need to operate in any environment."

The 2013 honorees funded by ONR include: Dr. Kristen Grauman, University of Texas at Austin; Dr. Mona Jarrahi, University of Michigan; Dr. Derek A. Paley, University of Maryland; and Dr. Yongjie Zhang, Carnegie Mellon University. Dr. Jeremy Robinson also received the PECASE for his work at the Naval Research Laboratory (NRL).

"I hope this recognition inspires other young researchers to continue pursuing new research breakthroughs and discoveries," said Zhang, whose work in geometric modeling could lead to great advances in ship design and analysis.

Paley began working on ONR-funded projects in unmanned systems even before he attended graduate school. With ONR's support, he now is leading a team of biologists and engineers to construct a system for undersea vehicles inspired by sensory organs used by fish to detect movements and vibrations in water. This could allow vehicles to navigate autonomously in areas where traditional sensors such as sonar are unavailable.

Honored for her work at the University of Michigan, Jarrahi and her research team at the University of California, Los Angeles, continue to investigate novel materials and devices that use super-fast frequencies to help improve medical imaging, chemical sensing, space exploration, security screening, and more.

Grauman's work focuses on collaboration between humans and machines to ensure image and video data are analyzed and exploited to the fullest extent. Her research may give warfighters the highest level of situational awareness and could have an impact on promising technologies such as first-person imagery from wearable cameras, perceptive autonomous robots, and more.

Robinson, who joined NRL in 2007 as a post-doctoral researcher and became a full-time employee in 2008, studies graphene, a carbon nanomaterial. He is looking at how it can be used to detect chemicals and how its electronic and mechanical properties can be used for nanoelectronic and radio frequency communication applications.

The PECASE program was established in 1996 and is managed by the Executive Office of the President's Office of Science and Technology Policy. According to the White House website, recipients are chosen based on their pursuit of innovative, state-of-the-art research, as well as their commitment to community service.

ONR provides the science and technology necessary to maintain the Navy and Marine Corps' technological advantage. Through its affiliates, ONR is a leader in science and technology with engagement in 50 states, 70 countries, 1,035 institutions of higher learning, and 914 industry partners. ONR employs approximately 1,400 people, comprising uniformed, civilian and contract personnel, with additional employees at the Naval Research Lab in Washington, D.C.

For more news from Office of Naval Research, visit <http://www.navy.mil/local/onr/>.

### **NAVFAC Engineering and Expeditionary Warfare Center**

#### **Announces 2014 Civilian Engineer of the Year**

NAVFAC ENGINEERING AND EXPEDITIONARY WARFARE CENTER  
PUBLIC AFFAIRS (JAN. 16, 2014)

*Darrell E. Waller*

PORT HUENEME, Calif.—The Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) announced its 2014 Engineer of the Year, Jan. 16.

Professional Engineer Galen Marks was selected as the command's civilian engineer of the year for his work as team lead overseeing the Hardened Installation Protection for Persistent Operations (HIPPO) Joint Capability Technology Demonstration (JCTD) project.

"Galen, his team designed and incorporated new technologies into a kit for the repair, restoration, and recovery of fuel and water for the HIPPO project," said NAVFAC EXWC Commanding Officer Capt. Mark. K. Edelson. "This has significant impact to sailors, Marines, and troops deployed in combat zones, and the award recognizes Galen for his dedication and exceptional work in support of the fleet and the warfighter."

The JCTD developed a scalable, resilient-structured solution to ensure continuity of operations in the face of major man-made and natural disruptions, and it incorporates innovative technologies to separate and reuse fuel contaminated with aqueous fire fighting foam.

The kit also offers new capabilities including bypass, inline and valve repair, fuel recovery and storage. A revised modular system allows faster access to tools and vital parts, along with expeditious transport by unmodified H-60 helicopters.

These technologies will enable warfighters to resume battle within six hours after an attack, instead of the days and weeks under previous systems and capabilities.

Marks also performed a failure investigation in a 950 kW Wind Turbine Generator at Guantanamo Bay, Cuba, quickly identifying the root cause and developing an economically feasible repair solution for \$45,000. He supervised restoration of key generator drive end bearings, bringing the turbine online much sooner than more expensive alternate plans costing \$1 million.

Marks led a survey team in the production and distribution of a key compressed air system at Pearl Harbor, Hawaii, resulting in cost savings of more than \$1 million annually. He also developed a Business Case Analysis (BCA) examining six alternatives, and that research has shown that an additional \$1.1 million in energy savings will be realized by implementation of a combination of BCA alternatives.

"This is truly a great honor for me personally, but it would not be possible without the hard work, resourcefulness, and contribution of my team members," said Marks. "I humbly accept this award in their behalf."

NAVFAC EXWC is the Navy's premier activity for facilities and expeditionary technology solutions, engineering services, equipment logistics, and products needed to equip the fleet and meet warfighter requirements. EXWC also delivers specialized engineering and technology solutions that support sustainable facilities and provides logistics and expeditionary systems support for Navy combat force capabilities.

For more news from Naval Facilities Engineering Command, visit <http://www.navy.mil/local/navfachq/>.

### **Smarter Robots Likely in Army's Future, Planners Say**

ARMY NEWS SERVICE (JAN. 22, 2014)

*David Vergun*

WASHINGTON—Unmanned robots already have proven their worth on the battlefield, neutralizing improvised ex-

plosive devices, and more capable ones are coming in the future, according to the commander of U.S. Army Training and Doctrine Command.

While robots and unmanned platforms will continue to provide valuable assistance to soldiers on the battlefield, the Army will need to look at what functions in the brigade can be automated to maintain capability as the number of people are reduced, Gen. Robert W. Cone told reporters at Association of the United States Army's Aviation Symposium, held earlier this month.

Cone's remarks sparked further discussion at a Jan. 22 media roundtable, co-hosted by the College of William & Mary and U.S. Army Training and Doctrine Command, known as TRA-DOC, held on the campus of W&M.

Discussions focused on a range of other issues as well that came out of this month's Strategic Trends Seminar, which looked at challenges and opportunities that will test the force in the coming years and decades.

The Army already has teamed Apache helicopters and unmanned aircraft in Afghanistan so "there's a potential to augment that capability, and in some cases and under specific circumstances, to replace manpower," said Maj. Gen. Bill Hix, deputy director, Army Capabilities Integration Center.

Dismounted ground robots are already assisting soldiers, much in the way a bird dog provides extra eyes and ears and a keen sense of smell for a hunter, Hix said, borrowing an analogy.

"That's an additive capability that makes a soldier that much more effective because the robot may carry additional munitions or logistics and even sensors that allow him to focus more on mission tasks and not deal with what's sometimes called dirty, dumb, dangerous, and repetitive tasks," he said.

There might even be convoys that are principally unmanned in the future, he continued, with some oversight by soldiers. Convoys in Iraq, Afghanistan, and Pakistan were often the target of attacks by insurgents using improvised explosive devices and small-arms fire.

The integration of robotics into all of the capabilities the Army brings to the table was the focus of soldiers, scientists, and academia at the Strategic Trends Seminar, said Col. Chris Cross, chief of Science and Technology, Army Capabilities Integration Center, or ARCIC.



A Small Unmanned Ground Vehicle walks down the steps of the Pentagon during a technology display.

US Army photo

"It's hard to conceive that we'll fight a fight in 2035 without the integration of some type of unmanned combat platform," he said, referring to the thoughts of scientists and academia at the seminar.

Cross, who has a doctorate in nuclear physics, agreed with Hix regarding convoy duty for robots, adding that this capability could be added "fairly quickly" with tethered or untethered robots. Tethered robots are controlled by a wire and untethered are wireless controlled.

Besides performing physical tasks that are dumb and dirty, Cross expects that future robots will be able to assist soldiers in the decision-making process.

The science and technology community is looking at a range of options to provide to Army leaders for future planning purposes, Cross added.

"We will fight against robotic platforms in the future that are either autonomous or semi-autonomous," he said. So it's not just how robots will be integrated into the force, it's also how the Army will deal with enemy robots.

When it comes to the autonomous decision-making capability of robots, there was a great discussion at the seminar about the levels of responsibility, said Col. Kevin Felix, chief, Future Warfare Division, ARCIC.

The technology is already here for robots, but there needs to be more discussion and consensus on the ethics of it, he said. That discussion will have to be done at the national level.

And, he added, adversaries “won’t necessarily play by the same rules that we play by.”

Also, as more robotic systems are brought in, there are a host of other things to consider as well, like procurement and sustainment costs, he said.

Human enhancements—things that allow soldiers to lift more and augment the senses—while not strictly robotic, are also on the horizon, Felix predicted, adding that this was discussed at the seminar.

### **INVESTING IN SCIENCE**

Despite the budget squeeze, the Army needs to continue to invest in science, technology, research, and development so it’s better prepared for the next war, Hix said.

That the Strategic Trends Seminar was held on the campus of W&M with scientists and academia present was good for the Army, he added, because they offer a unique perspective.

It’s fortunate that TRADOC is located so close to the W&M campus in Williamsburg, Va., added Dr. Jim Golden, vice president, Strategic Initiatives, W&M.

There’s a large area of intersection between the research being done at the college and that being done by Army planners, Golden said. W&M can offer the Army its analysis of topics like neuroscience, cultural and societal trends that might shape the environment 30 years out that the Army might want to take into consideration when planning, he said.

Hix said TRADOC is also partnering with the intelligence community to determine where opponents are investing their money in robotics, electro-magnetic, and cyber warfare and other capabilities.

“It’s not inevitable that we’ll be over-matched by future adversaries,” he said, “But we don’t want to face that prospect.”

### **AF Awards \$15.5 Million In Scientific Research Grants**

*AIR FORCE OFFICE OF SCIENTIFIC RESEARCH (JAN. 28, 2014)*

ARLINGTON, Va. —The Air Force Office of Scientific Research announced Jan. 24 that it will award approximately \$15.5 million in grants to 42 scientists and engineers from 32 research institutions who submitted winning research proposals through the Air Force’s Young Investigator Research Program, or YIP.

The YIP is open to scientists and engineers at research institutions across the United States who hold a doctorate or equivalent degrees in the last five years and who show exceptional ability and promise for conducting basic research.

The objective of this program is to foster creative basic research in science and engineering, enhance early career development of outstanding young investigators, and increase opportunities for the young investigators to recognize the Air Force mission, and the related challenges in science and engineering.

This year, AFOSR received 234 proposals in response to the AFOSR broad agency announcement solicitation in major areas of interest to the Air Force. These areas include: dynamic systems and control; quantum and non-equilibrium processes; information, decision, and complex networks; complex materials and devices; and energy, power, and propulsion. AFOSR officials select proposals based on the evaluation criteria listed in the broad agency announcement. Those selected will receive the grants over a three-year period.

### **Army Researchers Inspire Commercial Rifle Fire Control Systems**

*ARMY RESEARCH LABORATORY PUBLIC AFFAIRS (JAN. 28, 2014)*

*Joyce M. Conant*

ABERDEEN PROVING GROUND, Md.—Researchers at the U.S. Army Research Laboratory go about their business every day working on projects to help better serve the military and its members who protect our country. Sometimes the research inspires commercial companies to do additional research and expand on certain aspects to develop products of their own.

That is what happened with the Army Research Laboratory’s, or ARL’s, research called “Inertial Reticle Technology,” where researchers who were then in the Weapons and Materials Research Directorate developed a concept to apply advanced fire control technology to sniper weapons.

As a result of this concept, a modern fire control system for rifles was developed by a Texas-based company, which later partnered with another prominent gun manufacturer. Their partnership allowed for the development of a new shooting system, which they claim may just revolutionize how targets are acquired. It is called the precision-guided firearm.

According to an article in *American Rifleman* magazine, dated Dec. 17, 2013, a new integrated rifle and sighting system was introduced in January 2013, in which a video screen scope with an internal laser rangefinder measured the distance to



Shown is the U.S. Army Research Laboratory's Inertial Reticle Technology prototype.  
US Army photo

Von Wahlde went on to say, "Your videos look remarkably like ours did back in the day. I am impressed with your implementation. We utilized actual inertial sensors on the weapon to stabilize the desired aim point. I like your image processing method for doing so. Your solution to trigger pull is elegant. We replaced the trigger with a switch that armed the system. A solenoid actually pulled the trigger. That was one of the least liked features of our prototype by the users. Adjusting the trigger force is brilliant."

Within a couple of days, Von Wahlde received a message back from the company.

"Thank you very much for your email. I appreciate your work—

the target, using the latest in digital technology, factors in temperature, barometric pressure, incline/decline, cant, air density, spin drift, target movement, and effect drift.

Raymond Von Wahlde, aerospace engineer, Vehicle Technology Directorate, learned about this discovery through his former colleagues Lucian Sadowski and Dr. Stephen Small, both from Joint Service Small Arms Program, who managed a project in the 1990s known as "Project White Feather."

Small named the project as a tribute to famed sniper Gunnery Sgt. Carlos N. Hathcock II, also known as "White Feather." Von Wahlde found that the new rifle was very similar to the technology on which he had coauthored a white paper with Dennis Metz from EAI Corporation in August 1999, titled "Sniper Weapon Fire Control Error Budget Analysis," data from which was included on the company's website.

Von Wahlde contacted the company to see if those who developed their precision-guided firearms were aware of the Special Operations Command-sponsored project known as "Project White Feather."

Von Wahlde said in his message, "we called it the 'Inertial Reticle.' It was the brainchild of Dr. Mark Kregel. Might the precision guided firearm trace its ancestry back at least in part to 'Project White Feather?'"

Project White Feather continues to be the best compilation and serious study of sniper performance data that I am aware of. We make everyone on the team read it. Thanks for your interest—would love to show you the system sometime," said Bret Boyd, vice president of sales and marketing, TrackingPoint.

Von Wahlde, who was project engineer for much of the testing, said he gives a lot of credit to his former colleagues.

"The technology was the brain child of Dr. Mark Kregel [now retired], and along with Tom Haug [also retired] and Tim Brosseau from WMRD, they constructed the prototype systems for the IRT [Inertial Reticle Technology]," said Von Wahlde. "I am honored to be part of a team that served as an inspiration for these systems."

U.S. Army Research Laboratory is part of the U.S. Army Research, Development and Engineering Command or RDECOM, which has the mission to develop technology and engineering solutions for America's soldiers.

RDECOM is a major subordinate command of the U.S. Army Materiel Command. AMC is the Army's premier provider of materiel readiness—technology, acquisition support, materiel development, logistics power projection, and sustainment—to the total force, across the spectrum of joint military

operations. If a soldier shoots it, drives it, flies it, wears it, eats it, or communicates with it, AMC delivers it.

### **Army Contract Specialist Finds Hope and Strength While Battling Combat Injuries**

ARMY MATERIEL COMMAND (JAN. 30, 2014)

Liz Adrian

ROCK ISLAND ARSENAL, Ill.—Autumn 2013 was a memorable time for Mitch Chapman, an Army Contracting Command-Rock Island employee. It was memorable for wholly different reasons than during the same season 5 years ago.

On Oct. 13, 2008, Chapman, a then-infantryman serving with the Illinois National Guard, was driving the lead vehicle of a three-vehicle convoy on a road outside Kandahar, Afghanistan. The vehicle was struck by an Improvised Explosive Device, flipping over and killing his friend, Cpl. Scott Diamond, and seriously injuring Chapman and his commander.

The attack resulted in a multitude of physical and mental afflictions that Chapman continues to battle.

Five years to the day after being ambushed in Afghanistan, Chapman walked across the stage at Ashford University, Davenport, Iowa, to receive his bachelor's degree in operations management and analysis, with a minor in project management.

Chapman said he is proud of his achievement, particularly because he doesn't like school. A month after receiving his degree, his hard work paid off when he accepted a contract specialist position at Army Contracting Command-Rock Island, or ACC-RI. Chapman had been a records management specialist in the contract closeout branch since April 2012.

On occasion, even the seemingly innocuous task of handling boxes in the contract closeout warehouse had the power to take Chapman back to the battlefield.

"They are dusty and you get this smell on your hands, and some have really brought me back to theater," said Chapman. "People don't think about triggers like that."

Chapman said he is looking forward to the new challenges associated with being a contract specialist.

### **DAILY STRUGGLES CONTINUE**

Chapman said he is not a big believer in counseling as a way to address his PTSD, because many of the counselors and psychologists he has seen simply rush into prescribing medication before attempting to understand Chapman as a person.

However, Chapman said there is one counselor in Danville, Ill., who he will work with, and one psychiatrist—an Army veteran who works at the Veterans Administration—who understands Chapman's need to be seen as a person, not a problem to be solved.

"The first time we met, [the psychiatrist] sat down and wanted to talk about football and basketball," said Chapman. "He sat down and got to know me. Then I felt like I could talk to him."

Chapman said he finds strength in speaking with other veterans dealing with PTSD. As an alumnus of the Wounded Warrior Program and a former member of the Community Based Warrior Transition Unit - Illinois, Chapman was able to meet others going through similar experiences.

Though Chapman has had only minimal contact with these groups recently, he said he truly enjoys any opportunity he gets to work with veterans who are struggling, and said one of his goals is to increase his ability to meet and assist other veterans.

Aside from PTSD, Chapman also suffers from traumatic brain injury, hearing loss, constant headaches, and increasingly painful nerve damage.

"It's getting worse and the doctors are saying that the nerves [in my back] are settling and getting pinched," said Chapman. "When people ask about my pain level, I tell them it's an 8 to 10 on a daily basis. You wouldn't know it looking at me, but after 5 years what can you do? You can sit there and whine and moan and complain or you can deal with it and move on."

Some days, Chapman said, it feels as if the care he receives is only making his problems worse. He feels it is difficult to get proper care, as many doctors are quick to prescribe medication to address his pain, instead of researching alternate methods to eliminate or reduce pain.

"The VA has been giving me medicine that knocks me out for days," said Chapman. "One Friday night, they gave me 300 milligrams of gabapentin and I couldn't figure out how to get out of my bedroom. I can't live like that."

"[One] Friday, my back pain was a 15 on a 1 to 10 scale and [the doctor] told me to take the morphine through the weekend and to come back on Monday," said Chapman. "You would think that would mean 4, maybe 5 pills. She gave me 30 15-milligram doses of morphine and told me to take one every 4 hours. I took one and I was out."

Chapman is hopeful that there will be some resolution to his physical pain short of surgery. However, he said he knows that is literally a heavy load. In April 2012, the file containing the paperwork detailing his injuries weighed 15 pounds.

One aspect of his life that helps him cope with his PTSD and the mobility issues caused by his injuries is his service dog. Justice is a 3-year-old black Labrador, and a near-constant companion to Chapman, both at home and in the office.

"He's my battle buddy," said Chapman. "He's always got my back and is there for me unconditionally."

Chapman said there is one challenge associated with bringing Justice to work: keeping Justice's "social butterfly" tendencies under control. Chapman said Justice loves people and people like to lavish him with attention.

"I need to hold him to a higher standard because he is serving me," said Chapman. "He works for me."

While Justice provides him with constant assistance, Chapman said his greatest source of support is his family. Chapman said his wife, Lindsey, and their two daughters, Kayla and Jillian, are reminders of how fortunate he is.

They also keep him hopeful that time will help heal, or at least minimize the toll his injuries have on him. On Oct. 24, that support grew, when the Chapman's welcomed baby boy Nicholas Scott into their family.

"My doctor said recently that he knows that I'm trying to get better and will not give up, because if I didn't really care about my wife and kids, why would I try to get better?" said Chapman.



Mitch Chapman's service dog, Justice, is at constant attention while Chapman performs his contract specialist duties at Army Contracting Command-Rock Island.

US Army photo