

RFID? DEFENSE

Throughout the second half of 2009, RFID Journal hosted a series of virtual events designed to share lessons learned from across the industry, culminating in RFID in Defense. The following article provides an overview of the event.

Radio Frequency Identification (RFID) is steadily gaining ground as a transformative technology capable of bringing substantial benefits to supply chain and logistics operations in the Department of Defense (DOD). On Dec 15th, RFID Journal hosted the virtual event RFID in Defense, providing a venue for more than 400 registrants to learn from subject matter experts about the advancement of RFID within the DOD and the many deployment programs designed to improve support to the warfighter. The event, sponsored by XIO Strategies, Omni-ID, and Lowry Computer, brought together a distinguished list of speakers to share the status of current projects, considerations in selecting the right RFID equipment, and the benefits DOD is achieving today across the supply chain. The session included presentations from:

- David Blackford: Deputy, Logistics Technology Integration Division, US Transportation Command (US-TRANSCOM)
- Mary Ann Wagner: President & CEO, XIO Strategies
- Andre Coté: CTO & VP of Product Engineering, Omni-ID
- Major-General Hawthorne Proctor: United States Army (Ret.)
- Ed Coyle: Senior Member, SRA International, on behalf of Defense Logistics Agency (DLA)
- Robert Bacon: Program Director, Navy Automatic Identification Technology
- Mike Slocum: E3 Assessments & Evaluations, Naval Surface Warfare Center Dahlgren Division
- Jeff Tazelaar: Director of RFID Product Marketing, Lowry Computer Products
- Mark Reboulet: AIT Program Manager, United States Air Force

To kick off the session, David Blackford of USTRANSCOM provided a detailed overview of the 2007 DOD Automatic Identifi-

cation Technology Concept of Operations (AIT CONOPS), including deployment status, as well as an update on how adoption is progressing for active RFID (aRFID), passive RFID (pRFID), and Satellite (GPS) Tracking. Mr. Blackford cited many achievements of the service branches' current projects, including the Army's deployment to improve its parachute tracking system from an outdated manual logging system with the use of pRFID tags and the enhanced logis-

tics capability achieved by tracking cargo shipments through Pakistan using GPS.

Based on experience across a number of RFID initiatives, XIO Strategies President & CEO Mary Ann Wagner highlighted several programs underway within the DOD. She believes the DOD has been effective in moving through the implementation process in a methodical way, and is now at the "precipice of change", beginning to achieve a worldwide view of specific, high-value assets. Based on the successes of programs to date, and despite considerable financial constraints, the DOD continues to demonstrate significant operational savings through expanded use of RFID. However, she cautioned against believing that RFID, or any technology, will be a cure-all for logistical challenges, clarifying that "business process mapping is key to identifying where benefits can be achieved."

In the segment "Why Passive RFID Makes Sense for DOD Asset Tracking and Logistics Applications", co-presenters Andre Coté, CTO of Omni-ID, and US Army

Major General Hawthorne "Peet" Proctor (Retired), discussed the potential of passive ultra-high frequency (UHF) RFID as a vital technology for reliable asset tracking in a variety of DOD applications not previously possible. The session focused on how, given recent advances in passive RFID tag technology, active and passive can co-exist to protect customers' investments in auto-ID technology. The presenters provided a thorough tutorial about the many consid-

"It's the business process changes that accompany RFID implementation that yield the benefits . . . organizations are beginning to connect the edges of the enterprise with logistics information. We really are at the 'precipice of change' in which the data that becomes available is going to be a huge enabler to understanding the movement of materiel."

—Mary Ann Wagner, XIO Strategies, Inc.

erations DOD customers need to make in selecting the right RFID technology and tag for their application, including the expected lifespan of the tag, the environment, read-distance requirements, the movement of assets between facilities and geographic locations, and cost. Specific programs discussed included container and cargo tracking applications currently being deployed by the US Marines.

On behalf of DLA, Ed Coyle of SRA provided insight into that agency's approach to RFID deployment, reiterating the importance of enterprise-wide planning at the DOD level to improve support to the warfighter. He explained that the Center for Excellence at San Joaquin, CA is a three-stage concept that is crucial to the DLA implementation strategy, and includes:

1. **Planning and Assessment** – map process; test/evaluate; plan for deployment
2. **Deployment** – implement; tailor to site-specific requirements; monitor implementation

3. **Information Sharing** – collaborate with other services/agencies; build vendor partnerships, identify best practices

According to Mr. Coyle, DLA is focused on improving asset visibility of goods in transit and has already achieved a 7% improvement in receipt processing through the use of pRFID at San Joaquin. Furthermore, DLA sees several opportunities to improve end-to-end visibility through the use of RFID, particularly in the Depot Shipping and Customer Receiving processes, as illustrated in the below table:

PRIMARY RFID OPPORTUNITIES WITHIN DLA	
Depot Shipping	Customer Receiving
<ul style="list-style-type: none"> • Intra-depot visibility • Optimize materiel routing • Positive shipment confirmation • Improve accountability 	<ul style="list-style-type: none"> • Expedite receipt processing • Reduce/eliminate manual data entry • Reduce processing errors



The US Navy presentation, delivered jointly by Robert Bacon of Navy AIT and Mike Slocum of the Naval Surface Warfare Center Dahlgren Division, focused on the progress Navy is making to RFID-enable its operations and significantly enhance productivity, while reducing operating and inventory costs. The Navy's passive RFID program, which began in earnest with a deployment under a joint DOD initiative in Oahu, HI is expand-

ing rapidly to include plans for more than 100 Advanced Traceability and Control (ATAC) and commercial maintenance sites within the US Navy's repairables supply chain. Along the way, the Navy has tackled challenges including network connection restrictions, system design approvals, and annual compliance reviews. Mr. Bacon then identified that the next step is to deploy overseas, where many sites are supported remotely and oper-

“We demonstrated that we can deploy passive RFID in a HERO-safe manner, but the extent to which we deploy that is going to depend on the business case . . . do we want container visibility or pallet visibility? . . . Those are the questions we’ll be wrestling with in the months to come.”

—Mike Slocum, Naval Surface Warfare Center, Dahlgren Division

ate with a “skeleton crew”, bringing their own set of unique challenges such as:

- RFID Reader frequency restrictions
- Network connectivity and bandwidth constraints
- Wireless restrictions
- Host nation approvals
- Changes to Authority-to-Operate approvals
- Last nautical mile challenges

Mr. Slocum provided an update on the September 2009 testing of pRFID onboard the USNS Lewis & Clark under the Joint Direct Attack Munitions (JDAM) In-Transit Visibility (ITV) Proof of Concept to demonstrate Hazards of Electromagnetic Radiation to Ordnance (HERO)-safe shipboard use of pRFID. Among the tagged assets in the project were a torpedo container, 500lb bomb rack, and a pallet of liquid supplies. After thorough testing in both the portside clearway and cargo hold, it was determined that HERO-safe implementation of pRFID in a shipboard environment is possible—an important finding that could profoundly impact the ability for the Navy to deploy RFID deeper into their supply chain.

Although the majority of the event focused on supply chain programs and benefits, the presentation from Jeff Tazelaar of Lowry Computer Products gave a healthy reminder that there are other operational benefits of RFID deployment. While the firm’s customers have benefitted greatly in warehouse management and maintenance, he also cited significant opportu-

nities in Document Archive/Management and IT Asset Management.

Air Force AIT Program Manager Mark Reboulet was the final speaker of the day, and discussed his organization’s effort to deploy RFID to achieve two primary objectives: (1) Track critical assets moving through the supply system under Positive Inventory Control (PIC), and (2) Support DOD’s pRFID CONOPS Plan. Mr. Reboulet described the Air Force strategy of layering the marking technologies—pRFID, Barcode and 2D Datamatrix on all critical assets. The reason is that there are applications and processes in which pRFID cannot currently be used, thus allowing the Air Force to use the ‘right’ technology as the asset moves through the supply chain. The supply chain was described to be from Transportation, to a Munitions Area, to a Base Distribution Area, and all the way to Maintenance, having ‘chain of custody’ of each individual asset during its use. Furthermore, Mr Reboulet described the use of a Transfer Agent (middleware) that essentially takes an ‘event’ or transaction and converts

continued on page 32

understanding their role in the supply chain, understanding the needs of their customers. Good owner-operators understand this. If they didn't they wouldn't remain in business. But the traditional relationships of working with large companies who controlled many of the assets and facilities in their business is changing to large companies controlling a process which involves many external stakeholders. Drivers will seek to educate themselves

in these changes, through formal university degrees, certificates or other outlets, to complement their training in compliance.

Within the world of defense transportation, decision makers will expect more from the owner operator. It is up to this group to deliver what their customer wants and to deliver value. Training and education will be an enabler of their success. **DTJ**

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it to a standardized format in one database so that it can be fed to multiple Air Force back-end systems.

The session was full of exciting information, making it clear that significant progress is being made in the deployment of RFID to enable improved support to the warfighter. Without the right equipment in the right place at the right time, it is impossible for the brave men and women of the armed forces to do their jobs, so it is incumbent on us to do ours: identifying and addressing the many processes that can be significantly accelerated and made more accurate through the use of technologies such as RFID. To learn more about RFID and its possibilities, visit www.rfidjournal.com or attend the next major industry event, *RFID Journal Live* in April 2010. **DTJ**

DTJ INDEX OF ADVERTISERS

American Military University..... pg. #	Bennett International Group..... pg. #	Landstar..... pg. #
APL..... pg. #	Boyle Transportation..... pg. #	LimitLess pg. #
ARC (ASL Group)..... pg. #	Comtech Mobile Datacom pg. #	Maersk Line, Limited pg. #
Avis Budget Group..... pg. #	FedEx..... pg. #	SAIC..... pg. #