

JM&L BULLET'N

QUARTERLY MAGAZINE

In This Issue:

**Reserve Detachment
enhances JMC's global
mission**

**ARDEC named
best in 3-D printer
development**

**Advanced 120mm round
gives tank crew more
versatility**

Joint Munitions & Lethality Life-Cycle Management Command

Acquisition - Sustainment/Logistics - Research/Development



COMMANDER'S CORNER

Team JM&L LCMC,

As I prepare to leave Joint Munitions and Lethality Life Cycle Management Command and Joint Munitions Command, I want to say that it has been a true honor and privilege to serve as your commander. In the past 10 months, your exemplary work ethic and commitment to excellence has inspired positive change, but most importantly, has sustained relentless Ready, Reliable & Lethal ammunition support to our common purpose – *the Joint Warrior at the Point of Need!*

We have accomplished much in a short period of time, but most importantly, we did it together - as a "Team of Teams". Of most significance was our completion and publication of the Ammunition Industrial Base Strategic Plan (IBSP). This sets the vision and context for how we need to shape our industrial base footprint into the future with staying power. Though the hard work begins now! Our IBSP 2025 is intended to be an actionable document. This means we must now map the tactical plans that are necessary to meet the vision quest and operationalize our ammunition enterprise into the future...TO create and sustain a resilient, responsive 21st Century ammunition Industrial Base that operates efficiently as an integrated network of critical capabilities and balanced, cost effective facilities – smartly right-sized, invulnerable, and modernized to thrive and surge in an uncertain and complex world to fulfill Joint Warrior munitions requirements at the point of need. (IBSP 2016)



Ammunition Enterprise Triad

ON THE COVER: Kevin Hodges, American Ordnance LLC, production operator, Iowa Army Ammunition Plant, inspects 40MM rounds prior to final packing into ammunition containers, 23 February. (Photo by: Tony Lopez, JMC Public and Congressional Affairs Office)



Achieving this vision and setting the conditions now to operationalize this intent is essential for ensuring global munitions readiness. To do this effectively, while continuing to evolve and adapt together to other changes that come our way will only happen if we sustain a commitment to communicate and govern our enterprise smartly; achieving unity of effort regardless of unity of command. We must always open the aperture to broad collaboration to build a culture of certainty – founded on trust and transparency. This culture will spark the bold, innovative ideas, options, and possibilities we need to Win in a Complex World, and shape our ammunition enterprise into the future.

As for Team JMC – our role is to integrate and operationalize the Ammunition Enterprise (plant to foxhole). We are the kinetics that connect ammunition to Combatant Commands at the right place and time, and make what we do relevant. Staying true to our Vision to *“be DoD’s Munitions Sustainer... ensuring Global Munitions Readiness.”*

Assuredly, it has been my pleasure to work alongside JM&L LCMC’s “Team of Teams”, all disciplined, trusted Professionals and Patriots who inspired me every day and continue to make a positive difference...*always remember* – if we accomplish anything it will be because we did together...

Trust + Teamwork = AMMO Strong!!

Always Ready, Always Reliable, Always Lethal...
AMMO Strong!!



11



10



8

CONTENTS

Features

- 4 AMMO READINESS CRITICAL TOPIC**
JMC, PEO Ammo and ARDEC leadership meet to promote readiness
- 7 ADVANCED 120MM ROUND GIVES TANK CREW MORE**
New round replaces and combines four stockpile tank munitions
- 8 RESERVE DETACHMENT ENHANCES JMC'S GLOBAL MISSION**
U.S. Army Reserve Detachment's efforts enhances global readiness
- 10 LEMC NAMED CITE FOR MISSILE MAINTENANCE**
Designation identifies Letterkenny as the Army's premier center
- 11 ARDEC NAMED BEST IN 3-D PRINTER DEVELOPMENT**
Award recognizes innovative achievement in 3-D printing equipment

In Every Issue

- 2 COMMANDER'S CORNER**
Commander's thoughts for 3rd Quarter FY16
- 4 RAPID FIRE**
JM&L Quarterly History
- 5 EVENTS**
Images from around JM&L LCMC
- 6 JM&L ENDURING PRIORITIES**
Strategy Notes

JOINT MUNITIONS & LETHALITY LIFE CYCLE MANAGEMENT COMMAND QUARTERLY MAGAZINE

EDITORIAL STAFF

Justine Barati
Chief, JMC Public and Congressional Affairs

Tony Lopez
Editor, Public Affairs Specialist

EDITORIAL OFFICE INFORMATION

The JM&L Bullet'n is an authorized publication for members of Joint Munitions and Lethality Life Cycle Management Command and the Department of Defense. Contents of the magazine are unofficial and are not necessarily the views of, or endorsed by, Joint Munitions and Lethality Life Cycle Management Command, the Department of the Army, the Department of Defense, or any other U.S. Government agency.

The editorial content of the JM&L Bullet'n is the responsibility of the Public Affairs Office at Headquarters JMC.

Contributions to the JM&L Bullet'n Magazine are welcome.

The Joint Munitions and Lethality Life Cycle Management Command welcomes feedback from readers. Feedback can be submitted via email and must include sender's name, phone number and valid email address. Send feedback emails to: usarmy.RIA.jmc.mbx.army-amc-org-jmcamsjm-pa@mail.mil

Postal address: JM&L Bullet'n Magazine ATTN: AMSJM-PCA, 2695 Rodman Avenue, Rock Island, Ill. 61299-6000

Rapid Fire:

JM&L Quarterly Military History

1 JANUARY 29, 1944: Germany sends 285 bombers to attack London

2 FEBRUARY 9, 1943: Japanese troops evacuate Guadalcanal, marking the end of a six-month Allied Campaign

3 March 17, 1942: Gen. Douglas MacArthur arrives in Australia to become supreme commander.

EVENTS: Clockwise (Center): Kim West, JMC inventory manager team lead, and Donnie Brock, chief, requirements planning division, review ammunition asset spreadsheets during the Conventional Ammunition POM budget review.

Brig. Gen. Stephen E. Farnen, JMC commander, welcomes Department of Army senior leaders during the Conventional Ammunition Program's Objective Memorandum budget review.

Brig. Gen. Stephen E. Farnen tries his hand at inserting a railroad tie at McAlester Army Ammunition Plant, Oklahoma, under the close watch of Jeff Smith, a railroad maintenance vehicle operator supervisor, during his recent visit.

Opposite Page (Top): Stefani Miner, (left) director for demand planning for the Joint Munitions Command and Joe Kennedy, (right) commander's representative for Holston Army Ammunition Plant discuss Holston's status during the Ammunition Enterprise Triad meeting.

Ammo Readiness Critical Topic

By Justine Barati, JMC Public and Congressional Affairs

Approximately 90 key leaders from the Army's Ammunition Enterprise Triad met during the first week of February at Argonne National Laboratory to discuss the future of ammunition readiness. Brig. Gen. Stephen "Steve" E. Farnen, commander of the Joint Munitions and Lethality Life Cycle Management Command and the Joint Munitions Command explained that "readiness is the number one priority" for the Army and that all members of the Triad must work together to ensure warfighter readiness. As Farnen stated, meetings like this foster the ability to "achieve unity of effort without unity of command."

The Army's ammunition mission is coordinated through an enterprise management effort known as the Ammunition Enterprise Triad. Agencies involved in the process include the Program Executive Office Ammunition; the Armament Research, Development and Engineering Center; and, the Joint Munitions Command. PEO Ammo's mission is to develop, equip, and sustain lethal armament and protective systems enabling joint warfighter dominance. ARDEC's mission is to empower, unburden, and protect the Warfighter by providing superior armaments solutions that dominate the battlefield. JMC's mission is to provide Joint Forces with ready, reliable, and lethal munitions at the right place and time to enable global operations.

"The triad is a three-legged stool. You can't sit on it if all pieces aren't solid, functioning, and aligned," said the Program Executive Officer Ammunition, James "Jim" Shields.

Shields and John F. Hedderich, director of ARDEC, emphasized that as budgets draw down, those in the Triad need to continue to work smarter to ensure the Army meets the warfighters' needs. In order to do that, all parts of the team must work together.

"This is about trust and teamwork," said Hedderich.

Topics discussed at the meeting included organizational overviews for each branch of the enterprise; governance of the Triad; the draft Ammunition Industrial Base Strategic Plan; modernization of the Organic Industrial Base; capacity utilization; production investments in the industrial base; the Enterprise Integrated Logistics Strategy; the Organic Industrial Base Review metrics; technology trends in armaments that will impact the industrial base; and customer survey results. The meeting also included several workshops on developmental opportunities, information release processes, efficiencies, and new initiatives.

Shields said he found the workshop portion of the meeting extremely valuable.

"I could have sat and thought for a month and not come up with one tenth of what they came up with in those workshops. That exercise shows how we can work smarter."

Farnen also found the meeting to be beneficial.

"This meeting gave us a better understanding of our organizational structures, an idea of how we can move out together to attack the challenges facing the enterprise, and best practices we all can employ," he said.

At the end of the meeting, Shields and Farnen agreed that the Triad is working on a strategy where it can manage enterprise challenges collaboratively in order to better support the joint warfighter. "We are not dealing with things in isolation. Collaboration is import...We bring the power of the enterprise to bear on how to solve problems and get things done," said Farnen.

Shields said he had a "new appreciation for the work that goes on in the areas that are not in the PEO's realm of responsibility. It is important to see how we all do business, and how we overlap and integrate."

Based upon the success of the meeting, future sessions are being planned. 

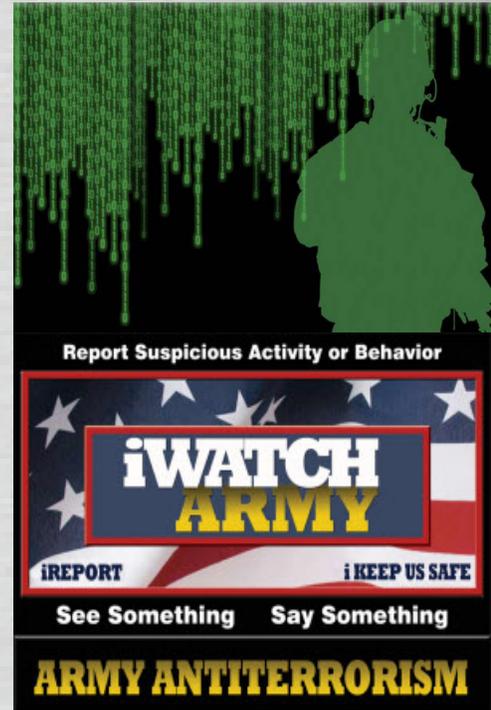
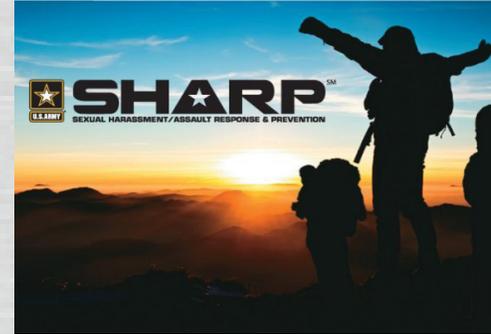


Strategy Notes:

JM&L's Enduring Priorities



- SHARP
 - Support to Global Operations
 - Ammunition Enterprise Collaboration
- Safety
 - Continuous Process Improvement
 - Invest in People
 - Modernize
- Business Development
 - Optimize Ammunition Industrial Base
 - Audit Readiness
 - Cyber Defense
 - Physical Security



Advanced 120mm round gives tank crews more versatility

By Cassandra Mainiero, Picatinny Arsenal Public Affairs



After awarding two development contracts in July 2015, Picatinny Arsenal's Program Executive of Ammunition Office starts its new year by preparing to improve the Advanced Multi-Purpose (AMP) 120mm round.

The AMP is a single tank round that has different capabilities. It can:

- Serve as a ground and air fuze.
- Defeat dismounted infantry.
- Reduce obstacles.
- Defeat anti-tank guided missile teams at extended ranges.

- Breach reinforced walls.

It replaces and combines four stockpile tank munitions (the M830 High Explosive Anti-Tank round, M830A1 Multi-purpose Anti-Tank round, M1028 Canister round, and the M908 Obstacle Reduction round).

These former rounds are fired from the Abrams tank, one of the heaviest battle tanks in the field.

"Having one round for multiple targets saves critical time for Soldiers in combat since they will always have an effective round for whatever target they identify," said Lt. Col. Kyle McFarland, Product Manager of Large Caliber Ammunition. That organization is part of Project Manager Maneuver Ammunition Systems (PM-MAS).

"Our current inventory does not allow that," McFarland continued. "Plus, the AMP addresses requirements that emerged from recent conflicts with increased use of tanks in urban environments, and extended range of dismounted anti-tank weapons, which necessitate the tank engaging dismounted troops at greater ranges in addition to attacking enemy vehicles."

The AMP project includes technical support from Picatinny's Armament Research, Development and Engineering Center.

However, the Picatinny team also works closely with the U.S. Army Test and Evaluation Command, and the Department of Defense Director for Operational Test and Evaluation to provide the product to its customer, the Maneuver Center of Excellence in Fort Benning, Georgia.

AMP entered the engineering and manufacturing development, or EMD, in 2015. PM MAS separated EMD for the AMP into two phases. During Phase One, two contractors (Orbital ATK and General Dynamics – Ordnance and Tactical Systems) will work to develop, build and demonstrate their proposed designs.

Based on the results of that demonstration, PM MAS will then select a single contractor. In Phase Two, the selected contractor will complete its design effort and qualify a single design for production.

REDUCING RISKS AND COSTS

By taking two competing designs into the EMD stage, PM MAS reduces technical risks and overall lifecycle costs.

"If you were to compare the cost of a single AMP round to one of the single rounds it replaces, the AMP is going to cost more," explained McFarland. "However, by placing all these different capabilities into one round, we replace four rounds in the current inventory."

"Right now our crews face the dilemma as they go into combat of deciding what rounds to load in the turret and carry in the gun. If they choose wrong, they could have a mismatch between target and ammunition, which will cost them valuable seconds while in enemy contact."

"The AMP not only eliminates that dilemma, it provides two new capabilities that none of our current ammunition provides," McFarland continued.

"So AMP offers great value to our Soldiers that a per round cost comparison can't cover all that well."

Upon completion of Phase Two, the AMP will enter into Limited Rate Initial Production followed by full-rate production, and ideally be fielded to Soldiers in 2021.

"AMP provides tank crews with confidence that they will have the right ammunition loaded as they move to contact regardless of the type of target presented," said McFarland.

"This ability to shave seconds off the first effective engagement can mean the difference between life and death," McFarland added.

"AMP also expands the tanks capabilities to align with the modern battlefield where tanks are expected to do much more than simply fight other tanks and this helps keep the Abrams tank relevant through its expected life cycle of 2050." 



This graphic represents the four current 120mm rounds in use.

Feature Story:

Reserve Detachment enhances JMC's global mission

By Tony Lopez, JMC Public and Congressional Affairs

With the addition of a U.S. Army Reserve Detachment, the Joint Munitions Command, or JMC, has enhanced the effectiveness of its global mission of providing ready, reliable and lethal ammunition to all military services throughout the Department of Defense.

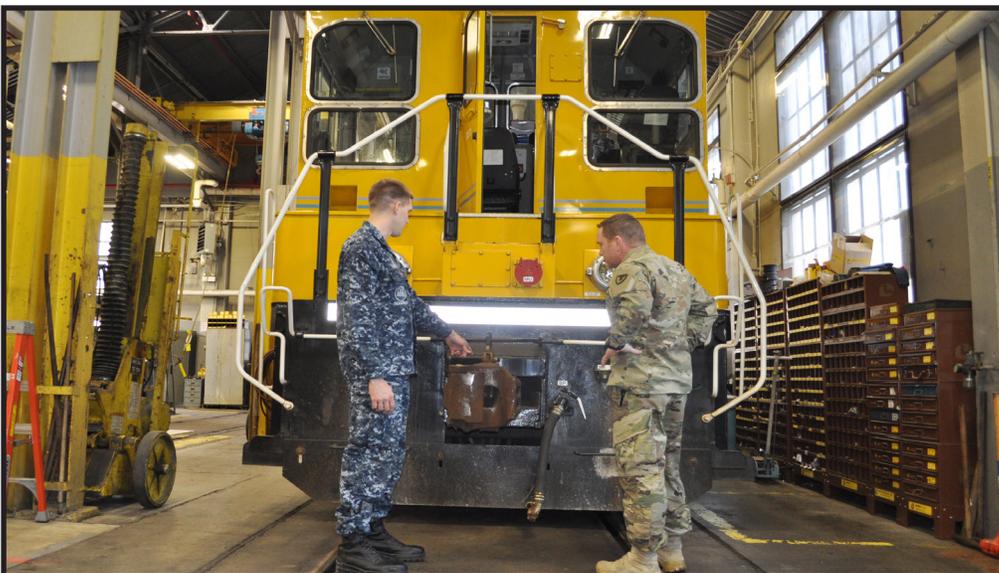
The JMC Reserve Detachment was established in September 2009 and has provided an available, trained and deployable force, which offers a proven capability of logistics, operations, planning, joint exercise support and ammunition mission support.

The Joint Munitions Command manages a nationwide network of 14 industrial base installations across the United States. Its four core competencies are to produce, distribute, store and demilitarize Class V ammunition. It manages ammunition ranging from small-caliber rounds used by all military services to bunker-buster bombs used by the Navy and Air Force.

The JMC detachment is commanded by Col. Paul Walenesky, who provides the leadership for various ammo missions both stateside and overseas. The detachment has a staff of 12 Soldiers, who provide part-time support to JMC and its higher headquarters, the Army Materiel Command, during weekend battle assemblies and two-week annual training sessions.

"In November of 2012, when I took command of the JMC Detachment, we needed a reboot," Walenesky said. "Our legacy support to the JMC mission had dwindled and our Soldiers had transitioned to other jobs. However, with some targeted recruiting and a closer relationship with the Headquarters JMC G2/G3 Directorate, we were able to recruit logisticians from across the Midwest, and we were able to synchronize our logistical support with current and future JMC missions. Today, our 12 senior logisticians are supporting strategic initiatives like Korea Rotational Missions, providing nationwide U.S. Army Reserve and Army National Guard unit liaison for ammunition transportation and depot re-warehousing missions, and supporting property accountability and cost-saving initiatives at both headquarters and JMC installations."

"The Reserve detachment has provided JMC Headquarters with the ability to expand its global support to the warfighter," said Dottie Olson, deputy chief of staff for operations, G2/G3 Directorate. "The Reserve Soldiers have become an invaluable part of our team."



Army Lt. Col David Callaway, right, Joint Munitions Command Reserve Detachment, inspects a railroad engine with Navy Lt. George Harlan, left, as they work on the Inter-Support Service Agreement that develops and executes a plan to functionally transfer rail operations and maintenance from the Navy Engineering and Facilities Command to Crane Army Ammunition Activity.

Since its inception, the Reserve detachment has supported several critical JMC ammunition logistics missions.

During the spring of 2013, 2014 and 2015, the detachment deployed Soldiers to support the JMC Senior Command Representative during Exercise Key Resolve at Camp Henry, South Korea. The Soldiers assisted in the work coordination and synchronization of Class V ammunition commodities during a joint service exercise.

During 2014, the detachment assisted in the development of the inter-service support agreement with Crane Army Ammunition Activity staff. The agreement provided tracking metrics which the staff used to reduce support costs on the installation that they shared with the Naval Surface Warfare Center in Indiana.

During the summer of 2014 and 2015, it supported Exercise Ulchi Freedom Guardian at Camp Henry, South Korea. The detachment deployed Soldiers to support a JMC Senior Command Representative with ammunition stock requirements. Soldiers managed and monitored all inbound ammunition, both by air and sea, communicated and assisted in the establishment of theater requirements, facilitated movement and strategic position of assets.

In a year-long effort, the detachment provided three Soldiers to assist during Nationwide Move 2015. The Soldiers assisted JMC's headquarters staff in developing stateside transportation routes and operations planning requirements in support of the exercise. NWM 15 was a logistics mission, which transported excess ammunition between two JMC managed installations to enhance their storage capability requirements.

During the summer of 2015, Soldiers performed a two-week mission at McAlester Army Ammunition Plant. During this mission, Soldiers worked with three Army Reserve ordnance companies and performed re-warehousing support in coordination with the plant's staff.

As part of an ongoing effort, one detachment Soldier has been assigned to Crane Army Ammunition Activity, or CAAA.

Lt. Col. David Callaway is leading a matrix organization of Army and Navy civil engineers, logisticians, railroad supervisors, budget analysts and a manpower analyst in developing and executing a plan to functionally transfer railroad operations and maintenance from the Navy Engineering and Facilities Command, or NAVFAC, to CAAA.

The Crane project reviewed decades-old inter-support service agreements between the Army and Navy. Looking specifically at scope and cost, it was determined the Army could save money and gain efficiencies if CAAA were to assume rail operations from the Navy. The rail transfer project is projected to save approximately \$366,000 annually in overhead costs and increase efficiencies through cross-training rail personnel in direct support of other CAAA missions. Finally, this functional transfer properly aligns CAAA and NAVFAC missions and leads to a better value for CAAA's DOD customers.

The JMC Reserve Detachment has also developed a training course under guidance of Col. David Banian, JMC chief of staff. The course educates the JMC civilian staff in Army operations and the Army operation order process, or OPORD. This OPORD course is offered annually to all the Department of Defense civilians who work at JMC Headquarters.

The course is designed to provide a general overview and understanding of the Army operations process, the military decision making process and the orders production process. It is taught by Maj. Patrick Ryan, who is also employed as a civilian as the commercial demilitarization execution lead in JMC's Materiel Management Directorate.

The Joint Munitions Command has a mission to produce small-, medium- and large-caliber ammunition items for the Department of Defense. JMC is the logistics integrator for life-cycle management of ammunition and provides a global presence of technical support to U.S. combat units wherever they are stationed or deployed. With the additional support of the JMC Reserve Detachment, several missions and exercises are scheduled in 2016 to enhance JMC's global presence.



LEMC Named CITE for Missile Maintenance



A Letterkenny Munitions Center employee disassembles an Army Tactical Missile in preparation for complete inspection of all components, including electronic testing, to ensure readiness of the Army's munitions stockpile.

By Justine Barati, JMC Public and Congressional Affairs

On March 7, 2015, the Acting Secretary of the Army, Patrick J. Murphy, designated Letterkenny Munitions Center, on Letterkenny Army Depot in Chambersburg, Pa., as the Center of Industrial and Technical Excellence for Army Tactical Missile Systems; Guided Multiple Launch Rocket Systems; and Low-Cost, Reduced-Range, Practice-Rocket Missile Maintenance.

This designation identifies LEMC as the Army's premier center for missile maintenance. Through this designation, LEMC will now be able to enter into public-private partnerships to perform additional missile maintenance work.

In the memo authorizing the CITE designation for LEMC, Murphy states that "LEMC possesses the subject matter expertise in missile maintenance for the ... Army missile capability. It has the core capabilities necessary to maintain the subject missiles, rockets, and associated equipment for strategic and contingency plans, and has the capabilities needed to support depot maintenance core requirements."

CITE designation allows depots and installations to enter into depot maintenance partnerships that enhance their core capabilities. The Office of the Assistant Secretary of Defense for Logistics and Materiel Readiness' website states, "The primary intent of the depot maintenance partnership initiative is to enhance depot support to the warfighter by enabling and empowering the Department of Defense's organic depots to develop appropriate partnerships with the commercial sector, while recognizing the legitimate national security need for DoD to retain depot maintenance capability."

"Potentially, this designation can result in overall savings to the United States government and increase facility utilization," said the Commanding General of Army Materiel Command, Dennis L. Via, in his endorsement memo for the CITE designation.

"By combining government expertise, assets, and resources with complimentary contributions from private industry, the Army can leverage its assets, reduce costs, and decrease outlays. A public-private partnership arrangement will incorporate cost sharing and permit the Army to accomplish goals with fewer funds than traditional contractual arrangements require. Partnering with industry can create new capabilities that help the Army accomplish its military mission while influencing commercial technology in the private sector," said Via.

"Receiving this CITE designation from Acting Secretary Murphy, a Pennsylvania native, is a major accomplishment for LEMC, because it formally and publically recognizes the expertise of our workforce and the quality of the work they do every day to support a vitally important element of combat power for the Joint Force," said LEMC's Commander, Lt. Col. Trenton J. Conner.

As the Army's East Coast Power Projection Platform for munitions, LEMC conducts regional and global distribution of munitions, provides missile maintenance, and conducts demilitarization of munitions for Joint Forces and international partner nations. 

ARDEC named best in 3-D printer development

By Audra Calloway, Picatinny Arsenal Public Affairs



The Armament Research, Development and Engineering Center at Picatinny Arsenal was honored for Best Development in 3-D Printing Equipment at an IDTechEx conference.

The award recognizes innovative achievement in 3-D printing equipment.

ARDEC, the Army Research Laboratory, and industry partner nScript, Inc., received the award for their collaboration to design and develop the SuperScript - nScript 3Dx Series, a 5-axis multi-function heterogeneous printer.

The new SuperScript 3-D printer expands upon the standard 3-D Series gantry system by adding two more axis and additional manufacturing capabilities.

The new printer is capable of mixing structures and electronics, which makes it a manufacturing platform in addition to a 3-D printer.

"This system is based off an nScript 3-D platform, which is usually a three axis system," explained Jim Zunino, materials engineer at ARDEC.

"So, for this one we added additional axes, plus additional tool heads and a change out tool head capability. So it can do additive, subtractive, scanning, and feature monitoring all in one system."

Most printers, like desktop printers, print back and forth on an X to Y axis, like a grid. 3-D printers also have an A to Z axis to add height.

Zunino said the new five-axis printer is the first system he knows of that has axis for linear and curved linear printing, as well as the tool switch outs.

"We built this system so that we could print on linear and curve linear surfaces," Zunino said. "The idea is that we could 3-D print a nose cone and be able to print the electronics right on it."

The system also allows users to "pick in place," which means that as an object is being 3-D printed, the operator can pick up an object, for instance an electronic component, and place integrate it onto the object being printed. This gives the printer the manufacturing capability.

"Often you can print a lot of electronic components, but they must be placed on the system and integrated in," Zunino said.

Utilizing the patented SmartPump™ technology, this system can print very low viscosity inks to extremely high viscosity pastes to allow the widest range of electronic materials to be printed. The 3-D printing portion of this tool features the finest print of any commercially available printer. nScript pen tips with orifice openings ranging from 12.5 microns to hundreds of microns are available, which makes it very precise.

The print head can also heat to over 400 Celsius in order to have more capability than most traditional 3-D printers. The high temperature lets engineers work with higher-grade plastics that are commonly used in Department of Defense applications.

Zunino primarily uses the system to fabricate printed electronics, energetics, munitions and power solutions.

The U.S. Army Armament Research, Development and Engineering Center is part of the U.S. Army Research, Development and Engineering Command, which has the mission to ensure decisive overmatch for unified land operations to empower the Army, the joint warfighter and our nation. RDECOM is a major subordinate command of the U.S. Army Materiel Command. 



When viewing as a pdf file, click on any of the logos for additional news and information

Follow us on:

f Facebook - www.facebook.com/JointMunitionsLifeCycleManagementCommand

t Twitter - twitter.com/JML_LCMC