

# Defense Systems

## NEWS DIGEST

6 June 2017 - THE LATEST IN DEFENSE SYSTEM NEWS



### Distributed Lethality: the Future of Helicopter Sea Combat

The future of the Helicopter Sea Combat Community (HSC) community is at risk. HSC, which is made up of both carrier air wing (CVW) and expeditionary (EXP) squadrons that employ MH60S helicopters, struggles with its purpose to the fleet. Platform capabilities fail to keep pace with technological advancements and HSC warfighting relevancy is diminishing. A focused vision, careful risk mitigation, rebalanced mission priorities, and thoughtful platform acquisitions are needed to...

### Advanced Materials



#### A Self-Healing, Water-Repellent Coating That's Ultra Durable

A self-healing, water-repellent, spray-on coating developed at the University of Michigan is hundreds of times more durable than its counterparts. It could enable waterproofing of vehicles, clothing, rooftops and countless other surfaces for which current waterproofing treatments are too fragile. It could also lower the resistance of ship...



#### 3D Printing Could Make JPADS More Accurate and Cost-Effective

The United States Army, Air Force, and Marines have been using the aerial delivery systems (ADS) since WWII, so obviously 3D printed drones have major applications in the military – they're not just for getting a pizza delivered. Another aerial tool that the military employs is a glider, which differs from a drone because it doesn't...

## Autonomous Systems



### Airbus Unveils Flying Car Concept Designed to Take Driving Airborne

Flying cars have been around for ages but have never caught for two main reasons: driving a vehicle with a pair of wings strapped to the roof looks ridiculous (as does the driver); and they need a clear runway to take off. But, what if you needed to get from Abu Dhabi to Dubai for an important meeting but traffic on the Sheikh Zayed Road is at a standstill – wouldn't it be appealing if, via your



### Army, Textron Map Out Future Drone Control with Synturian Platform Technology

Textron Systems has built a new drone ground control station that allows operators to control multiple unmanned vehicles on a single display screen and connect platforms across domains. Synturian drone control technology offers a way to coordinate missions between unmanned surface vehicles, air drones and ground robots simultaneously. If an aerial reconnaissance drone discov-

## Directed Energy



### Navy, MDA Leveraging Laser Prototypes and Demonstrations to Reduce Risk

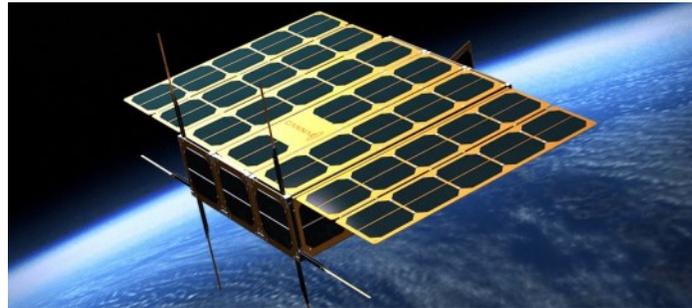
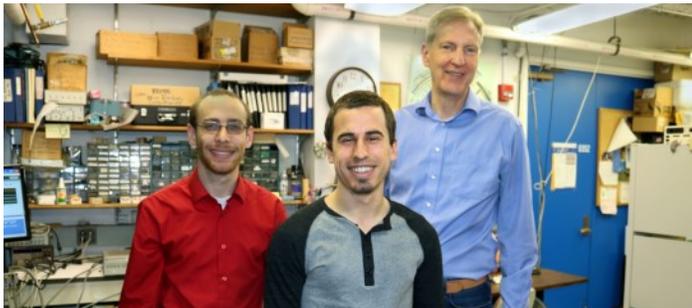
The Navy and Missile Defense Agency are leveraging prototyping programs to incrementally pursue complex ideas such as a laser weapon integrated into the Aegis Combat System and a high-power laser for boost-phase kill in missile defense, officials said today at the 2017 Directed Energy Summit. This ability to learn through prototypes and experiments has always been resident in the



### Navy's Laser Detection System Delivers Rapid Wide-Area Mine Threat Assessment

The Navy has taken a step forward in deploying a new mine-detection sensor platform. The helicopter-borne array should give operators a way to glean situational awareness around nautical mines from a safe stand-off distance. The Navy recently announced initial operational capability for the AN/AES-1 Airborne Laser Mine Detection System, or ALMDS. Mounted on MH-60 helicopters,

## Energetics



### UMD Invention Tackles Remote Wireless Power Delivery

As our personal collections of electronic devices grow, so does the demand for available wall outlets and the unsightly tangle of power cords. A University of Maryland (UMD) team of researchers has developed a new technology for wireless power transfer (WPT) that could help people untangle cords and free up outlets for good. The team's invention makes use of wave properties of light to

### The Impossible Propulsion Drive Is Heading to Space

The EmDrive, a hypothetical miracle propulsion system for outer space, has been sparking heated arguments for years. Now, Guido Fetta plans to settle the argument about reactionless space drives for once and for all by sending Lorentz force based drive into space to prove that it really generates thrust, even if mainstream scientists say this is impossible. Fetta is CEO of Cannae Inc...

## Military Sensing



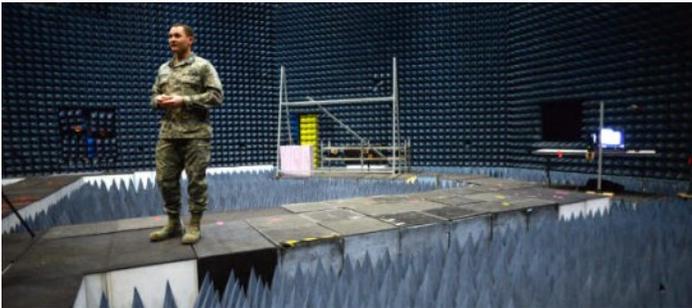
### Lockheed Martin Moves Forward with Design of Missile Defense Seeker Sensor

U.S. ballistic missile defense experts are asking Lockheed Martin Corp. to refine the electro-optical sensor and seeker design of an advanced missile interceptor able to destroy several incoming ballistic missile warheads and decoys using just one missile. The Missile Defense Agency (MDA) announced a \$53.1 million contract to the Lockheed Space Systems segment for the Multi-Object Kill

### Brain-Inspired Neuromorphic Cybersecurity System Detects 'Bad Apples' 100X Faster

Sophisticated cybersecurity systems excel at finding "bad apples" in computer networks, but they lack the computing power to identify the threats directly. Instead, they look for general indicators of an attack or flag very specific patterns; call them "bad apples." These limits make it easy for new bad apples to evade modern cybersecurity systems. The Neuromorphic Cyber Microscope's brain-

## Non-Lethal Weapons



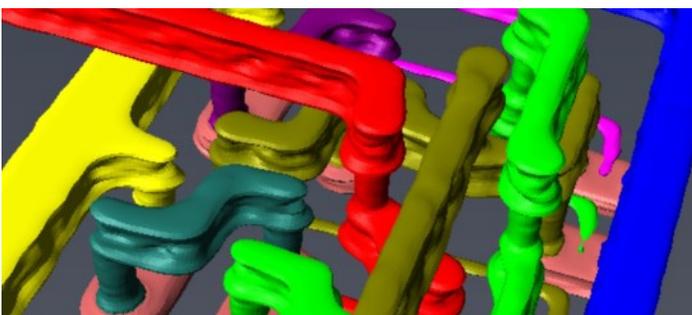
### Moving Microwave Weapons from Lab to Battlefield

Systems that use microwaves to instantaneously down a swarm of incoming enemy drones are approaching prime-time reality, and could propel New Mexico into a leadership role in the next wave of modern defense technology. The Air Force Research Laboratory at Kirtland Air Force Base is leading an effort to move such weapons out of the lab and into the hands of war fighters, with help from

### How China's Acquisition of U.S. Media Entities Threatens America's National Security

In recent months, U.S. – Chinese tensions have flared over China's activities in the South China Sea and over the handling of North Korea. However, these overt confrontations represent only one aspect of China's efforts to undermine U.S. elements of national power. China has a well-established respect for information warfare. Chinese companies have made a variety of acquisitions in

## RMQSI



### X-rays Map the 3D Interior of Integrated Circuits

A team of researchers based in Switzerland is on the way to laying bare much of the secret technology inside commercial processors. They pointed a beam of X-rays at a piece of an Intel processor and were able to reconstruct the chip's warren of transistors and wiring in three dimensions. In the future, the team says, this imaging technique could be extended to create high-resolution, large-scale

### Army Poised to Advance Cross-Domain Capabilities with State-of-the-Art Hanger

The U.S. Army celebrated a ribbon cutting for a new research and development aircraft hangar at Joint Base McGuire-Dix-Lakehurst, N.J. The multimillion dollar facility is a strategic investment that will significantly enhance the ability of the Army's Communications-Electronics Research, Development and Engineering Center (CERDEC) to continue key cross-domain aviation re-

## Survivability & Vulnerability



### Crash Test Dummies Help TARDEC Mitigate Blast Injuries

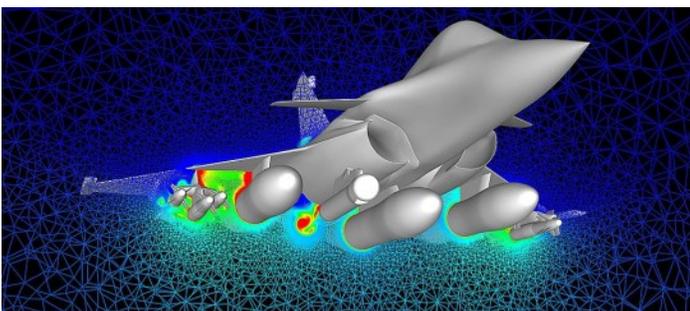
It doesn't take a genius to know that injuries to Soldiers from roadside bombs and their resulting vehicle crashes could take a serious toll on readiness, the Army's No. 1 priority. When it comes to testing materials or providing data to evaluate solutions to reduce injuries during these events, it takes a real dummy. That's a good thing for the Army's interior blast mitigation team at the Occupant Pro-



### Lighter Combat Helmets in Store for Army

There are two timeless complaints soldiers make: what they eat, and the weight they carry. A Vermont company is set to help with one of those after being awarded a maximum \$98 million contract to produce the Advanced Combat Helmet Generation II, 24 percent lighter than the current model, according to Revision Military, the manufacturer. The contract allows for about 290,000 helmets to be produced by March 2022. That order would go a long way to outfit more than half of the Army's current...

## Weapon Systems



### Next-Generation Rafale F4 to Fly in 2023

Addressing the growing domestic and international demand for the French fighter aircraft, Dassault and the French Defense Procurement Agency will soon begin a six-year development phase of the next-generation Rafale F4. The French Minister of Defense, Mr. Jean-Yves Le Drian, authorized the start of development of the next generation variant of the Rafale. The aircraft will introduce new capacities empowered by the modern missile and engine technologies. The new variant will...



### TrackingPoint's New 300BLK and Para-rescue DMR SR-25 Rifles

TrackingPoint demonstrated their latest precision-guided rifles including the new 300BLK (black out) M400, M800 7.62, and M1400 EMR .338 as well as a set of Knights Armament SR25 rifles for use by Air Force para-rescue units. These systems are designed to improve off-hand target lock and precision engagement out to extended ranges. Software has been updated to allow target tag-

## Announcements & Events



### 9th Annual GVSETS & APBI

The Ground Vehicle Systems Engineering and Technology Symposium (GVSETS) and Advanced Planning Briefings for Industry (APBI) brings over 1,000 executives, program managers, engineers, and other key decision-makers together to discuss initiatives, programs, plans, and technologies for manned and unmanned systems in the ground domain.

DATE: August 8-10, 2017



### 4th Biennial Strike Challenge

Strike Challenge affords industry an opportunity to provide interactive demonstrations of domestic capability (DOMOPS) and specialized response systems. The focus is on man-pack and light mobility support equipment designed for light responder / specialized unit use in emergency response, survivability, security, search and rescue, and 'special' operations.

DATE: August 15-17, 2017



### ATEDS 2017

The 23rd Advanced Technology Electronic Defense Systems Conference, hosted by NAVSYSCOM PMA272, provides an annual forum between the warfighter, program management and field activities, military research labs, intelligence community, T&E activities, other services and industry to explore use of the EM environment to improve aircraft survivability.

DATE: August 29-30, 2017

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