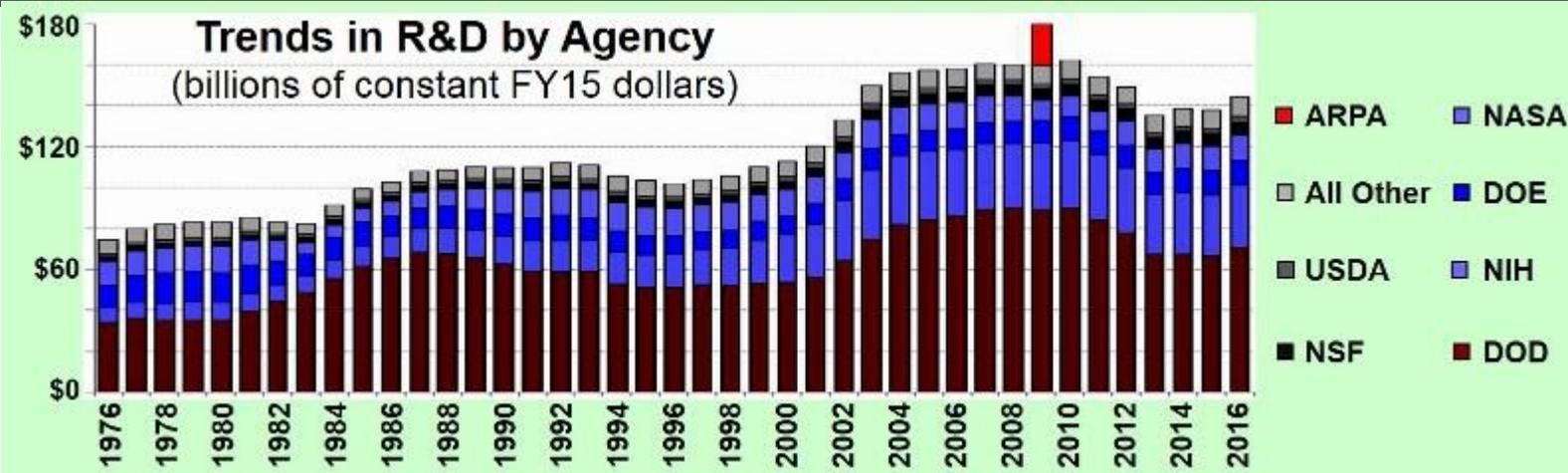


Defense Systems

NEWS DIGEST

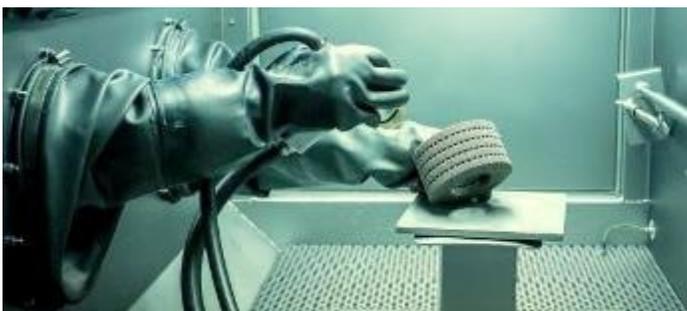
28 MARCH 2017 - THE LATEST IN DEFENSE SYSTEM NEWS



When Opportunity Doesn't Knock: Examining Military Non-Investment in Emerging Technologies

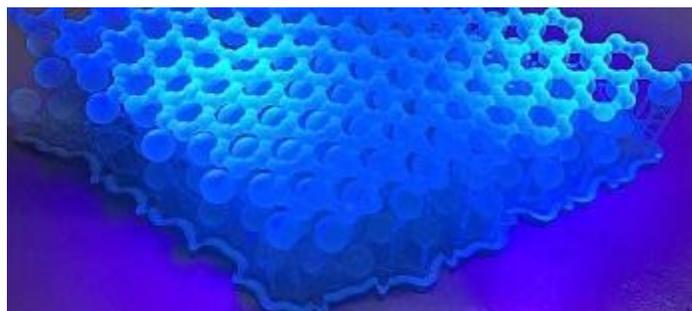
Why do militaries invest in some emerging technologies but not others? Conventional wisdom suggests that capable states have reasons to hedge their bets and invest in emerging military technologies as widely as they can. Yet, even the most capable states do not invest in all technologies of ...

Advanced Materials



How 3D Printing and Digital Technologies are Altering the Face of Aircraft

The Avio Aero Cameri plant uses 20 machines developed by Arcam, which use an electron beam to fuse together layers of a wonder material called titanium aluminide (TiAl) that is 50 percent lighter than nickel-based alloys. They are using it to print blades for the low-pressure turbine of the GE9X jet engine, the largest jet...



A Revolutionary Atom-thin Semiconductor for Electronics

A two-dimensional material developed by Bayreuth physicist Prof. Dr. Axel Enders together with international partners could revolutionize electronics. Semiconductors that are as thin as an atom are no longer the stuff of science fiction. Bayreuth physicist Prof. Dr. Axel Enders, together with partners in Poland and the US, has...

Autonomous Systems



Navy Conducts Initial Human Studies of Tactical Battle Manager Technology

The US Naval Research Laboratory's (NRL) Navy Center for Applied Research in Artificial Intelligence (NCARAI) has conducted initial human studies of the tactical battle manager (TBM) technology. NRL's TBM is a software system that deploys intelligent agents to guide unmanned aerial vehicles (UAVs) that each serve as a 'wingman' in manned / unmanned teams, in simulated beyond-visual...



U.S. Army Looking at SRC Silent Archer System for Counter-UAV IED Solution

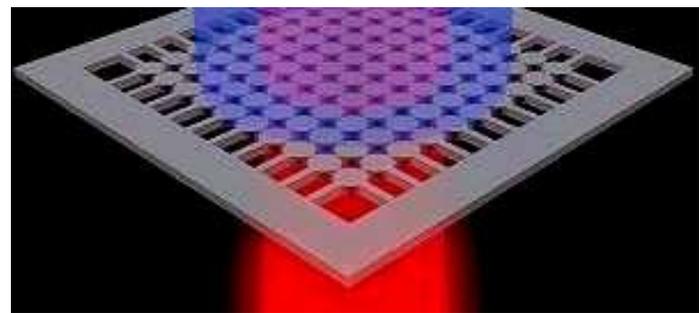
U.S. Army counter-unmanned aircraft experts are asking Syracuse Research Corp. (SRC) in North Syracuse, N.Y., to build as many as 15 ruggedized deployable counter-drone systems designed to destroy or disable enemy unmanned aerial vehicles (UAVs). Officials of the Army Contracting Command at Redstone Arsenal, Ala., announced a \$65 million contract to SRC on Tuesday...

Directed Energy



The PLA's Potential Breakthrough in High-Power Microwave Weapons

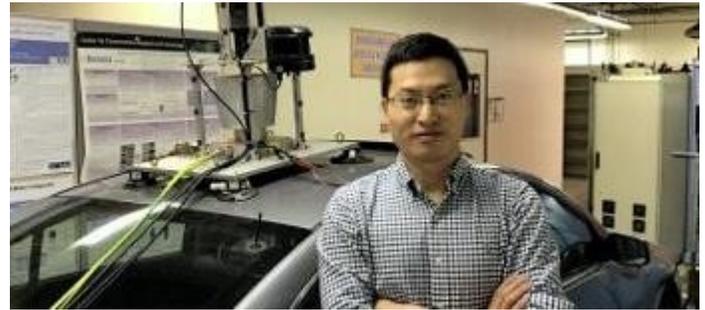
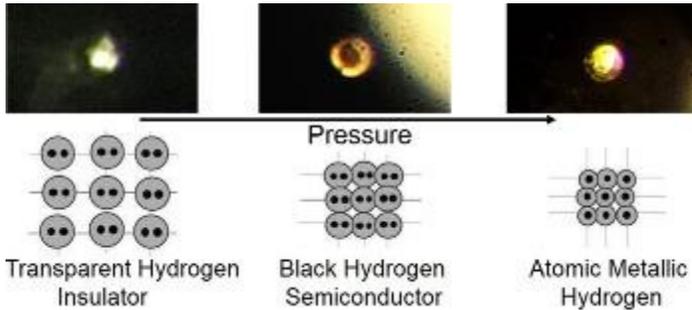
Chinese scientists have reportedly achieved unexpected success in their development of a high-power microwave (HPM) weapon. This promising form of directed energy weapon combines "soft" and "hard kill" capabilities through the disruption or even destruction of enemy electronics systems. Such a powerful "new concept weapon" possesses unique advantages, including its potential...



Unusual Physics Phenomenon Could Improve Telecommunications, Computing

Researchers at the University of California San Diego have demonstrated the world's first laser based on an unconventional wave physics phenomenon called bound states in the continuum. The technology could revolutionize the development of surface lasers, making them more compact and energy-efficient for communications and computing applications. The new BIC lasers could also...

Energetics



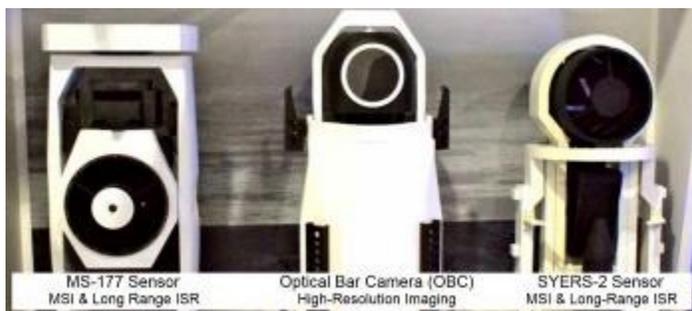
Metallic Hydrogen, Once Theory, Becomes Reality

Nearly a century after it was theorized, Harvard scientists have succeeded in creating the rarest - and potentially one of the most valuable - materials on the planet. The material - atomic metallic hydrogen - was created by Thomas D. Cabot, Professor of the Natural Sciences Isaac Silvera and post-doctoral fellow Ranga Dias. In addition to helping scientists answer fundamental...

Energy Management System Cuts Plug-in Hybrid Fuel Consumption by One Third

Engineers at the University of California, Riverside have taken inspiration from biological evolution and the energy savings garnered by birds flying in formation to improve the efficiency of plug-in hybrid electric vehicles (PHEVs) by more than 30 percent. PHEVs, which combine a gas or diesel engine with an electric motor and a large re-chargeable battery, offer advantages over conventional...

Military Sensing



Northrop Grumman Tests MS-177 Sensor on Global Hawk

Northrop Grumman last month started flight testing the third in a series of sensor payloads intended to enhance the mission capability of the unmanned RQ-4B Block 30 Global Hawk. The manufacturer expects the U.S. Air Force will make a decision on fielding the new MS-177 multi-spectral long-range imaging sensor on Global Hawk by the end of the year. The first flight of a Global Hawk...

FLIR Announces Development Kit for Next-Gen Automotive Thermal Vision

FLIR introduced the Automotive Development Kit (ADK) featuring our high-performance Boson thermal camera core. The ADK is an essential, cost-effective kit needed for the development of next-generation automotive thermal vision and advanced driver assistance systems (ADAS). Thermal imagers, which are already on vehicles offered by GM, Mercedes, Audi and BMW, are an ideal...

Non-Lethal Weapons



U.S. Air Force Testing Drone-Snagging Shotgun Shells

U.S. Air Force security forces, as well as other military personnel and federal law enforcement agencies, may soon be getting a new tool to take down small commercial drones: shotgun shells with a net. The special cartridge is just one system the Pentagon has been looking at to manage the growing threat from small and readily available quad- and hex-copter-type unmanned aircraft. On...

DARPA Targets Social Media to Root-Out Enemy Disinformation and Propaganda

U.S. military researchers are asking industry for new ways of using computer simulations to study how information spreads online via social media as a way to neutralize enemy disinformation and propaganda. Officials of the U.S. Defense Advanced Research Projects Agency (DARPA) issued a solicitation Monday for the Computational Simulation of Online Social Behavior (SocialSim)...

RMQSI



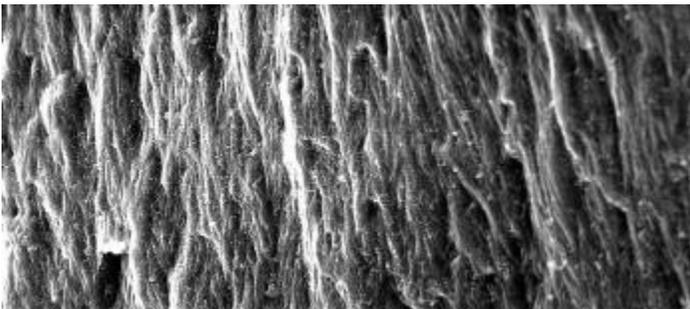
F-35A At Red Flag: 90% Mission Capable; Key Systems Up Every Flight

All indications from the pilots and commanders at Red Flag are that the F-35A performed far better than recent reports from the Director of Operational Test and Evaluation seemed to indicate. The now-departed Director of Operational Test and Evaluation, Michael Gilmore, said the Lockheed Martin-built aircraft is "not effective and not suitable across the required mission areas and against..."

Robotic Arm Tool Poised to Save Costly Inspection Time

AFRL researchers recently traveled to Hill Air Force Base, Utah, to demonstrate the Remote Access Nondestructive Evaluation (RANDE) system. Developed through a contracted effort with OC Robotics of Bristol, United Kingdom, RANDE is a flexible, robotic snake-arm tool that can reach into confined areas to perform required inspections, or simply look into tight spaces...

Survivability & Vulnerability



Synthetic Tooth Enamel May Lead to More Resilient Structures

Unavoidable vibrations, such as those on airplanes, cause rigid structures to age and crack, but researchers at the University of Michigan may have an answer for that—design them more like tooth enamel, which could lead to more resilient flight computers, for instance. Most materials that effectively absorb vibration are soft, so they don't make good structural components such as beams...



Unit Beefs up Tanks with 'Reactive' Armor

Tank and maintenance crews from 1st Battalion, 66th Armor Regiment, are giving their M1A2 Abrams main battle tanks a buffed up look that improves the overall defensive capabilities of the tank. The crews, who are part of 3rd Armored Brigade Combat Team, 4th Infantry Division, which is serving as the initial ABCT rotational force in support of Atlantic Resolve, began installing the Abrams reactive armor tile (ARAT) system Feb. 28 to tank hulls and turrets. The ARAT adds extra layers of...

Weapon Systems



DoD Officials Discuss Future Vertical Lift Family of Systems

The future of rotary-wing or vertical lift aircraft across the services is the focus of a Defense Department initiative that seeks to improve the speed, range, refueling and interoperability capabilities across the military services, U.S. Special Operations Command and the Coast Guard, and was the subject of a discussion today at the Center for Strategic and International Studies here...



RAMBO: Researchers Fire 3D Printed Ammo from 3D Printed Grenade Launcher

Researchers at the U.S. Army Armament Research, Development and Engineering Center (ARDEC) successfully fired the first grenade created with a 3-D printer from a grenade launcher that was produced the same way. This demonstration shows that additive manufacturing (commonly known as 3-D printing) has a potential future in weapon prototype development, which could allow...

Announcements & Events



WCX17

WCX17 is a full-sensory event experience that immerses you in the forefront of the automotive and mobility industries. The event emphasizes active learning and increased collaboration through interaction and dynamic new event elements. In a setting of education and relationship building, these elements foster knowledge-sharing and review of the evolving industry. Date: April 4-6, 2017



SPIE Defense + Commercial Sensing 2017

The leading global technical conferences, courses, and exhibition on sensing, imaging, and photonics technologies for defense, security, health care, and the environment. Hear the latest technical advancements in sensors, infrared technology, laser systems, spectral imaging, radar, LIDAR, and more. DATE: April 9-13, 2017



2017 JASP Model Users Meeting

The purpose of this recurring meeting is to provide model users, managers, stakeholders, and other interested individuals with information about the latest developments and updates associated with JASP-sponsored models and other models in use throughout the aircraft survivability and vulnerability technical community. DATE: April 11-13, 2017

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Defense Systems Information Analysis Center

4695 Millennium Drive, Belcamp, MD 21017

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