

The Latest In Homeland Defense & Security News

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Highlight:

[U.S. Will Use Facial Recognition At Airports](#)

After piloting a biometric program in 2015, U.S. Customs and Border Protection will bring that technology to all U.S. airports of entry on a permanent basis, beginning with the John F. Kennedy International Airport in New York City. "The technology will be used to confirm the identity of travelers with electronic passports, which include a computer chip containing, among other data, a digital photo of the holder."

Image courtesy of the Federal Bureau of Investigations.



Alternative Energy

[Navy Launches Carrier Group Powered Partly By Biofuels](#)

By 2020, the Navy plans to draw half its power from alternative energy sources so that ships can refuel less, stay out at sea longer, and be more cost efficient. Keeping its goal in sight, the Navy recently launched a group of ships that used a fuel mix of 90 percent petroleum and 10 percent biofuels.

[Self-Heating Lithium-Ion Battery Could Beat The Winter Woes](#)

Researchers have developed an all-climate battery that self-heats if the temperature is below 32 degrees Fahrenheit unlike conventional batteries that lose power below freezing temperatures.

[Climate Change Jeopardizes Electricity Supply](#)

Hydropower, nuclear and fossil fuel plants need water to power the plants or cool them. Water shortages caused by climate changes could either shut down a plant or reduce the water cooling efficiency and thereby affect the power output.

[Fuel Cell Electrolyte Developed To Offer Cleaner, More Efficient Energy](#)

Researchers have developed a thin-film electrolyte material that helps solid oxide fuel cells operate more efficiently and cost effectively than those composed of conventional materials.

Portable power sources applications include uninterruptable power supplies used by the military, electronic medical devices, and recreational vehicles.

Biometrics

[Hungary Begins Issuing Biometric ID Cards](#)

Hungary has begun issuing biometric ID cards that include fingerprints and electronic signatures and personal information. The cards will be valid for six years for citizens over the age of 18 and three years for minors.

[Flexible Fingerprint Sensor On Plastic Designed For Biometric Applications](#)

A new flexible sensor has been developed that measures the fingerprint and the configuration of the veins in the fingers. The ultra-thin, light, and flexible fingerprint sensor was created by depositing organic printed photodetectors on a plastic, organic, thin-film transistor backplane.

CBRN

[U.S. Army To Implement New Measures To Manage Biological Toxins](#)

"The U.S. Army will implement new measures to manage toxins used by the Biological Select Agents and Toxins Task Force. The Army Surgeon General Office will double up as the Department of Defense (DoD) executive agent, carrying out technical reviews, harmonising the procedures, and integrating inspections for the use of biological toxins. DoD will implement a process to validate requests for biological products from outside DoD, as well as a new mechanism to track and monitor all requests and transfers."

[ISIS And Bioterrorism: Tularemia](#)

[Planned Use In Turkey's Water](#)

Turkish officials have revealed ISIS' plans to attack a Turkish water source with the biological agent, Francisella tularensis, which causes tularemia or rabbit fever.

Critical Infrastructure

[Airlines Could – And Should – Learn More From Near Misses](#)

"Studies show pilots or crew members make at least one potentially hazardous error on 68 percent of commercial airline flights, but very few of these errors lead to an accident. "Airlines need to institute policies that encourage learning from these seemingly innocuous near misses."

[Bluetooth And Wi-Fi Sensing From Mobile Devices May Help Improve Bus Service](#)

Researchers have developed a system that uses Wi-Fi and Bluetooth signals from passengers' mobile phones and devices to collect better data about where bus riders get on and off, how many people use a given stop and even how long they wait to transfer to another bus in order to analyze travel behavior.

[New Study Reveals Strong Connections Between Reef Health And Land Management In Hawaii](#)

According to a new study, reefs can be continually exposed to sediment stress through the effects of wind, waves, and tide despite rain events. "These results illustrate the need to better understand water flow patterns in coral reef areas as well as

sediment runoff from land and can help local efforts to mitigate erosion on land.”

Cultural

[Bringing Big Data To War In Mega-Cities](#)

The U.S. Army is challenged with operations in mega-cities and needs big data to study and analyze these new environs.

[Maintaining A Focus On Women's Empowerment](#)

“The African Union has declared 2016 to be “The Year of Human Rights with a Special Focus on Women’s Human Rights.” Although African women are becoming involved in leadership and have made great strides in economic and political empowerment, there are numerous hardships, and violence.

Homeland Defense and Security

[Department of Defense Confronts Climate Change](#)

According to a DoD Directive, “The DoD must be able to adapt current and future operations to address the impacts of climate change in order to maintain an effective and efficient U.S. military.” In a report to Congress, “The Department of Defense sees climate change as a present security threat, not strictly a long-term risk.”

[New X-Ray Method Could Detect Nuclear Materials](#)

A new X-ray source can detect nuclear material inside a shielded container. In an experiment, the laser-driven X-ray source produced “an image of a uranium disk no bigger than a stack of three nickels and hidden between 3-inch steel panels.”

[A Firefighter Drone Flies, Crawls Up Walls](#)

“Researchers have developed the Fireproof Aerial Robot System (FAROS), which detects fires in skyscrapers, searches the inside of the building, and transfers data in real time from fire scenes to the ground station.”

[New water scarcity map offers tool for better planning](#)

Researchers have examined the water use and supply of more than 15,000 watersheds and sub-watersheds and have created a global water scarcity map that incorporates seasonal and dry year water shortages. “This tool will make it so much easier to target water use, investment and conservation strategies.”

Medical

[Tiny Electronic Implants Monitor Brain Injury, Then Melt Away](#)

It is crucial to monitor swelling and pressure after a traumatic brain injury or brain surgery. A new class of electronic biomedical implants can be implanted or ingested and then resorbed harmlessly into the body after the completion of their function.

[Discoveries On Women Veterans' Long-Term Health Outcomes](#)

Veterans Affairs researchers and colleagues studied the differences in aging and mortality between veteran and non-veteran women. Two of the findings are: “all-cause mortality rates were higher for veterans, but only for those serving before the Vietnam era; and women veterans serving before the Vietnam era experienced more cancer, relative to non-veterans, whereas those serving during or after Vietnam had more traumas from

motor vehicle accidents or other causes.”

[Gulf War Created Need For Better Critical Care](#)

Since the initial presentation and then approval of the Critical Care Air Transport Team (CCATT), the CCATT is now considered a vital component of the Air Force Medical Service – providing critical care via a modern transportation system.

[Army Backs Inovio's Needle-Free Vaccine Device](#)

The U.S. Army is funding a grant for the development of a skin-surface, needle-free electroporation delivery device that is capable of simultaneously administering multiple vaccines.

WMD

[Pakistan Test-Launches Homegrown Cruise Missile: Military](#)

Pakistan has successfully conducted a flight test of its locally developed cruise missile that has a range of 350 kilometres (around 218 miles).

[How China's New Russian Air Defense System Could Change Asia](#)

Possible consequences of the sale of the S-400 system to China are - China could cover the entire territory of Taiwan and cover most of North Korea.



Homeland Defense & Security Information Analysis Center

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