

Gear and Gadgets Galore

Reports From the Show Floor

Staff report

The exhibition halls were packed with vehicles, weapons and other gear during the Army's largest gathering. Here is a look at some of the innovations on display there:

■ **BattleView 360:** Soldiers wearing a helmet-mounted monacle can "see through" their armored vehicle, a capability that BAE Systems has brought to the U.S. for the first time.

REPORTER'S NOTEBOOK

The company used its advanced jet fighter technology from the Eurofighter Typhoon helmet to develop the BattleView 360 system that consists of a monacle and touch-screen display. The monacle has the ability to see a video feed — both visual and infrared — from the vehicle's cameras and relevant symbology.

Commanders can quickly assess information and make decisions for targeting or other purposes through the touch-screen display. The system also can be used by dismounted soldiers to send information back to the vehicle.

■ **Jungle-ready uniforms:** With more soldiers rotating through the Pacific, the Army wants to ensure it can keep soldiers cool in the hot, humid jungle, and it's evaluating a possible substitute Army Combat Uniform.

Gore displayed a material at AUSA that mixes a strong, water-repelling material in place of some of the nylon fibers in the ACU. The material is lighter in weight and quicker to dry.

The fabric is not waterproof like Gore-Tex, which is breathable but not ideal for a hot, humid environment, said Mike Miller, Gore product specialist.

It's not fully flame resistant like the deployable ACUs, though Miller said Gore can produce a version that meets the standard. But the Army is only requiring no-melt, no-drip (won't melt and fuse to skin, but won't self-extinguish), Miller said.

Gore is preparing for field trials expected to be later this year. It's still unclear what the Army's ultimate requirements will be.

■ **XM25 grenade launcher:** This

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programmable weapon can fire rounds that explode when they pass walls or barriers. The XM25 carries a magazine of five 25mm grenade rounds and a fire-control system that lets the soldier instantly program how far the grenade will travel before it explodes. That means a soldier can engage an enemy hiding behind a target.

When a soldier aims the weapon on a target, a laser finder gauges distance.

The soldier can add or subtract from that distance with the push of a button and then, after setting the distance, can aim and fire. The fire control also shows a soldier how high to aim the weapon to account for gravity's pull on the grenade based on the laser-determined distance.

The maker of the system, Orbital ATK, says the range is 500 meters to a target point and 600 meters to an area target.

Next spring, the Army will conduct qualification testing and contract validation, said Orbital ATK spokesman Jarrod Krull. If the weapon fulfills the Army's requirements, the Army could see fielding in early 2017, Krull said, pending budget decisions.

The weapon itself, made by Heckler & Koch, consists of lightweight material composites.

■ **Small Arms Grenade Munition round:** The Army is testing a 40mm round that can be used with current M203 and M320 grenade launchers. That round can detect a wall it passes and explode shortly after.

■ **Vertical lift:** Helicopter manufacturing giants are testing a program meant to drive the Army's effort to buy a new state-of-the-art family of helicopters in the 2030s.

Two teams — Sikorsky-Boeing and Bell Helicopter-Lockheed Martin — are building rotorcraft flight demonstrators to start flying in 2017 as part of the Joint Multi-Role program.

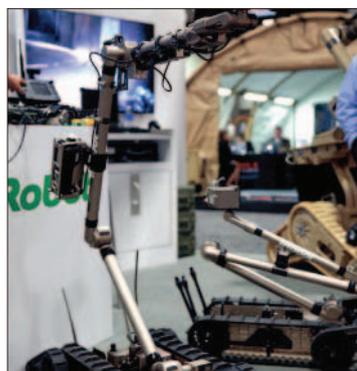
Sikorsky and Boeing are using coaxial rotor blade technology developed through Sikorsky's X2 program and its Raider program.

Raider can be considered the lit-



MIKE MORONES/STAFF

Bell Helicopter's Steve Kihara demonstrates the V-280 Valor simulator Oct. 12.



MIKE MORONES/STAFF

iRobot's 510 PackBot.

tle brother of the team's JMR demonstrator, Defiant. Sikorsky displayed its new rendering of Defiant for the first time at an AUSA booth.

Bell Helicopter and Lockheed Martin are developing a demonstrator using Bell-Boeing's V-22 tilt-rotor technology. Bell's V280 simulator was showcased at AUSA along with a full-scale mock-up of the helicopter.

■ **Packbot upgrade:** The next generation of route-clearing robots will give soldiers something of a Swiss army knife of sensors, which will feed directly into the tablet used to control the device.

Manufacturer iRobot has managed to integrate tools to detect dangerous chemical, biological and explosive hazards into its base model, the 60-pound 510 PackBot. According to Tim Trainer, vice president of the robotic products, defense and security business unit at iRobot, that reduces the time needed to assess a potentially dangerous situation, such as setting up a command post and suiting up a soldier in protective gear to examine a possible threat with handheld sensors.

Another innovation: the display system. Instead of the ruggedized



JENNIFER MILBRETT/STAFF

The HDT Micro-Utility Vehicle Robot.

laptop with a PlayStation-esque remote control, sensors all feed into a ruggedized tablet with a single touch-screen display.

■ **New handgun:** Gun-making giants like SIG Sauer, Glock, Smith & Wesson, and FN Herstal all say they plan to compete for a chance to replace Beretta's M9 as the Army's service pistol.

Submissions are due Jan. 28, and many companies are still wrestling with the requirements for the XM17 Modular Handgun System.

Beretta will enter a bid to retain its contract after failing to convince the Army an upgrade from the M9 to the M9A3 would have been a cheaper way to meet the Army's needs.

SIG Sauer plans to enter a gun from its P320 line, which comes in 9mm, .40 caliber and .45 caliber.

Gabe Bailey, a manager of military business development for Beretta, said ammo makers were still tweaking their offerings, further complicating the process.

Tony Musa, a federal/military sales manager at Glock, said the company was still determining which ammo to use, which would affect their gun choice.

Representatives from Smith &

Wesson at AUSA declined to go into detail beyond saying they will enter a version of their M&P model, the first iteration of which debuted in 2005.

■ **HDT Micro-Utility Vehicle Robot:** a remote-controlled, multipurpose tool designed for dismounted troops to clear terrain in nearly any ground environment, and it can do more than that.

The robot can act as a standoff weapon, a communications hot spot and a pack mule.

Parked a few hundred meters away from troops, its sensors can detect enemy activity, and mounted with a 50-caliber weapon, it can fend off aggressors at a distance from the soldier operating it, said Francis LeGasse, vice president of business development - west for HDT Global.

The robot has a backhoe/loader attachment and can configure based on the unit's needs. Shorter than an average man, the robot can be broken down into man-portable components and quickly reassembled.

— Staff writers Jen Judson, Kyle Jahner, Kathleen Curthoys and Andrew Clevenger