

NTSA's **Training Industry**news

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Current news

First-Ever Hypersonic Weapon Test Planned

Reprinted from *Jane's Defense Weekly*

The U.S. military is preparing for a first-ever flight test in 2010 of an armed hypersonic vehicle that can reach speeds as high as M20 to hit targets halfway across the globe in a matter of hours. The U.S. Air Force says it decided "within the last month" to use newly-released funding for a weaponized flight test under the Force Application and Launch from Continental (Falcon) United States program.

Led by the U.S. Air Force and the Defense Advanced Research Projects Agency, Falcon aims to fly a hypersonic test vehicle—known as HTV-2—well above M5: the boundary for hypersonic flight.

Two unarmed flight tests of HTV-2 have already been scheduled for 2009, but now the Air Force plans to hold a third weaponized flight test in 2010. According to Keith Bowman, lead engineer for global strike programs at the U.S. Air Force Research Laboratory in Ohio: "The Air Force ... is getting engaged [with the Falcon program] very much more than ever before."

He told *Janes'* on June 18, "We're looking at the design and saying 'OK, let's go into a third flight and weaponize that flight and actually see how well it performs as a weapon.'"

Reaching 313 Ships Fleet Becomes Difficult

Reprinted from *Defense Daily*

The Navy for years has built far fewer than the average number of ships annually required to expand the U.S. fleet to 313 vessels, and now is reaching a point where it would be quite difficult to exceed that average level by a wide enough margin so that the 313 ships goal can be reached, an analyst said.

Rather than being on course to expand the current fleet of 280 ships and submarines to 313, the shipbuilding pace of recent years has the Navy on course to plunge down to a fleet of 200 vessels or fewer, according to Ronald O'Rourke, specialist in naval affairs with the Congressional Research Office.

He presented his views before a forum of the

Heritage Foundation, a conservative Washington think tank, examining the massive Chinese military buildup and U.S. military capabilities; in an interview with *Defense Daily* after the forum; and in two Congressional Research Office reports updated in June, the 28-page "Navy Force Structure and Shipbuilding Plans: Background and Issues for Congress" (Order Code RL32665), and the 120-page "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress" (Order Code RL33153).

Attaining a 313-vessel fleet (which still would be little more than half the number of ships in the 1980s) is a goal cited by several successive top Navy uniformed leaders, and chiefs of naval operations.

According to O'Rourke, these are the salient numbers: The United States in recent years has built an average of just 5.3 vessels a year, ranging in this decade from four vessels in one year, five vessels in two years, to a peak of eight in one year.

Russian Defense Spending May Face Constraints

Reprinted from *Aerospace Daily & Defense Report*

Russian defense spending is expected to increase, but Moscow's "strategic bandwidth" may be constrained by several defense-related economic factors, consultancy Forecast International said May 5.

"Three major trends will define Russian defense spending between 2008 and 2012," according to Matt Ritchie, a Eurasian defense economics analyst. They are "increased procurement, increased funding for strategic arms, and a relative decline in research and development."

Procurement spending should rise from \$27 billion to more than \$36 billion while funding for the strategic arsenal will grow from \$675 million to \$990 million. But research and development allocations will decline from just over \$5 billion to under \$4.9 billion.

At the same time, the Russian defense industrial base will be squeezed to deliver systems at cost and on time, which Forecast sees as an "unlikely" result.

"As Russia attempts to procure its next generation

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A non-profit organization that serves the interest of the simulation, training services, training support, and computer-based training systems industries.

President's *notes*

Rear Adm. Fred Lewis, USN (Ret.)

For NTSA Members:

The annual Modeling and Simulation Expo, held last July 15 in the Rayburn Office Building on Capitol Hill, was a resounding success. This year's event for the first time focused exclusively on non-military applications of M&S, with the result that a fascinating and important array of exhibits showcased everything from driver education to sports training to virtual ER scenarios. The breadth of the applications on display testified to the manner in which modeling and simulation are moving into mainstream learning at an ever-faster pace. The annual Expo, hosted by the Congressional Modeling and Simulation Caucus, is the only such event in our nation's Capital. On hand for this year's exhibition were members of the Congressional Caucus, co-chaired by Congressman J. Randy Forbes, who

founded the Caucus, and Congressman Solomon Ortiz. Also attending were members of industry and the military, as well as researchers and Hill staffers. Local television covered the Expo, and that footage, as well as other film material from the event, will shortly be added to our television internet site, SimTV. Just go to SimTV.org and experience the excitement of this important event.

News from across the pond is that Clarion Events, Ltd., has acquired rights to the International Training and Education Conference (ITEC) from Reed Exhibitions. Clarion will partner with the National Training and Simulation Association (NTSA) in bringing this world class event to the European continent. ITEC, presented annually by the European Training and Simulation Association (ETSA), is the most important modeling and simulation event in Europe, and serves as something of a counterpart to I/ITSEC in the U.S. NTSA looks forward to a close and productive relationship with Clarion, similar to that enjoyed with Reed, as we move forward to further entrench ITEC's position as the signal M&S event on the Continent.

I/ITSEC this year will take place from 1-4 December, and this year's conference promises to be the most exciting yet. For the first time, we will group several educational events—student tours, Future Leaders, and a new program of teacher tours, under the rubric of STEM. As you will be aware, the STEM (science, technology, engineering and math) is a nationwide



Officiating at the Opening of the Capitol Hill Expo are, from left, RADM Fred Lewis, USN (Ret), President, NTSA, Congressman Rob Wittman (VA-01), Congressman Tom Feeney (FL-24), and Congressman J. Randy Forbes (VA-04), Co-Chairman of the Congressional M&S Caucus.

initiative on the part of our national and state governments to enhance student interest and performance in the sciences. STEM came about through a recognition that interest in the hard sciences on the part of young people was waning at a time when the previous generation of scientists—who had brought the U.S. pre-eminence in many technical fields—was beginning to retire. STEM seeks to stimulate interest in following technical studies to ensure continued American leadership in critical national security areas. We at NTSA hope to be able to leverage the natural attraction our technology holds for young people into equal excitement for pursuing the technology behind the magic. By the time of I/ITSEC 2008, we hope to have produced a short video which will ingite some of this excitement while simultaneously showing the practical, even life-saving, applications of the technology.

Despite the uneven economy, I/ITSEC continues to experience healthy growth, and this year is no exception. We are well on our way to selling out all floor space, and the 2008 event will showcase a number of exciting Special Events. This year, an expanded

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As noted on the front cover, this is the final hard-copy issue of Training Industry News. In last year's member survey, the members of NTSA indicated a strong preference for receiving the newsletter electronically. So watch for the October issue, and all future issues, to arrive in an e-mail from newsletter@ndia.org.



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The Global marketplace

Morocco to Buy F-16s

Reprinted from *Defense News*

Lockheed Martin has been awarded a \$233.6 million contract to supply Morocco with 24 F-16 fighter jets. The military jet contract was awarded by the U.S. government.

“Morocco will acquire a Block 52 configuration of the F-16C/D aircraft tailored to meet the specific requirements of the Royal Moroccan Air Force,” Lockheed said in a statement.

The deal includes the 24 fighter jets, mission equipment and a support package from Lockheed and other U.S. and international contractors. Lockheed last year beat out French manufacturer Dassault, which had tried to sell its Rafale fighter to the North African kingdom.

Export Controls Need Streamlining

Reprinted from *Jane's Defense Weekly*

Bureaucracy surrounding United States export licensing controls has been an impediment to closer U.S./UK cooperation in the past, but the U.S. is taking steps to improve the situation, according to a senior U.S. official

“In my view, cooperation between the U.S. and the UK has never been better ... [and] has never been more important,” said the official who was speaking under the Chatham House Rule at the Berwin Leighton Paisner Defense Breakfast seminar in London.

“However, a major impediment to closer cooperation has been export controls in the transfer of defense technology In the U.S. we don't make decisions for the transfer of technology in a timely, transparent or predictable basis We've erred too heavily in the past on trying to protect that technology.”

The speaker said the reasons for the difficulties “can be spread around the U.S. government,” but that the Defense Department is looking at improving processes in technology transfer decision making.

“Currently, the U.S. uses four different committees which are frequently all involved in [making] one decision and they don't operate concurrently.”

He added: “Timeliness is the last consideration in making the decision So there's a major

effort [being made] in the Defense Department [to] improve on this” including “some major changes” within the U.S. Department of State.

European Arms Export Code Needs Overhaul

Reprinted from *Jane's Defense Weekly*

The European Union's code of conduct on arms exports, which marks its 10th anniversary on June 8, is “showing its age”, according to a report released by a number of European non-governmental organizations on June 6.

The regional arms export control agreement is “in need of an overhaul”, said Roy Isbister from Saferworld, who co-authored the report. He said the code was groundbreaking when it was released, but the “high common standards” for all arms-exporting countries in the European Union—guided by eight criteria for states to apply when making decisions on whether to approve arms exports—have not realized.

While it did improve on the previous situation, arms and weapon component transfers from member states to countries known to have questionable human rights situations, internal repression or are involved in conflict have continued.

UK Was Largest Arms Exporter in 2007

Reprinted from *Jane's Defense Weekly*

The UK defense industry achieved export orders of \$19 billion in 2007, providing it with one-third of the global market and making it the world's largest defense exporter, according to the government's international business development organization UK Trade & Investment.

According to the Defense & Security Organization's—formerly Defense Export Services Organization and now part of UK Trade & Investment—2007 market review, significant factors in the sales trends include operations in Iraq and Afghanistan, an increased focus on homeland security, a higher level of Russian procurement and a return to procurement by the Middle East.

In the period 2002-07, UK export sales were \$53 billion, substantially behind the United States for the same period (\$63 billion) but ahead of other major competitors such as Russia (\$33 billion), France (\$17 billion), and Germany and Israel (both \$9 billion).

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of military systems, it will run up against the same cost overrun and time delay obstacles faced by Western contractors. Moreover, these issues are likely to be exacerbated by the rate of decline in the high-tech sectors of the Russian defense industrial base,” Ritchie said.

Social Scientists Can Help Shape Noncombat Solutions

Reprinted from Defense News

For five years, the U.S. Army tried to win over the village elders in Afghanistan’s Ghazni province, hoping to halt regular Taliban attacks on U.S. and Afghan forces. But the elders, who were mostly Taliban supporters, were unreceptive, Col. Martin Schweitzer recounted, and clashes with the Taliban continued.

Then last year, Schweitzer’s brigade was assigned its first human terrain team. After studying the situation, the team, made up of a half dozen anthropologists, sociologists, economists and other social scientists, pointed out that the true power brokers in the region were the mullahs—the local religious leaders—not the tribal elders.

“After redirecting their outreach effort to the mullahs, the brigade experienced a rapid and dramatic decrease in Taliban attacks,

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medical event will demonstrate how modeling and simulation is saving lives on the battlefield and in the civilian ER. We also will hold an International Flag Panel, featuring a group of authoritative observers who will discuss the current state and future implications of modeling and simulation for joint and combined military operations. It should be a stimulating and informative event.

If you sense my barely concealed excitement about this year’s I/ITSEC Conference, you’re right. The 2008 I/ITSEC looks to be the biggest and most important event we’ve ever held, and the premier M&S event in the world. See you there!

Crowds gather to marvel at the technology on display at the Capitol Hill Expo.



to the point where this area is currently attack-free,” Schweitzer told a joint congressional hearing April 24.

The Defense Department is spending \$40 million on human terrain teams this year as part of a broader effort to find more effective ways to fight insurgencies. As their name suggests, the human terrain teams are intended to provide commanders with a better understanding of the human terrain—the people, customs, beliefs and motivating factors—in which they are operating.

Non-Offensive Space Strategy Recommended Against China

Reprinted from Aerospace Daily & Defense Report

The United States should try to dissuade China from pursuing military dominance by attempting to make cost-benefit calculations work out in America’s favor, a Center for Strategic and Budgetary Assessments (CSBA) analyst told a Capitol Hill audience May 6.

The strategy promotes U.S. investments in stealthy, long-range air strike capabilities, as well as additional submarines and littoral surface combatants. Earth-penetrating weapons to defeat hardened and buried targets also are suggested, as well as electronic-attack capabilities and defenses against them.

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THE THIRD ANNUAL I/ITSEC **SERIOUS GAMES** SHOWCASE & CHALLENGE

Call for Serious Games Entries

<http://www.iitsec.org> • <http://www.sgschallenge.com>

DECEMBER 1-4, 2008 • ORLANDO, FLORIDA, USA

Serious Game developers are invited to submit their original serious game to the Third Annual I/ITSEC Serious Games Showcase & Challenge. The goal of the Serious Games Showcase & Challenge is to identify innovative game-based solutions to training problems that could affect personnel and systems today and in the future. Finalists in the Serious Game Showcase & Challenge will be selected by a panel of leaders in the gaming, industry and academic fields, and will be invited to showcase their serious game at I/ITSEC 2008, where over 16,000 attendees will view and vote on each of the finalists. Awards will be presented to the top finishers.

The Challenge is open to a wide range of contestants, potential categories include student, government, individual/ small business, and businesses larger than 500 employees.

ENTRIES CAN BE SUBMITTED STARTING AUGUST 15TH.

Please forward this to any of your Serious Games friends and associates! Check www.sgschallenge.com for important details and information about last years outstanding contest.

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At the same time, the U.S. should “demonstrate” more effective cruise and ballistic missile defenses. Plus, the U.S. military should equip its satellites with on-orbit refueling capabilities to maneuver more frequently, while also boosting airborne and space-based remote sensing capacity.

But Robert Martinage, CSBA senior fellow, cautioned against any U.S. efforts to become more aggressive in space. “Do we really want to be perceived as the first to develop offensive capabilities,” he responded to one question from the audience. Such a move would weaken U.S. diplomatic leverage while demanding potentially unnecessary spending. “Given our investment base, I’m not sure that’s what we want to do,” he said.

Executives Sound Alarm on U.S. Math and Science Education

Reprinted from Aerospace Daily & Defense Report

An impressive roster of cabinet and congressional members warned an audience in Washington, April 29, that challenges facing science and technology education in the U.S. will have ripple effects throughout society. Without a commitment to advancing math and science in grades K-12, “America’s kids today might enjoy a lower standard of life than their parents,” Norm Augustine said in his opening comment at a summit organized by the National Academies.

Augustine, chairman emeritus of Lockheed Martin, was joined by Charles Vest, president of the National Academy of Engineering, who said, “It’s the time for action. The enemy I fear most is complacency.”

The event was a follow-up to a report released in 2005 called “Rising Above the Gathering Storm.” Panelists and speakers were invited to discuss their impressions of gains that have been made since the report’s release. Although several speakers said they saw some progress, most were pessimistic about the direction of science education in the U.S.

“It takes a long time to form the foundation [for future scientists],” astronaut Sally Ride said. “[Right now] we’re looking down and there’s no foundation there and we’re scrambling back from the cliff.”

Panel moderator and newsman Bob Schieffer followed her comments with a quote from Alan Greenspan: “If we take care of education, the rest of it will take care of itself. And if we don’t, the rest of it doesn’t matter.” Fellow panelist Craig Barrett, chairman of Intel, said, “By any rational measure you see, [U.S. science and math education] is bad. Every metric says it’s bad.”

Representatives from the House and Senate talked money, pushing for the America Competes Act to move from authorization to appropriation. The Gathering Storm report, as it was termed at the event, “was a wake-up call for all of us in America,” Sen. Kay Bailey Hutchison (R-Texas) said. “In my 15 years in Congress ... I have never seen the report of a commission that has actually motivated Congress, within one year, [to pass] a law that implemented the

entire report.”

Rep. Rush Holt (D-New Jersey) said productivity growth depends on “a well-trained work force and new ideas, each of which require investment.” He feels science research and development is woefully underfunded. “It’s a societal problem,” Holt added. “We have a situation where most Americans value the fruits of science, but don’t have a clue where they came from.”

Flying on a Wing and a Half

Reprinted from Defense News

If you can think fast enough and act fast enough, perhaps you, too, could fly an F/A-18 fighter jet with 60 percent of its right wing blown off. A lot of pilots couldn’t, said David Vos, senior director of Control Technologies at Rockwell Collins. But a computer algorithm that Vos helped create can.

It piloted a scaled-down F/A-18 this spring, and then kept it aloft and under control even after most of the right wing was intentionally blown off in midflight.

The computer succeeded where many human pilots would undoubtedly fail because it was able to react to the wing damage about 20 milliseconds after it occurred and because it “knows everything there is to know about the plane,” Vos said.

A human pilot, if he’s very sharp and very ready, can react in about 200 milliseconds, Vos said. In that time, the computer made 10 more adjustments to keep the F/A-18 from falling out of the sky.

Vos and his colleagues at Rockwell were amazed the plane could be sustained with a lot of damage and still be flown. “We had no idea [it] would get to 60 percent. We thought it would be uncontrollable long before that,” Vos said.

Afghanistan Bound

Reprinted from Aviation Week & Space Technology

Britain and Italy plan to send Tornado strike aircraft to Afghanistan to support combat operations. The Royal Air Force will use the GR4 at Kandahar to provide a period of respite and recuperation for Harrier units, which have been in theater since September 2004. Italy is considering sending a Tornado detachment in response to a NATO request for additional air capability for its International Security Assistance Force.

Royal Air Force Air Chief Marshal Glenn Torpy, chief of the air staff, says the Harriers are to be “replaced by GR4 Tornado aircraft at the back end of this year.”

He identified the UK’s Harrier force, which is comparatively small, as one of several “pressure points.” In the case of the Harrier GR9 units, there’s a need to “regenerate capability.” The Air Force and Navy have been forced to neglect some areas of operational training and development to focus simply on combat requirements. The Royal Air Force already deploys eight Tornado GR4s at Al Udeid in Qatar to provide support for operations in Iraq, while eight Harrier GR9s are based at Kandahar.

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U.S. Prepares Vehicle Road Maps

Reprinted from *Defense News*

Last year, the Pentagon's various vehicle programs seemed headed for congestion, if not collision. There were rush orders of mine resistant ambush protected vehicles, continued purchases of Humvees, and plans to buy variegated fleets of joint light tactical vehicles and Future Combat Systems. Redundancy seemed inevitable.

In November, Pentagon leaders told the Army and Marine Corps to get a handle on the vehicular chaos. In the next few weeks, the services will present two road maps—one for combat vehicles, one for tactical wheeled vehicles—to coordinate their purchase and use.

"No final decisions have been made," said one senior Army official with direct knowledge of the effort. "These are still debatable issues, as there are so many variables such as cost. We've been working closely with Office of the Secretary of Defense and across

the services to optimize our future tactical wheeled vehicle fleets."

But he and other Army sources said some of the likely conclusions include: the Army may retire its M113, the 10.5-ton armored personnel carrier that entered service in 1960; the mine resistant ambush protected vehicles will become less ubiquitous and be restricted to specialized roles; and the Humvee isn't going away any time soon, despite vigorous development of replacement vehicles.

The studies, launched at the bidding of Deputy Defense Secretary Gordon England and the Defense Department controller, surveyed the costs, performance, transportability and missions of existing and planned vehicles.

THAAD Demolishes Separating Target Missile

Reprinted from *Defense Daily*

The terminal high altitude area defense missile defense system scored another success when it killed a separating target missile,

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Who's where

■ **Andrew Cheng** has been appointed chief scientist for the Space Department of the Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland. He recently completed a year-long assignment at NASA Headquarters in Washington as deputy chief scientist for space science in NASA's Science Mission Directorate. At Applied Physics Lab, Cheng has been assistant supervisor for the science and analysis branch and supervisor of the Planetary Exploration Group.

■ **Capt. Jerry K. Burroughs**, USN, and **Capt. Paul A. Grosklags**, USN, have been nominated for promotion to rear admiral (lower half). Burroughs has been named chief engineer directorate of the Space and Naval Warfare Systems Command, San Diego. He has been program manager for special operating forces and undersea mobility in the Program Executive Office for submarines in Washington.

Grosklags has been appointed commander of fleet readiness centers at NAS Patuxent River, Maryland. He has been deputy program executive officer for air antisubmarine warfare, assault and special missions programs.

■ **Adm. Giampaolo DiPaola**, former chief of the Italian Defense Staff, is now chairman of the NATO Military Committee—NATO's top military officer. DiPaola succeeds Canadian **Gen. Ray Henault**, who will return to Canada to retire after three years as the chairman and 40 years of military service.

■ United Kingdom-based BAE Systems named **Ian King** to be its next chief executive beginning September 1, following the planned retirement of **Mike Turner**. Since 2007, King has been BAE's chief operating officer for its UK and Rest of World businesses, was originally with the former Marconi Corporation, which was acquired by BAE in 1999. Prior to that, he led BAE's operations in Saudi Arabia beginning in 2001 as group managing director for customer solutions and support.

■ BAE Systems appointed **Dan Welch** as vice president and general manager of its Norfolk ship repair business. He joined the company in January 2007 from Maersk Line, where he served as vice president, Vessel Life Cycle Management.

■ Northrop Grumman announced two appointments: **Thomas Fargo**, a retired U.S. Navy admiral, to its board of directors. He served as commander of the U.S. Pacific Command and is president and chief executive officer of Hawaii Superferry. **Robert Klein** as vice president of Maritime and Tactical Systems. He was vice president of engineering, logistics and technology for what was the Airborne Early Warning and Electronic Warfare Systems business area.

■ QinetiQ appointed **David Mellors** as chief financial officer and an executive director on the board. He was deputy chief financial officer at Logica.

Training & Simulation *report*

Elbit Supplies Simulator

Reprinted from *Defense News*

Elbit Systems and Lockheed Martin recently inaugurated the avionics simulation system delivered to Israel's Ministry of Defense for the Israel Air Force's F-16I aircrew flight and system trainer. The simulator is fully compatible with the aircraft's avionics and cockpit. Elbit Systems also supplied an advanced simulation system to give IAF pilots an out-of-cockpit world view for training in different air conditions day and night, Elbit announced. Elbit supplies the core avionics systems for the Israel Air Force's F-16I aircraft.

Taiwan Computer War Sim

Reprinted from *Defense News*

Taiwan's new president, Ma Yinjeou, allowed the first phase of the annual Hankuang (Chinese Glory) 24 exercise, a computer war game, to continue as scheduled, but delayed the second phase, the live-fire exercise, until September 22-26. The reasons, sources said, were fears that a live-fire exercise could derail recent historic negotiations with China to begin direct cross-strait air flights July 4. The computer simulation, held from June 22-27 at the underground maximum security Hengshan Command Headquarters, just north of Taipei, began with a Chinese air and sea battle.

Joint National Training Capability in Full Swing

Reprinted from *Defense News*

The Australian force was in an urban environment, trying to root out the enemy, and decided that some help from a U.S. A-10 aircraft might be just the thing to spur on the job.

A fire mission was called, and 12,000 miles away, in a flight simulator at a U.S. Air Force base, on a screen in front of him, a pilot got a God's-eye view of what the Australians were seeing on the ground. The pilot answered the call and laid on the necessary ordnance to clear the way for the Australians. That was Operation Talisman Sabre last summer in Australia.

Between that call and the pilot's response came the inevitable difficulty of translation between the military forces of two nations that speak a common language in uncommon ways. "Say again" was a frequent utterance, according to John Vinett, deputy of the Joint Warfighting Center's Joint Training Technologies Group.

A few weeks later, the same Australians were in an urban environment in Afghanistan, trying to root out Taliban fighters, and decided some help from a U.S. A-10 might help. The fire mission was called, and a nearby A-10 laid on the necessary ordnance to clear the way.

That was real life.

Capt. Charles Melcher, director of the Joint National Training Capability at U.S. Joint Forces Command in Suffolk, Virginia,

said the two sides communicated crisply this time rather than, "Say again, over. I can't hear you. I'm in a grid-coordinate, not a [longitude-latitude] coordinate. You gave me a 'long-lat' coordinate. I don't know what that means."

It's that sort of coalition-cooperation scenario that prompts Melcher to declare that Joint National Training Capability is, for all intents and purposes, fully-operationally capable a year ahead of schedule.

In Wargame, U.S. Army Takes More than Military to Battle

Reprinted from *Defense News*

Political, tribal and religious violence were sweeping the Nigerian countryside. Rebel groups were assaulting lucrative oil fields. Thousands were fleeing to refugee camps. It was a tough, perhaps insoluble military problem. But the U.S. planners at the Army's Unified Quest Future Game 2008 had more than just military tools at their disposal. Using a year-old planning process called campaign design, the blue team drew upon suggestions from U.S. and foreign military officers, State Department officials, intelligence community representatives and special operations forces.

"The whole-of-government approach is about options and how we deliver them. We're realizing how to apply the interagency pieces to how we plan missions," said U.S. Army Lt. Col. Keith Dunkle, Special Forces, a wargame participant who has served in 40 countries.

Last year, the Army's Training and Doctrine Command came up with the idea of campaign design, which seeks a more sophisticated approach to military planning, incorporating cultural, political and tribal nuances; and drawing in interagency, joint and coalition actors.

"We wrote a draft document last year called campaign design which was an outgrowth of a systematic approach. It seems to be catching on as a way to frame the irregular warfare battlefield," said U.S. Army Lt. Gen. Michael Vane, who commands the Army Capabilities Integration Center, TRADOC, Fort Monroe, Virginia. "It is important to understand the complete set of capabilities that this state or state entity might have to create order out of chaos, so that the commander understands the battlefield."

Unified Quest Future Game is the Army's largest annual attempt to study the future through wargames; the 2006 version was the first large-scale exercise to test the campaign design idea.

Virtual Worlds Bring Benefits, But Also Security Issues

Reprinted from *Defense News*

Spurred by the explosive growth of civilian virtual worlds such as "Second Life," the U.S. government is trying to create a common approach to exploiting the technology. The problem facing gov-

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Contracts

BAE Systems Wins Major U.S. Army Truck Contract

Reprinted from *Jane's Defense Weekly*

BAE Systems announced a major contract award from the U.S. Army on June 3, to produce up to 10,000 Family of Medium Tactical Vehicles (FMTV) logistics trucks. The contract could be worth up to \$2.2 billion. The Army has already agreed to \$1.65 billion in FMTV procurement. The contract also includes an option for the procurement of an additional 10,000 vehicles.

BAE Systems acquired the former Stewart and Stevenson FMTV plant in Sealy, Texas, through the 2007 purchase of Armor Holdings.

FMTV has been in service since the early 1990s and the Defense Department has awarded a series of contracts for different production models of the FMTV; around 48,000 FMTV trucks and trailers are currently in service with the Army.

The new FMTV orders are for the long term armored strategy configuration; the newest version of the FMTV incorporates a cab design that can carry an add-on armor package.

Moog Acquires CSA

Reprinted from *Defense News*

Moog, East Aurora, New York, announced the recent acquisition of the stock of CSA Engineering for \$14.8 million, including \$12.8 million in cash and a \$2 million note. CSA is a privately held Mountain View, California, company specializing in systems for vibration suppression, precision motion control and dynamic testing of structures.

CSA's engineering staff designs and supplies equipment for the space, defense, aircraft and industrial markets. CSA's specialized applications include satellite payload isolation systems, ground-based test systems for space and missile hardware, tuned mass dampers for vibration control and a jitter-reduction control system for the airborne laser optical bench. Sales in the most recent year were \$14 million. The acquisition will add about \$6 million to Moog's 2008 sales.

Team to Create Mini Robots

Reprinted from *Defense News*

BAE Systems will lead a team of scientists that will develop miniature robots to improve military situational awareness. The company signed a \$38 million agreement with the U.S. Army Research Laboratory to lead an alliance of researchers and scientists from the Army, academia and industry.

The Micro Autonomous Systems and Technology (MAST) Collaborative Technology Alliance will research and develop advanced robotic equipment for use in urban environments and complex terrain, such as mountains and caves. The alliance will create an autonomous, multifunctional collection of miniature intelligence-gathering robots that can operate in places too inaccessible or dangerous for humans.

The alliance has a planned duration of five years with an option to extend for an additional five years. MAST consists of four primary research areas, led by four principal alliance members: BAE Systems will lead microsystems integration, the University of Michigan will lead microelectronics, the University of Maryland will lead microsystem mechanics, and the University of Pennsylvania will lead processing for autonomous operation.

L-3 Awarded Contract to Support F-16 Midlife Update

L-3 Press Release dated May 13, 2008

L-3 Communications has received a contract, valued at approximately \$30 million, from the Danish Defense Acquisition and Logistics Organization to upgrade existing simulators and provide new training devices for the Royal Danish Air Force F-16 midlife update program.

The F-16 midlife update program calls for L-3 to upgrade two existing F-16 unit level trainers with modern simulation technologies, in addition to building two new F-16 deployable readiness trainers. The new and upgraded simulators will be concurrent with the fighter aircraft's M5 operational flight program configuration and integrated with new simulated avionics, sensors, smart weapons, air-to-air and air-to-ground munitions, advanced radar warning receiver and electronic countermeasure system. This new contract expands an over 20-year relationship between L-3 and the Royal Danish Air Force.

"The Royal Danish Air Force's F-16 unit level trainers will be among the most advanced simulators in the world," said John McNellis, president of L-3 Link Simulation and Training. "These advanced trainers will be networked with two new F-16 deployable readiness trainers that will enable the Royal Danish Air Force to conduct a much broader range of simulated air-to-air and air-to-ground training exercises."

L-3 is the leading provider of F-16 simulators worldwide. Other recent international F-16 customers have included the Hellenic Air Force, Royal Air Force of Oman and Polish Air Force.

Major Program *report*

Navy Likely to Change Procurement Schedule

Reprinted from *Defense Daily*

The Navy acknowledged a pending change in schedule for its next-generation cruiser, as service officials continue to scour the CG(X) analysis of alternatives, the head of Naval Sea Systems Command said. Currently, the Navy's 30-year ship building plan calls for CG(X) procurement to begin in 2011. However, Vice Adm. Paul Sullivan told attendees at the American Society of Naval Engineers conference that the schedule is going to change.

"We know we've got a problem," he said in reference to a question on the ship's schedule. "In PB '09 we have CG(X) in FY11. [We'll] have to fix that in POM '10."

The Navy was tasked with conducting the analysis of alternatives in June 2006. Although the 18-month study was completed in 2007, the Navy has continued to review the document and its alternatives. "There were many, many alternative ship and radar configurations," Sullivan said. "We will get through the analysis and build the ship, but it will have to be relevant for the next ... 65 years."

He added there are plenty of discussions on how powerful the radar needs to be, as well as the cost of the ship's architecture. CG(X) will also need to be modular. "The ship system must be upgradable without tearing [the ship] apart," Sullivan said. It will have to be adaptable to new threats over the next 65 years. That's not trivial."

The Navy's current plan is to build 19 CG(X), with the primary

mission being missile defense and air defense. Sullivan added that CG(X) would be more than a replacement of CG-4, the USS Ticonderoga-class of cruisers.

FCS Needs No New Funds to Accelerate, Officials Say

Reprinted from *Defense Daily*

No new funds will be requested to accelerate the Army's approximately \$160 billion Future Combat Systems, service leaders said while detailing plans to accelerate the first mature technologies and equipment to the infantry brigade combat teams ahead of the heavy brigade combat teams.

Lt. Gen. Stephen Speakes, Army -8, deputy chief of staff for programs, said: "The fundamental element of this whole acceleration is an Army that's living within its means. What we're not doing is asking for more money to do this. What we are doing right now is moving existing money so we can deliver these capabilities."

This means limited reprogramming of money the service already has in Fiscal year 2008 and FY09, he said.

"The core program has not changed in terms of its time lines," Lt. Gen. Michael Vane, director, of the Army Capabilities Integration Center within the Training and Doctrine Command, said.

Lt. Gen. Ross Thompson, military deputy to the acting assistant secretary of the Army for acquisition, logistics and technology, said: "The overall cost of the future combat systems core program is not impacted by this."

Upcoming *events*

Registration is open for these two upcoming NTSA events. For complete details, including lodging and registration, please visit www.trainingsystems.org/events.

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the Missile Defense Agency said. Separately, a Lockheed Martin official said he expects a contract to be signed late this year or early in calendar 2009 for more THAAD interceptors, and added that the current production line easily can accommodate increased output, such as a doubling of the interceptors' production rate. "We expect a contract late this year," said Tom McGrath, Lockheed Martin vice president, THAAD.

That afternoon, tests in the Pacific Missile Range Facility near Kauai, Hawaii, began when an Air Force C-17 transport aircraft launched the target missile with a mock warhead that separated from the booster rocket. The Army operated the THAAD system. The interceptor is a product of Lockheed Martin, while Raytheon makes the X-band radar.

Preliminary indications are that planned flight test objectives were achieved, the Missile Defense Agency reported. Interception of the target—a mock warhead separating from the booster rockets—occurred in the mid-endoatmosphere, or inside the atmosphere.

After the plane launched the target missile, the interceptor launched about six minutes later from a mobile launcher at the THAAD launch complex on the range facility. Upon hitting and demolishing the target, the THAAD added to an overwhelmingly successful record in tests.

This was the 35th successful hit-to-kill intercept of 43 attempts in the atmosphere and in space since 2001, and was the 29th of 30 successful tests conducted since September 2005, the Missile Defense Agency noted.

Explosive Mitigation

Reprinted from *Aviation Week & Space Technology*

Three national laboratories are testing how well commercial airframes can survive a terrorist bombing—research that U.S. officials say could someday change what airport screeners look for and how they look for it.

Preliminary test results are not expected from the labs, Lawrence Livermore in California and Sandia and Los Alamos in New Mexico, until the fall, but officials at the Transportation Security Administration, which commissioned the studies, say the findings could have long-range effects on security—and even on aircraft design.

Last year, the National Research Council of Canada Institute for Aerospace Research blew up a decommissioned Boeing 727 near Ottawa with a bomb hidden in the aircraft's luggage-filled cargo bay. The blast was used to train first responders to extinguish the subsequent fire and search the debris for crime evidence. NRC Aerospace conducted forensic studies of the aircraft to distinguish explosives-caused damage from ordinary wear and tear.

The Transportation Security Administration lab in Atlantic City, New Jersey, has been blowing up airplanes, pressurized to recreate in-flight conditions on the ground, says Rear Adm. Cathal

Flynn, USN (Ret.), the Federal Aviation Administration's head of civil aviation security from 1993 to 2000. Unlike those tests, the current round at the national labs will rely mostly on computer simulations.

Most experts agree that computer modeling is an efficient and cost-effective way of testing the effects of explosives on airframes "because the best you can do on the ground is to take a hull and pressurize it, but you can't duplicate the stresses that are on the fuselage in flight," Flynn says.

DoD to Enhance Security with Interagency Computer Network

Reprinted from *Aerospace Daily & Defense Report*

In a move to better integrate computer networks to enhance national security, Defense Department chief information officers and the Office of the Director of National Intelligence are creating strategic guidelines for information sharing.

A recent agreement signed by John Grimes, assistant secretary of defense for networks and information integration and Dale Meyerrose, chief of the Office of the Director, National Intelligence, calls for combined efforts to deploy compatible "authorization and attribute" services.

"There is compelling need for the Defense Department and [the intelligence community] to deliver an agile, interoperable and trusted access to control capability to enable net-centric information sharing across organization boundaries," Grimes said in his April strategic letter of intent.

"Authorization and attribute" services determine the identities of individuals seeking access to networks. The agreement also aims to develop common specifications, policies and interfaces, enabling the department and the intelligence community to share applications, services and information in unclassified, secret and top secret environments.

U.S. Procurements "Failing to Deliver"

Reprinted from *Jane's Defense Weekly*

The U.S. Defense Department's acquisition outcomes "appear increasingly suboptimal," the U.S. Government Accountability Office (GAO) has claimed.

In its "Defense Acquisitions: Assessments of Selected Weapon Programs" report, released on March 31, the GAO said the Defense Department had roughly doubled its planned investment in new systems from \$790 billion in 2000 to \$1.6 trillion in 2007. However, acquisition outcomes in terms of schedule and cost had not improved—while total acquisition costs for major programs in 2000 increased six percent on their original estimates, they increased by 26 percent in 2007.

The GAO said that programs have "often failed to deliver capabilities when promised." Of the 72 programs it analyzed this year, none met the best practices for mature technologies, stable design or mature processes at critical points of the program which are "essential for achieving planned cost, schedule and performance,

outcomes,” it said.

Four other areas were identified as requiring improvement: 63 percent of programs had changed requirements when system development began and experienced program costs increased; the average tenure for program managers had been less than half that envisaged in Defense Department policy; there was a reliance on non-governmental personnel to perform program office roles; and around half the programs analyzed had more than a 25 percent increase in the expected lines of software code since beginning development.

Fuel Cells Power U.S. Army Test Gear, Promise More

Reprinted from *Defense News*

In search of a power supply that will last longer and weigh less than traditional batteries, the U.S. Army is looking favorably at direct methanol fuel cells. Tests by the U.S. Army's Operational Test Command show that the fuel cells last about 10 times longer than batteries and weigh less than half as much.

In the long run, their longevity and light weight is expected to halve the cost of providing electricity in remote locations, said Henry Merhoff, an electronics engineer and fuel cell program manager for the Operational Test Command.

But the Army is moving cautiously. So far, the fuel cells are scheduled to go into service for just two applications: powering instruments that the Operational Test Command uses when testing new weapons and equipment at Fort Hood, Texas, and as part of a hybrid system of fuel cells and solar collectors to power an urban warfare training center being built in the Texas desert at Fort Bliss.

Eventually, though, the fuel cells may show up on battlefields for uses that range from running radio relay stations to recharging batteries, Merhoff said.

Connecting Italy's "Future Soldiers"

Reprinted from *Defense News*

Italy's Future Soldier Program, which aims to give troops the latest protection, weaponry, situational awareness and communications, moved forward this month with the freezing of the pre-series configuration of the kit. Delivery of the first batch of 30 pre-series versions is expected by November, for further trials and fine tuning.

Planned since 2002, the program is notable for its network-centric focus, starting with a small, wearable computer—the core of the system—that is carried on the back. The computer communicates via cable with a helmet-mounted night/day camera, helmet display and pocket tablet screen, and via Bluetooth with the day/night sight and target-acquisition unit on the soldier's rifle.

JSF Partners Meet to Talk Initial Price, Orders

Reprinted from *Defense News*

Sticker shock at the likely cost of early-model Joint Strike Fighters is tempting the program's international partners to rush to the

back of the queue for the new F-35 Lightning II.

The prospect brought program officials from the eight partner nations to Palmdale, California, on May 20 and May 21 in an attempt to nail down the price quantity of initial Joint Strike Fighter orders, Australian defense procurement chief Steve Gumley said in an interview.

Chaired by John Young, U.S. defense acquisition undersecretary, the meeting sought a "level price" for 368 F-35 Lightning IIs to be ordered by non-U.S. partners between 2012 and 2016 and delivered between 2014 and 2018.

U.S. Navy Targets Fuel Savings

Reprinted from *Aerospace Daily & Defense Report*

The U.S. Navy plans to cut its use of oil by 1.14 million barrels in 2008 and pare \$157 million out of its fuel budget with an ongoing energy conservation program that aims to cut fuel consumption aboard ships by 10 percent each year.

The Incentives Energy Conservation Program (i-ENCON), led by U.S. Naval Sea Systems Command, provides ship commanders and chief engineers with energy saving strategies along with procedures to cut fuel burn and provides quarterly awards for the most fuel efficient operations.

Balancing a ship's load of cargo and ballast to ensure proper distribution is one way of cutting fuel burn. The award money goes to shipboard discretionary funds which the commander can use to buy things such as damage control equipment or to augment ship recreation and welfare programs. The i-ENCON program achieved \$104 million in cost avoidance in 2007 and \$125 million in 2006.

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ernment users of virtual worlds is that they are "in unempowered places, at each little organization within agencies and organizations, in little pockets where they don't know about each other," said Paulette Robinson, an instructional technology expert and an assistant dean at the U.S. National Defense University.

Robinson has organized the Federal Consortium for Virtual Worlds, an unfunded effort run through National Defense University's Information Resources Management College. The consortium has already attracted 196 members, including 80 federal organizations, 63 private companies and 28 higher education organizations.

Enthusiasts of virtual worlds paint a panorama of unlimited possibilities. "The key areas where virtual worlds will come to play are in collaboration, medical treatment, education, continuity of operations and training," said Michael Macedonia, general manager of the national security division of Forterra Systems, maker of the on-line interactive virtual environment (OLIVE) platform.

NTSA would like to recognize the following company members for their support throughout the year.

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