

NTSA's Training Industry *news*

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Current *news*

Russian Air Fratricide Info Leaking Out

Reprinted from *Aerospace Daily & Defense Report*

New reports out of Russia contend that Russian forces lost eight or more aircraft—some of them to their own weapons—during the war with Georgia last year, despite repeated official claims that only four were lost. These shootdowns all occurred on the first day of the battle, August 8, 2008. Two Russian airmen were captured and exchanged. Another five were killed by fratricide. Officially, Russia acknowledges losing only three Su-25 Frogfoot attack aircraft and a supersonic Tu-22M3 Backfire from the Black Sea Fleet.

But that is only about half of the actual losses, according to the editors of *Moscow Defense Brief*, published by the Center for Analysis of Strategy and Technology. Other losses they claim to have identified include an Su-24MR Fencer E reconnaissance aircraft, also on August 8; an Su-25 on August 9; an Su-24M Fencer frontal strike aircraft on August 10 or 11; and possibly an Mi-24 attack helicopter on an unspecified date. Another three Su-25s were damaged but returned to base—indeed, pictures of the latter appeared on the Internet while the war was underway.

Russia's Interfax news agency and the British Broadcasting Corporation quoted deputy chief of the General Staff Col. Gen. Anatoly Nogovitsyn as saying Russia has already provided full disclosure of their losses during the conflict and has nothing new to add. He further denied "Russian Air Force planes were shot down by our own air defenses" or that there was a "total absence of cooperation between the Russian Army and Air Force," which led to them conducting separate, uncoordinated campaigns.

China Becomes Second Biggest Defense Spender

Reprinted from *Jane's Defense Weekly*

China spent more money on defense in 2008 than any other country except for the United States, according to a Stockholm International Peace Research Institute (SIPRI) report. The Institute estimated that China spent \$84.9 billion on defense last year, overtaking France and the U.K. to become

the world's second biggest spender for the first time.

Beijing's stated defense budget for 2008 was only \$68.69 billion. However, the figures in SIPRI's Yearbook 2009, which was released on June 8, included factors omitted by the Chinese government statistics but considered by most countries to constitute normal defense spending. These include weapons procured for the paramilitary People's Armed Police and military research and development, said Sam Perlo-Freeman, one of the report's authors.

Defense spending in the Asia-Pacific region as a whole continued to rise in 2008 in the face of the worsening global economic downturn, growing five percent year-on-year, according to the report. This outstripped the four percent rise in overall global spending.

Users Push for Robot Autonomy

Reprinted from *Aerospace Daily & Defense Report*

Officials at robotics giant iRobot Corporation say that the biggest request from the field is to make robotic vehicles that require less direct supervision from human operators. There has been a "real push toward getting not just teleoperated robots [on the battlefield] but to make some of them functionality autonomous," says iRobot co-founder Helen Grenier. Making robots and unmanned ground vehicles autonomous is "one of the biggest requests we're getting from the field," she says.

As it stands now, robots in use by the U.S. military are teleoperated—meaning that their movements are controlled by a human—which in turn makes the human to robot ratio one-to-one. While robots on the battlefield are currently performing things like bomb disposal and detection work, robot makers are working to give future military commanders a whole host of autonomous robotic capabilities, everything from perimeter security to "swarm" attacks.

Cyber Attacks Increasing, But Effects Minor

Reprinted from *Aerospace Daily & Defense Report*

The denial-of-services cyber attack—attributed to North Korea—that disabled at least three

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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 importance of enhancing the teaching of science, technology, engineering and math in the U.S. is by now widely and properly recognized as a national priority. While strengthening the STEM curriculum at the secondary level, we must also—and just as importantly—find ways to excite and engage students in the sciences to increase the alarmingly low proportion that now decide to pursue those disciplines into their graduate studies and professional careers. I sense that we are making steady, if uneven, national progress on both those fronts, if the number and variety of recent STEM programs and initiatives is any indication. I believe, however, that these these efforts, as commendable as they are, would benefit from a more coordinated approach from the national level. Perhaps an initial effort could be made to catalogue all STEM-related programs so that the overall dimensions and character of the national effort could be discerned. This first step could help to avoid duplication of effort while sharing best practices across geographic and organizational boundaries. At the same time, shortcomings in approach could be made known and acted upon.

In this spirit, we at the National Training and Simulation Association have moved to group our various student and teacher-related programs under the STEM umbrella. At I/ITSEC 2009, we also plan to increase our very successful “America’s Teachers” program to bring many more teachers from around the country to Orlando to experience the excitement and relevance of modeling and simulation technology. Participants in last year’s pilot program returned to their classrooms as full converts to the promise not only of the technology itself, but its potential to ignite the enthusiasm of their students.

Recently, I became aware of a major national initiative which embodies the kind of cross-cutting approach which I believe is necessary to avoid the stovepiped nature of many of our current STEM efforts. For the past two years, the Raytheon Company, using the talents of its systems engineers, has been developing a first-ever simulation model of the U.S. educational system in the STEM context. This system dynamics approach, the U.S. STEM Education Model, is the first simulation to use this technology to examine the U.S. educational system. The model, which includes hundreds of variables, allows users to input changes which will increase the likelihood that more students will choose to major and graduate in STEM disciplines. It incorporates census data and standardized test scores to track the flow of students through their entire educational experience and then into careers in STEM teaching or STEM-related industries. To capture some of the

nuances of the tendency to persist in STEM disciplines, the model sorts students by gender into high and low levels of STEM interest and proficiency. The many factors that determine the number of students who ultimately pursue STEM careers are captured through series of dynamic hypotheses and feedback loops that in coordination determine the behavior of the overall system.

During the model’s development, Raytheon worked closely with the Business-Higher Education Forum (BHEF) and other educational experts to review related research to identify variables and develop and test several dynamic hypotheses that would result in increased numbers of students who graduate in STEM majors. The BHEF is an organization of Fortune 500 CEOs, prominent college and university presidents, and foundation leaders working to advance innovative solutions to our nation’s educational challenges in order to enhance U.S. competitiveness. BHEF has set itself the ambitious goal of doubling the number of U.S. students who graduate in STEM fields by 2015.

Raytheon has now turned the U.S. STEM Education Model over to BHEF, and it is now available on line as an open source at www.STEMnetwork.org. The model’s future development will now be managed by the Battelle Center for Mathematics and Science Education Policy at the Ohio State University. The model is being advanced and further refined through the STEM Research and Modeling Network (SRMN), an open innovation network hosted by BHEF and dedicated to fostering the development and use of the model. I encourage all who read this to access the Education Model and provide inputs and test outcomes. Raytheon, BHEF and Battelle recognize that the model, while extremely useful as it now exists, can benefit from still further development, even as its capabilities are tapped.

I congratulate Raytheon CEO William Swanson and his dedicated and talented team, as I do BHEF Executive Director Brian Fitzgerald and his entire organization. Likewise, I commend the Battelle Institute for dedicating itself to the “care and feeding” of this tremendous tool—a true national asset which has arrived at exactly the right moment. With it, academia, educators, government and industry will all be able to identify those inputs into the educational system which will “move the needle” in precisely those directions which will yield the most positive results.

This groundbreaking effort is exactly the kind of comprehensive approach that can unite our country around a coordinated, dynamic and focused STEM effort. Anything less jeopardizes not only our competitive edge but also threatens our national security.



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The Global marketplace

Germany Places Big Puma Order

Reprinted from *Aerospace Daily & Defense Report*

The German government has placed a 3.1 billion Euro order for 405 Puma infantry fighting vehicles, with deliveries to start next year. The contract, with the Krauss-Maffei Wegmann-Rheinmetall joint venture building the Puma, was awarded after recent parliamentary approval of the deal. The contract initiates full-rate production of the vehicle and represents the biggest land systems project in Europe, the two manufacturers say.

The Puma program was formally launched in September 2002, with an initial contract for five pre-series production vehicles having been awarded in 2004. Production should run until around 2020, replacing the Marder infantry fighting vehicle.

Australian Defense Plan Confirms F-35s

Reprinted from *Aerospace Daily & Defense Report*

Australia's latest defense capability plan, which sets out expenditures expected over the next four years, confirms its intent to buy at least 72 F-35 Joint Strike Fighters but slips initial operational capability by up to five years, to 2017-19.

The previous defense capability plan, in 2006, set the planned in-service date at 2012-14, and as recently as March the Royal Australian Air Force was still expecting to take delivery of its first F-35s in 2013, but Canberra's recent defense white paper signaled a delay.

The Air 6000 project to acquire a new air combat capability is one of several programs that suffer slips in the latest defense capability plan. Initial operational capability for Air 7000 Phase 2B, procurement of eight Boeing P-8 replacement maritime patrol aircraft, slips two years to 2017-19.

Canada Launches \$5B Vehicle Purchase

Reprinted from *Defense News*

The Canadian government has approved a multi-billion-dollar program to purchase new armored vehicles as well as upgrade an existing fleet, helping the Army alleviate the growing problem of vehicles destroyed or worn out by the war in

Afghanistan. At the same time, the government has reached an agreement with Boeing for the purchase of 16 Chinook helicopters, a process that has taken three years, sources said.

The new armored fleets and the upgrades are estimated to cost about 5 billion Canadian dollars (\$4.3 billion), Defense Minister Peter MacKay said July 8 at Canadian Forces Base Gagetown, New Brunswick. MacKay said that of that amount, an estimated 1 billion Canadian dollars will be spent on upgrading light armored vehicles, known as LAV-3s, worn down by excessive use and rough Afghan terrain.

General Dynamics Land Systems Canada, the builder of the LAV-3, will be the prime contractor and systems integrator for the program, which will upgrade 550 vehicles. The program includes an option for upgrades to an additional 80. Three new fleets of land combat vehicles also will be purchased, MacKay said: close-combat vehicles, tactical armored patrol vehicles and force mobility enhancement vehicles.

Boeing Pushes for International Fighter Sales

Reprinted from *Jane's Defense Weekly*

Boeing says it is making an aggressive play for international fighter jet sales in 2009 and 2010, continuing to push both the F/A-18E/F Super Hornet and its new stealthy version of the F-15: the F-15SE Silent Eagle. Boeing says it has reason to believe the U.S. Navy will choose to buy more Super Hornets beyond the nine F/A-18 aircraft (and 22 EA-18 Growlers, the electronic attack variant of the F/A-18) that the Defense Department requested in the FY09 supplemental spending bill.

Reports accompanying both the House and Senate versions of the bill say that a multi-year contract with Boeing to buy more Super Hornets may make sense in the light of an impending U.S. Navy fighter shortfall. The Navy says the shortfall could be between 125 and 243 aircraft, depending on how long legacy F/A-18 aircraft can last and whether the F-35 Lightning II Joint Strike Fighter meets its scheduled initial operational capability in 2015.

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Washington, D.C.-based U.S. government agencies, and is still being cleaned up, appears to have had minor technological effects, but major implications for long-term policy, economics and military training.

"I won't go into great detail about specifics [of the attacks attributed to North Korea]" says the chairman of the Joint Chiefs of Staff, Adm. Mike Mullen. "I'm growing increasingly concerned about the cyber world and the attacks, whether they are from individual attackers or from state entities. There has been a significant investment in [analyzing and preventing] that. It has become a mainstream issue for all of leadership.

"We need to raise up more people who are capable in this area" Mullen continued. "The fiscal 2010 budget was a very comprehensive approach to the future, including a significant investment not just in irregular warfare ... but also in the cyber world. We need to have it as a big part of our focus now and in the future.

U.K. Lays Groundwork for Next Strategic Defense Review

Reprinted from Aerospace Daily & Defense Report

The British government is launching preparatory work intended to lead to a Strategic Defense Review in the next Parliament. Bob Ainsworth, the secretary of state for defense, says, "To ensure that our forces are ready to face the challenges of the future we are... announcing a process for a Strategic Defense Review in the next Parliament. As a first step this will involve a detailed examination of a range of issues."

Ainsworth adds these will include "the lessons we have learned from our recent operations; the changing character of conflict; the requirements on and aspirations of our armed forces."

The initial outcome of the work will be published in a Green Paper in the first half of 2010. Government spending is under intense pressure, and there is speculation that the defense budget could be hit in the coming years. A general election will be held no later than the second quarter of 2010.

U.S. Air Force Lays Out Its Vision for UAVs

Reprinted from Defense News

Before the end of the next decade, unmanned aerial vehicles no bigger than a dragonfly and faster than a hummingbird will be darting in and out of buildings, according to a recent U.S. Air Force report. The service laid out its vision for the next generation of unmanned aerial vehicles late in May in a page-by-page breakdown of aircraft, controls, munitions, sensors and construction materials. The 90-page report includes unmanned aerial vehicles assigned to tanker and fighter as well as intelligence missions.

The report was released just days before Air Force Chief of Staff Gen. Norton Schwartz told defense and military leaders that the service has "turned a corner" from today's very "Neanderthal" unmanned aerial vehicle operations.

In his speech at the Center for Strategic and International

Studies, Schwartz suggested an unmanned cargo aircraft might be in the service's future. But he declared that he does not support fielding an unmanned nuclear bomber. Sometime this summer, Schwartz is expected to sign off on his service's 30-year unmanned aerial vehicle plan, dubbed the unmanned aircraft systems flight plan and written by a Schwartz-appointed unmanned aircraft systems task force. The plan will be made public after its approval, probably in late June.

In the unmanned aerial vehicle report, the Air Force Research Laboratory lays out a schedule for each aircraft. Micro air vehicles, about the size of a sparrow, could be ready to fly by 2015. Fifteen years later, the service wants to have swarms of micro air vehicles no larger than dragonflies up in the air. These micro air vehicles, to be used mostly in cities, will be designed to blend into the scenery, according to a new release.

"This is where the sensor is made to look like something that belongs in the area such as an insect or bird, so that it is ignored," the report said. "One of the primary missions driving micro air vehicle development is the need to fill the covert close-in sensing requirement."

Expertise for Export: Global CST Targets Narco-Terror

Reprinted from Defense News

A high-powered group of Israeli experts is parlaying decades of planning, operational and analytical experience into a global consultancy aimed at the growing nexus between terrorism and international crime.

Established in 2006, Global CST provides an array of services to assist national security organizations, special forces and law enforcement agencies in combatting terrorism, drug-trafficking crime syndicates and the morphing of the two threats. Based in Petah Tikva, Israel, the privately-owned firm assists in strategic planning, budgeting, threat analysis, doctrinal development, force structure design and training, among other security-related services.

"Today, in many parts of the world, it's impossible to differentiate between terror and crime, particularly drug trafficking. It's a synergistic relationship in which one fuels the other, resulting in an interconnected and constantly expanding international network," said CST president Israel Ziv, a retired major general and former J3 director of operations on the Israel Defense Forces General Staff.

Officials Offer Peek Into Pentagon Missile Defense Planning

Reprinted from Aerospace Daily & Defense Report

Much rides on the Pentagon's pending ballistic missile defense review, but a few core principles are emerging to guide the massive spending effort over the next several years, according to congressional testimony June 16 by top Defense Department officials.

The Defense Department wants to redirect future efforts on early interception of missile threats because it forces potential adversaries to invest in costly responses, and the Department wants

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Contracts

Oshkosh Lands M-ATV Contract

Reprinted from *Jane's Defense Weekly*

Oshkosh Defense was awarded a contract worth over \$1 billion for the Defense Department's much sought-after mine resistant ambush protected (MRAP) all terrain vehicle (M-ATV) program. The contract from the U.S. Army's Tank Automotive Command includes the initial purchase of 2,244 M-ATVs, basic issue items, field service representative support and more.

U.S. Marine Corps Brig. Gen. Michael Brogan, the joint program officer for the MRAP vehicle effort, told reporters during a July conference call that by the end of the month Oshkosh would receive an additional order for 3,000 more vehicles. The total potential value of the contract could reach \$3.3 billion over three years.

M-ATVs are to be urgently fielded in Afghanistan where they are intended to provide the same blast protection as heavier MRAP vehicles but add off-road capabilities for maneuvering across rough terrain.

General Dynamics Lands \$21 Million Deal

Reprinted from Press Release

General Dynamics of Falls Church, Virginia, said its C4 Systems unit received a \$21 million contract from the Marines to add Internet-like capabilities to combat operations centers. The new system will improve the Marines' "situational awareness and information sharing abilities, and improve network connectivity across the tactical battlespace," the company said in a statement.

Warthog Support

Reprinted from *Aerospace Daily & Defense Report*

The U.S. Air Force is dividing responsibility for modernizing and sustaining its A-10 attack aircraft over the next 10 years among three "associate prime contractors": Boeing, Lockheed Martin

and Northrop Grumman. Lockheed has been the prime since 1997, but in 2007 Boeing won the contract to rewing the aircraft. Now all three companies will compete for individual task orders under the overall lifecycle program support contract, which is worth up to \$1.6 billion over the initial four years. Lockheed says the A-10 program is moving to sustainment from modernization with fielding of the A-10C digital configuration.

Tactical Comms

Reprinted from *Aerospace Daily & Defense Report*

The U.S. Naval Surface Warfare Center in Dahlgren, Virginia, awarded Iridium Satellite a \$21.7 million contract to support development and delivery of the distributed tactical communications system (DTCS). DTCS is an extension of "Netted Iridium", the company's push-to-talk communications capability. The system is intended to provide over-the-horizon, on-the-move, beyond line-of-sight netted voice and data communications over the Iridium network for the tactical warfighter. The Defense Department selected DTCS as the number two candidate for a 2009 joint concept technology demonstration.

Marines Pick Honeywell

Reprinted from *Defense News*

Honeywell Technology Solutions Inc., a division of Honeywell International, Morristown, New Jersey, recently won a 10-year contract with the U.S. Marine Corps for prepositioning and logistics support services, which ensure that U.S. Navy ships are stocked and available to carry Marines to combat zones. The contract is valued at \$700 million if all options are exercised, Honeywell said. Under the agreement, HTSI oversees 14 ships to sustain 15,000 Marines in operations for 30 days. From the Blount Island Command in Jacksonville, Florida, HTSI manages, repairs and upgrades the equipment and supplies.

NAICS Codes for Modeling & Simulation

An issue that has been facing the M&S industry for years is the lack of specific NAICS (North American Industry Classification System) codes for Modeling & Simulation. In 2004, during the last NAICS revision, a coalition of industry groups submitted a proposal for new Modeling & Simulation codes, but it was not approved. This year, in April, a similar coalition, led by NTSA, submitted a revised proposal

to create new codes for M&S. The proposal was carefully crafted according to the guidelines published by the ECPC (Economic Classification Policy Committee).

The proposal is now under review by the ECPC. In the meantime, NTSA is working with counterparts in Canada and Mexico to ensure that a similar position is supported. (All substantial changes to NAICS require the approval of representatives from the U.S., Canada and Mexico.) Once the ECPC makes recom-

mendations to OMB, there will be a Federal Register notice published with the recommendations for public comment. That notice should be published in late December or early January. Appropriate actions will be taken at that time, depending on the published recommendations.

If you would like to see a copy of the proposal, or would like to submit a letter of endorsement to the ECPC, please contact Patrick Rowe at NTSA at prowe@ndia.org.

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to make sure theater-based forces and allies are protected, even over legacy efforts to defend the homeland.

But even there, the ground-based mid-course defense system will be robustly supported and improved, asserted Deputy Defense Secretary William Lynn III, Marine Corps Gen. James Cartwright, vice chairman of the Joint Chiefs of Staff; and Army Lt. Gen. Patrick O'Reilly, director of the Missile Defense Agency. And any related collaboration with Russia and other NATO allies in Europe would send a powerful message to Iran and be worth pursuing, they said.

"We think 30 silos and 44 missiles addresses the threat we face, Lynn said in defense of the Defense Department's fiscal 2010 budget request to cap the existing ground-based interceptor fields in Alaska and California.

UAV Flight Plan

Reprinted from *Defense News*

The U.S. Air Force unveiled an unmanned aerial vehicle "flight plan," the service's goals for unmanned aerial development and operations through 2047, said David Deptula, Air Force deputy chief of staff for intelligence, surveillance and reconnaissance. That plan includes details on the Air Force's vision for unmanned aerial vehicles used for all Air Force mission areas, including intelligence, surveillance and reconnaissance, and strike, Deptula said at the Paris Air Show.

The plan is "not focused on platforms, but rather characterized by doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy recommendations, balancing lessons learned with future requirements," Deptula said. The unmanned aerial vehicle flight plan will be released as soon as Air Force Secretary Michael Donley and Chief of Staff Gen. Norton Schwartz sign off on it, he said.

In a chalet at the Paris show, Raytheon displayed the system it will bid for a request for proposals, expected late this year or early next year, for a prototype system that could control different unmanned aerial vehicles simultaneously.

The universal control system is partly based on video gaming technology and is controlled by either a paddle with thumb controls similar to controls used for playing video games or a throttle and stick like that used in fighter jets. The system would fly up to four unmanned aerial vehicles at once—three on autopilot while the operator focuses on manually flying one.

According to Mark Bigham, Raytheon's Intelligence and Information Systems business development director, John Young, former Defense Department acquisition chief, "directed every service to separate the air and the ground money into separate buckets and to rebaseline their programs to separate the contracts. That was huge."

Report Calls for Reinvigorated NASA

Reprinted from *Space News*

A new report from the National Research Council urges NASA

Upcoming events

Registration is open for these upcoming NTSA events.

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to renew its commitment to advanced technology development by establishing an internal organization modeled after the U.S. Defense Advanced Research Projects Agency (DARPA), the Pentagon's \$3 billion-a-year hobby shop. Creating a DARPA-like organization inside NASA is among the more concrete recommendations included in the July 7 report, "America's Future in Space: Aligning the Civil Space Program with National Needs."

The 126-page report was prepared by a blue ribbon panel led by retired U.S. Air Force Gen. Lester Lyles, a space and missile defense expert who made President Barack Obama's list of possible NASA administrators. Obama's eventual choice to lead NASA, retired Marine Corps Maj. Gen. Charles Bolden, was among 13 experts chosen to review the report prior to its publication.

New Russian Carrier Could Begin Construction in 2012

Reprinted from *Aerospace Daily & Defense Report*

The first of a new class of Russian aircraft carriers could begin construction as early as the next three to four years, according to an unnamed senior Russian Navy source quoted by news agency Interfax-AVN. The Russian Navy's current development plan, which covers through 2050-2060, envisages the creation of five to six aircraft carrier groups, the report said. The first aircraft carrier to be created for the Russian Navy will become part of the Pacific Fleet, the source added.

Earlier this year, Russian Vice Adm. Anatoly Shlemov, the head of defense contracts for Russia's United Shipbuilding Corporation, said Russian designers already had started work on future carrier

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Training & Simulation *report*

Truman CSG Completes Synthetic Training Event

U.S. Fleet Forces Command Integrated Training Branch

The *USS Harry S. Truman* carrier strike group continued preparations for its upcoming deployment by working with coalition partners from Canada and the United Kingdom during a fleet synthetic training-group commander in May. The synthetic event was controlled from tactical training group Atlantic (TTGL) in Virginia Beach, Virginia. The event linked Navy, joint and coalition participants at pier-side ships and simulation centers around the world.

“It ensured, from the start, they’re training to both U.S. and coalition tactics, techniques and procedures,” said Chuck Kennard, director of wargaming at TTGL. “These days, our strike groups need to operate within a coalition environment as though it were their own.”

The event was part of the Navy’s mix of pre-deployment live and synthetic training. Synthetic events do not replace live training, but are a piece of a larger training plan that ensures validation of Navy readiness during live events. In *Truman’s* case, the FST-GC preceded the carrier’s intermediate-level, and live, composite training unit exercise, or COMPTUEX. Other live and synthetic training is scheduled for the advanced phase of the carrier’s pre-deployment training.

FST-GC events support a single, integrated strike group, and the *Truman* carrier strike group filled this role as the main training audience. However, this synthetic event also provided training to representatives of the U.S. Army and Air Force, and the U.K. and Canadian navies. The latter coalition partner controlled the anti-submarine warfare picture in the simulated theater in which two strike groups conducted missions.

In addition to the *Truman* strike group, the *HMS Ark* Royal task group participated in the event. Royal Navy Lt. Cmdr. Simon Chapman, staff operations officer for the U.K. Commander, carrier strike group, said it was the second time the staff had participated in a fleet synthetic training event, though other Royal Navy units have been involved in many live and synthetic training events with the U.S.

“This time we’re actually taking part as the task group of an area,” Chapman said. “It’s a fantastic training tool for our team.”

UK MOD Starts to Lay Out Distributed Training Program

Reprinted from *Aerospace Daily & Defense Report*

The British Defense Ministry is beginning to map out the main elements of its requirement for mission training through distributed simulation (MTDS) capability for the Royal Air Force. The overall program value would be in excess of \$1 billion.

The ministry has already funded a 30-month capability concept

demonstrator, with work carried out by a Qinetiq and Boeing-led team. Defense officials are now looking to follow-on this work with a multi-stage implementation program, covering the operational introduction of distributed synthetic training for the Royal Air Force.

The program remains at a conceptual phase, but the ministry is planning to be in a position to award a contract covering the first stage of the full-mission training through distributed simulation program by the end of the third quarter of 2013.

The first stage of the full MTDS program would focus on providing mission training for fast jet aircrew working in the packages of up to four aircraft. This would likely cover the Tornado, Typhoon and F-35 when it enters service. For air-land integration training, it is envisioned that “legacy” training systems could be networked with the MTDS. From the outset, the MTDS will be required to be interoperable with similar U.S. training systems.

In the second stage of development, from 2018 onward, the ministry is looking to expand the MTDS to include nonfast jet elements of the air component, with a third stage intended to provide broader mission preparation and joint training in an alliance environment. Only the first stage of the MTDS currently has funding allocated.

L-3 Link to Build Trainer

Reprinted from *Defense News*

L-3 Link Simulation & Training (L-3 Link) has been chosen to build an operational flight trainer for the CH-47F Chinook transport helicopter. The work will be performed under a \$31.8 million contract modification from Computer Sciences Corporation in support of the U.S. Army’s Flight School XXI program, according to a statement from L-3 Link, a unit of L-3 Communications, New York.

L-3 Link will build the Flight School XXI program’s first full motion, high-fidelity operational flight trainer for the CH-47F, the company said. The trainer is scheduled to complete accreditation testing and gain release for training authorization in November 2011. The trainer’s high-fidelity cockpit software will simulate the CH-47Fs engine, electrical, hydraulic, navigation and communication systems, in addition to weapons, sensors and aircraft survivability equipment. An electrically driven servo flight control system, and sticks and grips that replicate CH-47F hardware, will combine to provide aircrew training.

Simulated Battle

Reprinted from *Aviation Week*

More than five years after entering the small but intensely com-

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petitive aircraft training and simulation business with a niche acquisition, Rockwell Collins finally is stepping up its challenge to market leaders CAE, Thales and L-3 Communications. In designing a new software/hardware architecture, Rockwell Collins aims to help simulators keep pace with a growing number of software upgrades being added to civil and military aircraft to improve navigation and display or accommodate new weapon systems. Dubbed CORE (common open reusable elements), the architecture is designed to replicate the company's success with open-system avionics software that's currently used on a wide range of aircraft.

"This is very similar to what you saw us do 10 years ago with avionics," says Kent Statler, a Rockwell Collins vice president who heads the company's services business. "The ability to have an open systems architecture that can take the best of commercial, off-the-shelf solutions and do that at a fraction of the cost is of great value to our customers."

Evolver.com Automates 3D Avatar and Digital Clone Creation

Reprinted from Press Release

Darwin Dimensions, Inc. has produced Evolver, a fully-functioning website where visitors can create and export 3D avatars and clones in a matter of minutes using simple slider and selection functions offering a wide range of creative latitude.

Evolver delivers 3D characters designed for a broad range of uses. The site's simplicity and user friendly interface makes it easy for anyone to dive in and create a 3D avatar or clones quickly and for free, exportable for use in any destination including virtual worlds, social networks, animations and more. More advanced 3D artists can save hours of production time by generating original Evolver characters and exporting high-resolution models fully rigged for animation, for a small fraction of the cost of creating comparable models from scratch.

With Evolver, a near-infinite assortment of men, women, children and creatures can be created by combining and morphing physical attributes derived from a "virtual gene pool" of pre-built characters. Features from these pre-built characters can be blended and tweaked in a number of ways to create a totally unique character in Evolver each time.

Clear to Train

Reprinted from Aerospace Daily & Defense Report

National guardsmen and emergency responders will be able to train in the use of unmanned aerial systems for search and rescue following Federal Aviation Administration approval to fly the AAI Aerosonde in unrestricted airspace over Crisis City, a mock-up disaster zone near Salina, Kansas.

Previously the unmanned aerial system was limited to flying in restricted airspace over the adjacent Smoky Hills Weapons Range. The unmanned aerial system is operated by Flint Hills Solutions jointly with Kansas State University, which is setting up the

unmanned aerial system technology evaluation center.

EDA Targets Pilot Training

Reprinted from *Defense News*

The European Defense Agency's plans for the second half of 2009 include the development of an advanced jet pilot training system and a project to counter man-portable air defense systems. The jet pilot training system would provide more advanced training for the latest generations of fighter aircraft—for example, the F/A-18, Rafale, Eurofighter and F-35 Lightning II. The European Defense Agency is also optimistic that members will launch a research and technology program to counter man-portable air defense systems later this year as aircraft need to be better protected.

4th Congressional Modeling and Simulation Expo a Success

Reprinted from Congressional Modeling and Simulation Caucus Newsletter

On July 15, Modeling & Simulation companies from around the country came to Capitol Hill to demonstrate just how important Modeling and Simulation is to a breadth of industries. Over 200 staffers and 12 members of Congress attended the Fourth Annual Expo to explore the 17 different M&S companies who showcased important simulation technologies. These staffers and Members learned how simulation helps to train surgeons, manage mass destruction after a hurricane hits, and control body movement while swinging a golf club. Opening remarks were made by Rep. Randy Forbes (VA-04), Chairman of the Congressional M&S Caucus, followed by ten Members of the Congressional M&S Caucus.

The Modeling & Simulation Expo was sponsored by the National Training & Simulation Association in conjunction with the members of the Modeling & Simulation Congressional Caucus. For a full listing of the technology presented at the Expo and for additional information contact Debbie Dyson, CEM at ddyson@ndia.org or 703-247-9480.

New Raytheon Program Analyzes 'STEM' Candidates

Reprinted from Congressional Modeling and Simulation Caucus Newsletter

Raytheon and the Business-Higher Education Forum have announced a new open-source computer modeling program focused on math and science education. The program is designed for educators, policy makers and researchers to aid education policy and planning decisions.

Today, the defense industry faces growing shortages of skilled engineers and scientists as older workers prepare to retire and are not adequately replaced. The program, which Raytheon engineers started developing in 2006, looks at roughly 200 variables to judge the likelihood a student will graduate with a degree in one of the "STEM" subjects - science, technology, engineering or math - and enter industry or become a teacher in one of those fields.

The model itself looks like a group of spiders, mapping a per-

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Major Program *report*

Lockheed Martin Prepares for Early LCS Development

Reprinted from *Aerospace Daily & Defense Report*

Lockheed Martin is hustling to prepare the U.S. Navy's first littoral combat ship, *USS Freedom*, for a possible early deployment. The chief of naval operations, Adm. Gary Roughead, ordered studies on early deployment after the *Freedom* returned from its latest acceptance trials in May. "We're talking to [the Navy] about sustainment," Fred Moosally, president of Lockheed Martin MS2, told reporters at a roundtable June 23. "Getting a ship out and deployed will bring good lessons for this program."

The second set of acceptance trials was conducted at sea to test equipment and systems not checked in the first trials on the Great Lakes last summer. The latest trials included a four-hour full-power engine run and radar and combat system tests. There was no ordnance fired, Moosally said. The certification process will run between July and September for ordnance handling and firing.

Navy Aircraft

Reprinted from *Aerospace Daily & Defense Report*

The FY10 defense authorization bill approved June 17 by the House Armed Services Committee urges the Navy to enter into a multiyear procurement contract for more F/A-18E/F Super Hornets and EA-18G Growlers. The bill, which now goes to the House floor, includes \$108 million for advance procurement of items used to build new aircraft beyond FY10 and \$56 million for support items associated with the Growlers. The committee said buying new aircraft made more sense than trying to extend the life of the legacy fleet.

Norway Wins Approval to Begin F-35 Negotiations

Reprinted from *Aerospace Daily & Defense Report*

Norway's Defense Ministry is to begin negotiations on the purchase of up to 56 Lockheed Martin F-35As after parliament voted to accept its recommendation of the Joint Strike Fighter over the Saab Gripen NG. Negotiations are expected to take two years, and the government is required to return to parliament in the spring for authorization to begin negotiating the final contract. Norway is already a partner in the Joint Strike Fighter program.

Despite an effort by the right-wing Progress Party to send the fighter decision back to the government for further analysis, a majority in Parliament voted to endorse the government's November selection of the F-35. The defense ministry does not know when a contract will be signed, or how many aircraft will be ordered, but beginning negotiations this year keeps the program on track to allow first deliveries in 2016 and full operational capability in 2020.

Hornet Report

Reprinted from *Aerospace Daily & Defense Report*

Despite initial misgivings, the U.S. Defense Department may give Congress an "interim" estimate on a potential new multiyear acquisition of Boeing F/A-18s sooner rather than later. Defense Secretary Robert Gates told Senate appropriators June 9 that while he wanted such a report to be informed by the upcoming Quadrennial Defense Review, he thinks the Pentagon could offer an initial assessment. Both he and Navy Adm. Mike Mullen, chairman of the Joint Chiefs of Staff, spoke favorably of the fighter. "That's a great airplane at a great price," Mullen said. Gates said if the Pentagon decides it needs to buy even more, then a multiyear deal would make good sense. The defense secretary also said the Department probably would at least ask for more in the fiscal 2011 budget request.

Former SAC Chief Not Worried by Bomber Delay

Reprinted from *Aerospace Daily & Defense Report*

Delaying development of the next-generation long-range strike bomber is not a serious blow to U.S. nuclear deterrence efforts — in the short term — a retired U.S. Air Force Chief of Staff and former head of Strategic Air Command says.

"But if you were to let the manned bomber disappear from the nuclear deterrent [program] I think that would make a very significant difference in how much confidence you have in the nuclear deterrent" capabilities of the U.S., retired Gen. Larry Welch told a June 10 breakfast seminar in Washington sponsored by the National Defense University Foundation.

Defense Secretary Robert Gates has dropped funding for a bomber development study from the FY10 defense budget request, although he does believe the Air Force will eventually need a replacement for the aging bomber fleet.

Abrams Tank to Get High-Tech Upgrade

Reprinted from *Defense News*

The U.S. Army plans to build prototypes of a tougher, more high-tech M1A3 Abrams main battle tank by 2014, with an aim to field it by 2017. The variant would incorporate improvements based on lessons learned in Iraq and be able to plug into networks such as that planned for the Future Combat Systems, service officials said.

Army plans to preserve the battle-tested 70-ton tank through 2050 will take Abrams technology well beyond the most-advanced current variant, the M1A2 SEP, by adding increased networking capability, laser-designation and improved composite armor solutions.

Who's where

■ **Col. Dave McNeil**, USA (Ret.), was named president of the new Integrated Services Division at The Ranger Group, McLean, Virginia. The division will provide personnel services for government agencies that move beyond the company's current offerings of engineering, construction and logistics services. McNeil is former director of installation management for the U.S. Army Reserve and former installation commander at Fort Dix, New Jersey.

■ Boeing elected **David Calhoun** to its board of directors, where he is expected to serve on the audit and finance committees. Calhoun is chief executive officer of the Nielsen Company. Before that, he spent 25 years at General Electric in a variety of positions, including vice chairman.

■ **Lawrence Prior, III**, has become president and chief operating officer for ManTech International. He was chief operating officer at Science Applications International Corporation. Prior joined SAIC in 2004 and served as president of its intelligence, security and technology group and senior vice president for federal business before becoming chief operating officer in 2007. SAIC said **Ken Dahlberg**, company chairman and chief executive officer, would assume his duties until a successor is chosen.

■ **Joseph Greeves** was named executive vice president and chief financial officer at GeoEye, Dulles, Virginia, a satellite imaging company. Greeves previously served as executive vice president and chief financial officer at Managed Object Solutions.

■ CAV International, Colorado Springs, Colorado, appointed **Bill McLendon** as chief operating officer. The company specializes in airfield services and logistics; customers include the U.S. Air Force's Air Mobility Command and U.S. Transportation Command. McLendon moves over from JetCorp, St. Louis, where he was president and chief executive officer.

■ U.S. Defense Secretary Robert Gates has named **Paul Kaminski**, a former top Pentagon acquisition official, to head the influential Defense Science Board. Kaminski was undersecretary of defense for acquisition and technology from October 1994 through May 1997 under former President Bill Clinton. His term as Defense Science Board chairman will end December 31, 2011. In a related move, Gates also has

named retired Air Force **Gen. Lester Lyles** as vice chairman of the science board. His term will end December 31, 2010.

■ Raytheon appointed **Mitch Kugler** vice president of strategy. He joins the company from Boeing, where he was director of advocacy integration for the Integrated Defense Systems business. Among his duties, Kugler will work with Raytheon's businesses to formulate its strategy and enhance execution.

■ **Col. Tracy Tafolla**, USMC, assumed duties as director of the Joint Non-Lethal Weapons Directorate at Quantico, Virginia. He succeeds **Col. Kirk Hymes**, who is retiring after 26 years. The directorate oversees the day-to-day operations of the Pentagon's joint non-lethal weapons program, whose mission it is to outfit troops with effective non-lethal weapons.

■ BAE Systems named **John Osterholz** as senior executive to lead its integrated cyberwarfare and cybersecurity business in the United States. Osterholz will lead the development of a way to defend infrastructure and government operations from internet attacks and mount cyber-counterattacks. He previously was BAE's vice president of advanced network systems.

■ **James Gilmore**, former Virginia governor, and **Gen. William Wallace**, USA (Ret.), have been appointed to the board of directors for CACI International, Arlington, Virginia. Gilmore served as governor from 1998 to 2002 and also chaired the U.S. Congressional Advisory Panel to assess domestic response capabilities involving terrorism and weapons of mass destruction. Wallace was chief of the Army's Training and Doctrine Command from 2005 to 2008.

■ Australian political heavyweight **John Faulkner** was appointed the country's new defense minister on June 5, a day after his predecessor was forced to step down. Faulkner, 55, a power broker in the ruling Labor Party, has served as special minister of state since Prime Minister Kevin Rudd took over the government in an election landslide 18 months ago. He had been tapped as the front-runner for the job, the focus of which will be implementing reforms set out in a blueprint to overhaul the Australian defense forces, according to a report from Agence France-Presse.

■ BGR Group, a government relations, public relations and financial advisory firm, has hired **Gen. Peter Pace**, USMC (Ret.), as a senior advisor. Pace served as chairman of the Joint Chiefs of Staff from 2005 until 2007. He will assist clients with strategies associated with defense and national security issues. The firm has offices in Washington and London.

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development. Shlemov was quoted as saying the carrier would have a nuclear powerplant and 50,000-60,000 metric tons displacement.

Unlike the only existing Russian carrier, the new project would not be armed with surface-to-surface strike weapons. Instead, its airborne power will comprise fifth-generation fighters with conventional takeoff/landing capabilities, helicopters and unmanned aerial vehicles.

Missile Worry

Reprinted from *Aerospace Daily & Defense Report*

According to U.S. intelligence officials, Japan is validating its bid to acquire F-22s by pointing to China's growing fleet of advanced fighters like the Su-30MKK and a new, high performance air-launched cruise missile. But Japan's major threat is "Chinese ballistic missiles, and no fighter is going to solve that problem," notes a veteran U.S. Air Force analyst. "Japan is so close, and the Chinese have such large numbers of short- and medium-range ballistic missiles that the cruise missile issue is really going to be irrelevant [for Japan]."

But those same cruise missiles could be a big problem for Taiwan.

There, defense planners built the country's underground defense systems "on its East Coast to provide some protection against ballistic missiles [fired from mainland China]," the analyst says. "They're justifiably worried about cruise missiles because these seem to have been designed to attack Taiwan from the East, thus negating all the work Taiwan has put into its underground shelters."

Phoenix Mars Lander Finds Variations in Subsurface Ice, Soil

Reprinted from *Space News*

Gullies, channels and other features on the martian surface have long suggested that water flowed across the red planet long ago, but a growing number of observations show frozen water is there now. The findings of NASA's Phoenix Mars Lander announced throughout the mission, are now detailed in a set of four papers in the July 3 issue of the journal *Science*. They are the first to describe the northern-most reaches of the red planet and shed light on the history of water on Mars, as well as the planet's potential habitability. Among the most significant findings from Phoenix, which landed on the red planet May 25, 2008, is a layer of rock-hard water ice just a few centimeters beneath the surface of the dusty arctic plains.

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son's education and career from birth to retirement. It looks at the short- and long-term impacts of changing certain variables and produces a graph showing changes in the number of college graduates in STEM subjects as a result. The model analyzes other variables such as teacher pay, class size, student interest in science and math, teacher attrition rates and gender differences over the course of a person's education from kindergarten to college.

Raytheon created the program, called the U.S. STEM Educational Model for BHEF. BHEF then launched the program into open-source use, allowing users suggest changes and research to improve the model. The model is based on research including test scores and localized studies, yet more research is needed, panelists at the unveiling said.

The program will be overseen by the STEM Research and Modeling Network, a partnership between Raytheon, BHEF and The Ohio State University. (See related commentary by NTSA President Fred Lewis in this issue's "President's Notes".)

Navy Gets Simulation Assistance

Reprinted from Congressional Modeling and Simulation Caucus Newsletter

Alion Science and Technology Inc., a technology solutions company, was awarded a five-year contract valued at as much as \$48.8 million. Under the terms of the indefinite-delivery, indefinite-quantity, cost-plus-fixed-fee contract, Alion will provide engineering and technical services to support program management, systems engineering, strategic planning and policy.

The contractor will also provide modeling and simulation software development, support, logistics and training, according to a Defense

Department announcement. Work will be performed in Norfolk, Virginia, and Charleston, South Carolina, and is initially expected to be completed by July 2010 with a possible continuation to 2014.

The contract was competitively procured with an unlimited number of proposals solicited and one offer received via the Federal Business Opportunities Web site and the Space and Naval Warfare Systems Command's E-Commerce site.

Army Logistics University Opens at Fort Lee

Reprinted from Congressional Modeling and Simulation Caucus Newsletter

The new Army Logistics University (ALU) at Fort Lee, Virginia opened on July 2nd and includes a 100,000 square foot building specifically intended for modeling and simulation. The Simulation Training Center (STC) is designed for exercises and training for units all over the world, said Col. Shelley Richardson, ALU President.

The STC is equipped to support simulation exercises, battle-lab experiments, knowledge-management events, lifelong learning and sustainment education and training courses. In addition, it hosts a state-of-the-art Model Command Post and a world-class communications network capable of distributing exercises and events worldwide.

The university is one of the largest BRAC projects on post and truly represents the merger of the transportation, quartermaster and ordnance branches into the Army Logistics Branch.

Soldiers from the transportation, quartermaster and ordnance branches of the Army will be training together at the university. The university is responsible for training military students from 63 foreign countries and will house approximately 2,300 students daily when it is fully operational.

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

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