CONSORTING TERROR : A VIEWPOINT

SP's

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E-2C Hawkeye aircraft

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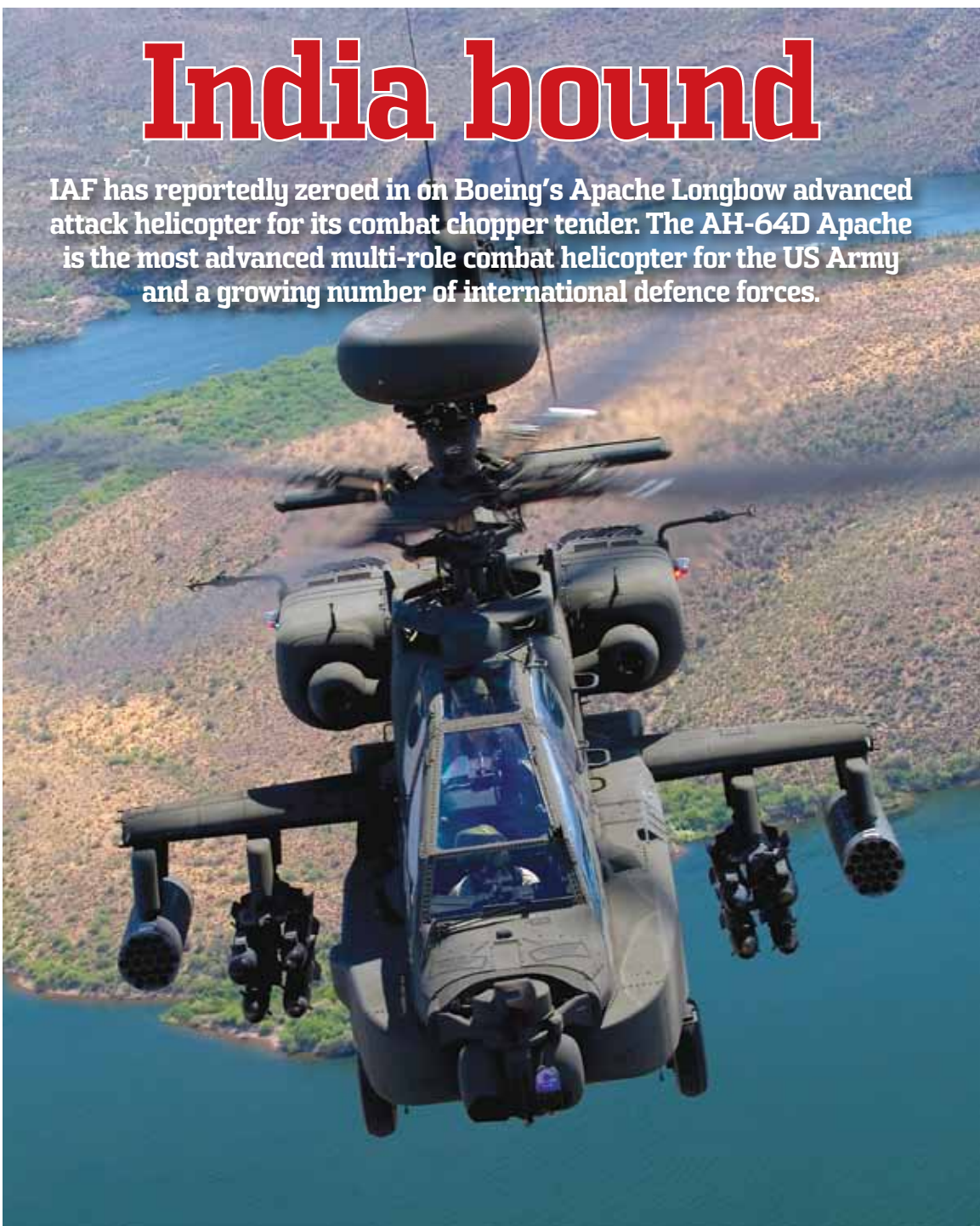
India bound

IAF has reportedly zeroed in on Boeing's Apache Longbow advanced attack helicopter for its combat chopper tender. The AH-64D Apache is the most advanced multi-role combat helicopter for the US Army and a growing number of international defence forces.



Anti-sub corvette Kadmatt launched

The Indian Navy's modernisation quest under Project-28, to stealthily hunt and destroy lurking enemy submarines, got a further boost recently with the launch of the second indigenous anti-submarine warfare (ASW) corvette Kadmatt – named after an island in Lakshwadeep.

The corvette built by the Garden Reach Shipbuilders & Engineers (GRSE), Kolkata, was launched by Mamatha M, wife of the Minister of State for Defence M.M. Pallam Raju in the presence of the Controller of Warship Production and Acquisition of the Indian Navy Vice Admiral N.N. Kumar and GRSE Chairman and Managing Director Rear Admiral K.C. Sekhar.

GRSE is to launch four P28 corvettes at a cost of ₹373 million. Kamorta was the first to be launched on April 19, 2010, and after fitments is expected to be

PHOTOGRAPH: DPR Defence

delivered to the Indian Navy in June 2012 and Kadmatt in March 2013. The remaining two are Kiltan and Kavaratti.

The Kamorta class corvettes, with over 80 per cent indigenous content, are capable of fighting in a nuclear, biological and chemical environment. The 109-metre-long, 12.8-metre-wide ship with an approximate displacement capacity of 3,000 tonnes can achieve a maximum speed of 25 knots. Powered by four 3,888 kW diesel engines, it can cover nearly 3,450 nautical miles at 18 knots, carrying a helicopter. The anti-submarine warfare capability is largely achieved due to the low signature of radiated underwater noise. The ship having indigenous weapon and sensor suites is equipped with super-rapid gun mounting, anti-aircraft guns, torpedo launcher, rocket and chaff launchers. SP

Cover:
IAF has reportedly zeroed in on Boeing's Apache Longbow advanced attack helicopter for its combat chopper tender. The AH-64D Apache is the most advanced multi-role combat helicopter for the US Army and a growing number of international defence forces.

Cover image: Boeing

PUBLISHER AND EDITOR-IN-CHIEF
Jayant Baranwal

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Prakash Chandra

ASSISTANT GROUP EDITOR
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SR TECHNICAL GROUP EDITORS
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Lt General (Retd) P.C. Katoch

SR COPY EDITOR & CORRESPONDENT
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DESIGN & LAYOUT
Senior Art Director: Anoop Kamath
Designers: Vimlesh Kumar Yadav, Sonu Bisht

SALES & MARKETING
Director: Neetu Dhulia
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SP'S WEBSITES
Sr Web Developer: Shailendra P. Ashish
Web Developer: Ugrashen Vishwakarma

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E-mail: subscribe@spsmai.com

LETTERS TO THE EDITOR
editor@spsmai.com

FOR ADVERTISING DETAILS, CONTACT:
advertise@spsmai.com
guidepub@vsnl.com
neetu@spguidepublications.com
rajeev.chugh@spguidepublications.com

SP GUIDE PUBLICATIONS PVT LTD
A-133 Arjun Nagar,
(Opposite Defence Colony)
New Delhi 110 003, India.

Tel: +91 (11) 24644693,
24644763, 24620130
Fax: +91 (11) 24647093
E-mail: guidepub@vsnl.com

REPRESENTATIVE OFFICE
534, Jal Vayu Vihar
Kammanhalli Main Road
Bengaluru 560043, India.
Tel: +91 (80) 23682534

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Combat choppers with quick turnaround essential

At the time of going to the press, we have the defence and mass media going abuzz with reports of the Indian Air Force opting for Boeing's Apache Longbow combat helicopters. The twin-engine tandem seat Apache is operated by two pilots, and can execute an attack within 30 seconds of an alert. It is such quick-time response that is required in operations nowadays. The IAF has a tender for 22 combat helicopters and there has been one other contender – Russia Mi-28 Night Hunter.

The IAF is on the right track of modernisation and if these aircraft, including the long-awaited medium multi-role combat aircraft, are inducted at the earliest, the IAF will certainly have its teeth sharpened, much needed considering the growing threat scenarios in the neighbourhood.

Along with such capability, India should look at drones with lethal capabilities. The US has started looking at deploying 'Kamikaze drones', technology for which is being developed by AeroVironment.

'Kamikaze drones' or what the manufacturer has named 'Switchblade', a robotic aircraft refined to take out suspected militants. The manufacturer claims that 'Switchblade' weighs less than two kilos and can easily fit into a soldier's backpack and can be launched from a tube, with wings quickly folding out as it soars into the air. Importantly, upon confirming the target using the live video feed, the operator then sends a command to the air vehicle to arm it and lock its trajectory onto the target. The drone then flies into the 'target,' detonating a small explosive.

In similar direction, robotics on the battlefield is among the most exciting advancements of technology's meet-up with warfare. Robotics are here to stay as they have become 'Soldier must haves.'

Military, industry and academia have joined hands in the West to upgrade fielded combat robots through proofs of concept they have designed under the US Army Research Laboratory managed Robotics Collaborative Technology Alliance, which was set up in 2010. It is teleoperated system like Talons and iRobot Packbot wherein a 'soldier doesn't have to use a joystick to direct a robot to a location. He can treat it like another soldier and tell the robot to go down the road and peer into a window.' In effect, these developments ensure when on an offensive, robots and drones take over from humans, thus minimising loss of lives from one perspective.

In his forthnightly column, Lt General (Retd) P.C. Katoch is as forthright as ever pointing out how Pakistan continues to spawn terror in the global world, more so in the immediate neighbourhood. He is categorical in stating that it took over a decade for the United States to realise the threat from Lashkar-e-Toiba. As the US prepares to hand over the lead role in Afghanistan to Pakistan, in exchange for an honourable exit and promise of no terror attacks on US soil, the inexorable consequences of Pakistan's double game continue to be ignored, he warns. In the ultimate analysis, global war on terror, he insists should go after Pakistan. It is a daunting task ! SP

Jayant Baranwal
Publisher and Editor-in-Chief

Indo-French exercise 'Shakti' concludes

An Indo-French joint military training exercise Shakti 2011 was held at Chaubattia from October 9 to 21, under the aegis of the Garud Division. The French Army was represented by four officers and 50 troops of the 13 Mountain Infantry Battalion while an equal number of officers and troops participated from Second Battalion of the Bihar Regiment, under the aegis of 99 Mountain Brigade of the Indian Army.

Exercise Shakti–11, the first ever Indo-French exercise between the two nations, aimed not only at training troops in counter terrorist operations but also in enhancing defence cooperation and military relations between the two nations. It provided an ideal platform for the personnel of the two countries to share their experiences on counter-terrorist operations; especially in mountainous terrain. The exercise was conducted in the areas adjoining the salubrious town of Ranikhet which provided an excellent opportunity for the contingents of the two countries to practise and rehearse drills and procedures related to operations in this rugged terrain.

The activities conducted during training includes familiarisation with weapons & equipment being used by both the countries, introduction to the organisation, concept and basic tactics at infantry company and platoon level and modalities of conducting complex operations like area domination patrols, cordon and search operations and search and destroy operations in counter-insurgency environment. Personnel from the French contingent also got a chance to fire infantry weapons being used by the Indian Army during day as well as night.

The training culminated in a 48 hours consolidation exercise in which troops of both nations carried out a daring search and destroy operation in the general area of Pilkholi village on the outskirts of Ranikhet. The troops had reached the area of operations after a gruelling march throughout the night and thereafter carried out a precise, well coordinated and executed operation to neutralise the two terrorists hiding in the dense forests of Pilkholi.

The highlight of the event was an audacious and surgical raid by heliborne commandoes of both armies on a simulated target. The commandoes of the French Army also employed their paragliding skills and laid effective stops by employing three paragliding commandoes during the raid.

The final phase of the exercise was reviewed by Brigadier General Herve Wattecamps and Colonel Bertrand Lavaux as representatives of France and Major General Rajesh Arya, Vishishtha Seva Medal, General Officer Commanding, 6 Mountain Division and Brigadier A.K. Yadav, Commander, 99 Mountain Brigade. SP

Armor X7 compact rugged tablet gets Sprint certification

DRS Technologies, a Finmeccanica company, announced that the Armor X7 compact rugged tablet has been approved for connectivity on the Sprint 3G network. This certification will enable Armor customers that utilise the integrated WWAN capabilities of the Armor X7 on Sprint's network to experience the benefits of a seamless data and communication exchange.

The Armor X7 underwent rigorous testing to achieve this certification. The tablet met several technical requirements, including: antenna performance, network selection, network impact, regulatory confirmation, and data connection management.

"Reliable connectivity is crucial to the mobile workforce. We're pleased that Armor has received this certification from Sprint as it means that Armor X7 customers will experience dependable wireless connectivity over the Sprint 3G network," said Mike Sarrica, Vice President and General Manager of DRS Tactical Systems.

At a weight of 2.85 lbs (1.3 kg), it offers hand-held mobility with a 7-inch (17.8cm) sunlight readable touch screen display. It features advanced wireless connectivity through integrated Gobi WWAN mobile broadband as well as Bluetooth wireless, integrated GPS, and 802.11 a/g/n WiFi.

Specifically designed for mission-critical tasks that require connectivity, mobility, ease of use, and the durability to support all-weather operations, it is certified for extremes in temperature, vibration, shock and drops, and carries an ingress protection (IP) rating of 65 for being highly resistant to dust and moisture.

The Armor X7 features the Intel Atom processor N450 and runs

PHOTOGRAPHS: PIB, Finmeccanica

Microsoft Windows 7 Professional. Other features include energy efficient touch-screen LCD display, new docking system, and new m-SATA solid-state drives from Intel in both 40GB and 80GB capacities. SP

Rheinmetall Nordic wins order in Malaysia

Rheinmetall Nordic AS of Nøtterøy, Norway, a member of the Rheinmetall Group of companies, has been awarded a contract to supply the Malaysian armed forces with the Vingtaqs II long-range surveillance, observation and reconnaissance system. Rheinmetall Nordic AS is the successor company of Simrad Optronics AS, which Rheinmetall took over in summer 2010.

With a total volume of around EUR 36 million, this is the largest single order ever booked by Rheinmetall Nordic AS or its predecessor Simrad Optronics AS.

The customer is DRB-Hicom Defence Technologies Sdn Bhd (Deftech) of Malaysia. The order also encompasses training, system integration and documentation.

The Vingtaqs II systems will be integrated into newly built AV8 all-terrain vehicles made by the Turkish company FNSS Savunma Sistemleri A.S., which are to be delivered during the period 2014 to 2018.

"This contract demonstrates the terrific market potential of our new Vingtaqs systems. What's more, because of our strong goal orientation and clear priorities, we were able to win this contract in less than two years", said Jon Asbjørn Bø, CEO of Rheinmetall Nordic AS.

The Vingtaqs II accurately determines target coordinates at long distances from the vehicle forward observer position. A stand-alone system, the Vingtaqs II can be integrated at low cost into a wide variety of vehicles. The system also accommodates instrumentation for laser-designated targeting, enabling it to support forward air controller operations. Moreover, thanks to a high degree of modularity, it can be readily configured to meet individual customer requirements. SP

Seapower seminar focuses on partnerships

An International Seapower Symposium was held in New Port, Rhode Island, under the aegis of the US Naval War College recently. The theme of the 20th edition of the symposium was "Security and Prosperity through Maritime Partnerships." More than 110 nations, with 75 heads of Navy and 22 heads of Coast Guard, attended the symposium.

The Chief of the Indian Naval Staff, Admiral Nirmal Verma drew the attention of the world leaders of navies and coast guards on the need for united action against piracy. Admiral Verma said: "The international efforts towards combating piracy would benefit if there were fewer disparate task forces and independent naval operations. India's relative autonomy of efforts towards combating piracy off Somalia can be traced to its preference for a UN mandated operations which we believe if adopted would holistically enhance the efficacy of operations." SP

PHOTOGRAPH: Lockheed Martin

Lockheed Martin gets US Army contract to maintain aerostat detection systems

The US Army awarded Lockheed Martin a $383 million contract to maintain, operate and sustain the persistent threat detection systems (PTDS). The tethered aerostat provides real-time, around-the-clock reconnaissance and surveillance of broad geographic areas for warfighters in Iraq and Afghanistan.

"The availability of timely intelligence is vital to protecting deployed personnel and high-value assets," said Jim Quinn, Vice President of C4ISR Systems with Lockheed Martin IS&GS-Defense. "Our PTDS team will continue to provide mission critical support directly to our warfighters."

Equipped with multiple sensors, PTDS is an aerostat-based system that delivers constant day and night, 360 degree detection, surveillance, monitoring and force protection

"Lockheed Martin has a 80-year heritage of providing lighter-than-air systems to the military, that provides a much needed capability to keep our men and women safe in theatre," said Colleen Arthur, Director of Integrated Defense Technologies for Lockheed Martin Mission Systems & Sensors. "PTDS is a highly effective combat-proven system, and provides eyes-on-target and real-time situational awareness for our warfighter." SP

Nexter Systems, L&T consortia for Indian Army artillery programme

Defence majors Nexter Systems of France and Larsen & Toubro Limited (L&T) of India signed an agreement announcing the formation of Nexter Systems led consortium for 155mm towed gun artillery programme for the Indian Army.

Under the proposal, Nexter will field Trajan, 155mm/52-calibre weapon system. Trajan offers enhanced firepower through quicker response, longer range and improved accuracy. It covers larger areas with fewer guns and favours initiative, manoeuvring and quick reaction time while minimising risks. Nexter has provided 145 towed guns systems to French Army and other armed forces.

"Joining forces between Nexter and Larsen & Toubro will bring through a fruitful cooperation, the development of the innovative 155mm towed gun that will better answer Indian Army needs," said Philippe Burtin, Chairman and CEO, Nexter Systems.

Larsen & Toubro, in association with Nexter Systems, will manufacture critical subsystems for Trajan which will integrate and provide required support for the gun system to the Indian Army. L&T brings to the consortium its track record of development of various weapon systems for Defence Research & Development Organisation and Indian armed forces across land, naval and air defence applications.

"L&T and Nexter consortium will endeavour to provide a winning solution to the Indian Army," said M.V. Kotwal, President, Heavy Engineering and Member of the Board, L&T. "Besides providing the most advanced artillery towed gun system to the Indian Army this partnership will also open up new avenues in the Indian and global defence markets for both the partners." SP

General Dynamics gets $1 billion to upgrade LAV III vehicles by Canada

Government of Canada has awarded a contract valued at C$1.064 billion ($1.052 billion) to General Dynamics Land Systems-Canada to incorporate a comprehensive upgrade package into the Canadian Army's fleet of LAV III combat vehicles.

The LAV III Upgrade Project will modernise 550 vehicles, significantly enhancing their survivability, mobility and firepower and extending the fleet's life cycle to 2035. Survivability upgrades will include the introduction of double-V-hull technology, an innovative enhancement developed by General Dynamics Land Systems-Canada engineers, as well as add-on armour protection and energy-attenuating seats. Together, these improvements will provide crew members greater protection against mine blasts, IEDs and other threats.

The upgrades represent the latest armoured vehicle technologies developed by General Dynamics Land Systems-Canada's engineers and its Canada-wide supplier base. Significant work will be performed at General Dynamics' facilities in London, Ontario, and Edmonton, Alberta, as well as the company's nationwide network of over 400 Canadian suppliers. All regions of Canada will benefit from this work, which is expected to be completed in 2017.

"Canadian soldiers need the best tools for the job and deserve the best protection we can give them," said Danny Deep, Vice President of General Dynamics Land Systems-Canada. "This contract will enhance the LAV III fleet's survivability, operational capability and long-term performance through the addition of cutting-edge technologies. It will also provide much-needed job stability throughout Canada's high-value defence sector."

The LAV III's automotive performance, handling characteristics and payload capacity will be optimised by the addition of mobility system upgrades such as a more powerful engine, more robust driveline and suspension, and a height management system (HMS). The 25mm turret's crew ergonomics will

be improved by incorporating larger hatches, and its capabilities will be enhanced by the addition of the latest technologies, including improved fire control, thermal, day and low-light sights, and data displays. SP

Northrop Grumman demonstrates advances in ground vehicle protection

Northrop Grumman Corporation has successfully demonstrated advanced technologies for ground vehicle protection and situational awareness at the Camp Roberts range.

In one of the test scenarios, Northrop Grumman simulated a typical convoy mission leaving a forward operating base. By using the company's smart integrated vehicle area network (SiVAN) and vehicle-mounted sensors, crews in multiple vehicles maintained situational awareness with each other and the tactical operations centre (TOC) under all-weather conditions. Connected to a wireless mesh network, the systems shared target information with other networked sensors and with the TOC. Operators were able to view imagery from several sensors.

"Military convoys are vital for resupply and force mobility in theatre, but they face a number of significant threats. Improving their safety was one of the goals of our testing at Camp Roberts," said Kay Burch, Vice President of communications, intelligence & networking solutions for Northrop Grumman's Land and Self Protection Systems Division. "The digital interoperability we demonstrated here will improve warfighters' situational awareness by giving them greater access to the information they need, when they need it."

SiVAN is a highly survivable, self-healing vehicle network that uses a simple plug-and-play interface to connect disparate technologies. With SiVAN, warfighters can easily add devices as needed and distribute the data throughout the network. SP

Defender sets sail on maiden voyage

Defender, the fifth Type 45 destroyer built by BAE Systems, recently set sail from the company's Scotstoun shipyard to embark on its first stage sea trials off the west coast of Scotland. Exactly two years since its launch on October 21, 2009, Defender will spend approximately three weeks at sea, during which she will undergo platform trials to test her speed, manoeuvrability, power and propulsion. Defender will also undertake weapons trials and tests to demonstrate her auxiliary and domestic services.

Paul Rafferty, Type 45 Programme Director at BAE Systems' Surface Ships business, said: "Defender's trials period will be the shortest yet of the Type 45 destroyers, as we have incorporated lessons learned from the build and in-service support of previous ships in the class. This is a major achievement and these latest sea trials will give us the opportunity to continue to build on this success and prove the outstanding capability of the latest Type 45 destroyer."

Defender will head to sea for second stage trials in early 2012, ahead of hand over to the Royal Navy in the latter half of the year. SP

PHOTOGRAPHS: USAF, PIB

Japanese Navy ships call at Kochi

JDS Takanami and JDS Ohnami, two destroyers of Japanese Maritime Self Defence Force (JMSDF), called at Kochi for a brief stopover on their way for anti piracy deployment in the Gulf of Aden. Captain Takaki Mizuma Commander Escort Division Six is the Senior Officer embarked. INS Nireekshak from Southern Naval Command welcomed the visiting ships at the entrance to Kochi harbor. Officials from Southern Naval Command along with the

Southern Naval Command band attended the reception arranged for the ships at their berth in Kochi harbour.

Colonel Nobutaka Mikasa, Defence Attaché of Japan to India, and the consulate officials from Chennai were present. The Commander Escort Division Six and other senior members of the delegation called on Rear Admiral Sudarshan Shrikhande, Chief of Staff Southern Naval Command. Mutual visits between the two navies and professional exchanges on topics of mutual interest were conducted. SP

LT GENERAL (RETD)
P.C. KATOCH

Consorting terror

During the Regional Conference on Security in South East Asia held in Bangladesh in August 2001, both Pakistani speakers (Dr. Shirin Mazari, Director General, Institute of Strategic Studies, Pakistan and Lt General Javed Hassan, Commandant, National Defence College, Pakistan) stressed to propagate low intensity conflict, guerrilla warfare and indirect intervention as a more viable option of modern-day war.

Shirin Mazari particularly stressed that low intensity conflict and unconventional means like guerrilla warfare, psychological warfare, including the use of terror, economic warfare and indirect intervention in the territory of a rival state, were more viable options to a conventional war, while also talking of the tool of subversion as a manner of tactics short of direct all out military confrontation; in effect enunciating Pakistan's state policy controlled by its military in the backdrop of a democratic facade.

So what Admiral Mike Mullen spoke before the US Senate Armed Services Committee on Afghanistan and Iraq on September 22 was mere reiteration. The Haqqani network has been manipulated repeatedly by the ISI (solely answerable to Kayani) in targeting Indians in Afghanistan including the attack on the Indian Embassy. There is no way that Pakistan will abandon the Haqqani network, given Pakistan's obsession with strategic depth, which in essence implies installing a radical regime in Afghanistan that owes its allegiance to Pakistan and get the Indians out of Afghanistan.

The US is going to find the situation getting much worse (with Pakistan continuing to suggest it does not need US aid) as it thins out NATO and US troops. The US diktat to Pakistan to go after the Haqqani leadership, will meet the same fate as Osama bin Laden – while US hunts in North Waziristan, the Haqqani leadership will be ensconced in ISI safe houses in Pakistani cities, as is already being hinted in the media. There have been assessments that the Haqqani network no longer operates from North Waziristan. It now operates from the Kurram agency of Pakistan.

The cadres and the training camps are in the Kurram agency, but the leaders, who are high-value targets for US drones, are spread out across Pakistan in order to escape drone attacks. The cadres carry out hit and withdraw raids into Afghanistan. Recent terror attacks in Afghanistan led Latifullah Mashal, Afghan intelligence official to state, "Six Afghans were recruited to undertake suicide attacks in Kabul, plan and coordinate bigger international attacks in the US and parts of Europe and at a luxury hotel in Kabul. They also were responsible for recruiting one of the key security guards of President Karzai's protective services. They had a plan to assassinate President Karzai, maybe during his travels or trips to the provinces... the individuals received explosives and weapons training in Peshawar in Pakistan."

The latest of course is the BBC Documentary "Secret Pakistan" providing latest proof of Pakistan's ISI (which is 100 per cent Pakistan Army) training, advising and directing the Taliban. Last December there were reports of Chinese military advisors assisting Taliban on how to fight NATO troops. So like India, Afghanistan too faces a joint China-Pakistan threat, no matter how inadvertent. It took more than a decade for the US to realise the threat from LeT. As the US prepares to hand over the lead role in Afghanistan to Pakistan, in exchange for an honourable exit and promise of no terror attacks on US soil, the inexorable mid- and long-term consequences of Pakistan's double game continue to be ignored. In the ultimate analysis global war on terror (GWOT) will eventually have to go after Pakistan—the spawn of global terror. SP

The views expressed herein are the personal views of the author.

As the US prepares to hand over the lead role in Afghanistan to Pakistan, in exchange for an honourable exit and promise of no terror attacks on US soil, the inexorable mid and long-term consequences of Pakistan's double game continue to be ignored.

IAF, RAF Oman joint exercise

A four-day joint exercise between the Indian Air Force (IAF) and the Royal Air Force of Oman (RAFO) concluded recently at Air Force Station, Jamnagar. The exercise, named "Ex Eastern Bridge - 2011" marks the second of the series, the first was held in October 2009 wherein six IAF Jaguars had operated at RAFO Thumrait, Oman. It is the first time that the RAFO Jaguars have participated in a joint exercise held in India.

The RAFO contingent comprised of six Jaguar aircraft and 115 personnel. RAFO Jaguars had ferried in directly from Thumrait and landed at Jamnagar. Two years back when the IAF contingent visited Oman, their Omani counterparts had expressed keen interest and desire to fly over Indian terrain which has a vast variation quite unlike the Omani flatbed desert. After having flown from Air Force Station in Jamnagar, they got to realise the challenges the IAF routinely encounters flying over the varying Indian landscape with deserts to the North and dense vegetation and hills towards South Gujarat.

The exercise involved a variety of flying missions from each other's best practices in terms of operational, maintenance and administrative procedures. The exercise gave vast exposure to the aircrew of RAFO and IAF, towards missions involving long duration sorties with in flight refuelling, large force strike packages, air to ground bombing and maritime strike roles routinely performed by the IAF both independently and in mixed operations. SP

Eurofighter delivers 300th Typhoon to the Spanish Air Force

The 300th Eurofighter Typhoon, produced by the four partner companies of the European consortium, was delivered on October 19 by Cassidian to the Spanish Air Force, Ejercito del Aire. This milestone makes the Eurofighter Typhoon the only new generation multi-role aircraft to reach the impressive figure of 300 examples in service.

The Eurofighter Typhoons – developed and manufactured by Cassidian in Germany and Spain, BAE Systems in the UK and Alenia Aeronautica in Italy – are now in service across the globe with 16 units in six air forces replacing 11 aircraft types. This confirms Eurofighter as not only the best performing multi-role aircraft available on the world market but also the most effective and best value solution to meet the air defence requirements of air forces and nations worldwide.

Till date, the fleet has completed over 1,30,000 flying hours with well above average operational availability and unmatched operational performance which was demonstrated recently during operations over Libya.

Enzo Casolini, Eurofighter GmbH CEO, said: "Today's milestone is another important example of how successful this joint European consortium is. The programme, the largest industrial collaboration in Europe, is a shining example of what can be achieved through cooperation, bringing together European capabilities; securing thousands of long-term jobs and generating a positive economic impact for the customer nations". SP

Alenia signs C-27J support deal with Lithuania

Alenia Aeronautica has recently signed a contract with the Lithuanian armed forces worth about euro 10 million to provide logistics support to the Lithuanian Air Force's C-27J aircraft.

The contract is for the supply of logistics support services to the client over a period of three years, covering the entire fleet of three C-27J aircraft operated by the Lithuanian Air Force. As well as providing the client with spare parts and ground support services, Alenia Aeronautica will also offer a specific on-site assistance service. SP

PHOTOGRAPHS: PIB, Cassidian, Alenia Aeronautica

IAF picks Boeing's Apache Longbow chopper

The Indian media is abuzz with reports that the Indian Air Force (IAF) has selected Boeing's Apache Longbow advanced attack helicopter. The media inference has come from a report from Moscow stating that the only other competitor, Russia's Mi-28 Night Hunter, had not passed the tender for 22 combat helicopters. There has been no official confirmation on the report as yet.

The multi-mission AH-64D Apache Longbow is the next-generation version of original AH-64A Apache. With its fire-control radar, the aircraft is known as the AH-64D Apache Longbow. Without the radar, the combat-proven aircraft is called the AH-64D Apache.

The radar-equipped AH-64D Apache Longbow features numerous enhanced capabilities, including longer-range weapons accuracy and all-weather/night fighting; detection of objects (moving or stationary) without being detected; classification and threat-prioritisation of up to 128 targets in less than a minute and integrated sensors, networking, and digital communications for situational awareness, management of the combat arena in real time, and digital transmission of images and target locations to joint operations battlefield commanders.

The twin-engine tandem seat Apache is operated by two pilots, and can execute an attack within 30 seconds of an alert. It is equipped with Northrop Grumman's highly sophisticated millimetre wave Longbow fire control radar and Lockheed Martin's Hellfire and Raytheon's Stinger missiles. The Block III is the latest version being delivered to the US army from this year. Apache has a strong shell made of composite fibres to protect the pilots and sensitive components from bullets. SP

PHOTOGRAPHS: US Navy, Boeing

France–upgrade of E-2C Hawkeye aircraft

The Defense Security Cooperation Agency has notified the US Congress of a possible foreign military sales (FMS) to France for the upgrade of four E-2C Hawkeye aircraft and associated equipment, parts, training and logistical support for an estimated cost of $180 million.

France had requested a possible sale of the upgrade of four E-2C Hawkeye aircraft with weapon system sensor upgrades with mode 5/S identification friend or foe (IFF). Included are 5 APX-122 IFF mode 5/S interrogator systems, 5 APX-123 IFF mode 5/S transponder systems, and 5 ALQ-217 electronic support measure systems.

In addition, this proposed sale will include related spare and repair parts, support and test equipment, weapon system support, development, publications and technical documentation, integration and testing, personnel training and equipment, US Government and contractor engineering and logistics personnel support services, and other related elements of logistics support. The estimated cost is $180 million.

France's current IFF Interrogator, transponder, and electronic support measures is old technology and requires upgrading to the most current technology. The proposed sale will give France Mode 5/S capabilities. France intends to incorporate these systems into its E-2C Hawkeye Navigation upgrade aircraft. France has significant experience in operating and maintaining modern weapon systems and infrastructure required and will have no difficulty absorbing these systems into its armed forces. SP

Argentina – C-130H avionics upgrade

The Defense Security Cooperation Agency has notified the US Congress of a possible foreign military sales (FMS) to Argentina for commercial-off-the-shelf avionics upgrade of five C-130H aircraft, as well as associated equipment, parts, training and logistical support for an estimated cost of $166 million.

The Government of Argentina has requested a possible purchase of commercial-off-the-shelf avionics upgrade of five C-130H aircraft that includes minor class IV modifications, ground handling equipment, repair and return, spare and repair parts, support equipment, publications and technical documentation, tools and test equipment, personnel training and training equipment, programmed depot maintenance, US Government and contractor engineering, technical, and logistics support services, and other related elements of programme support.

The proposed sale will improve Argentina's capability to meet current and future needs for its existing C-130 fleet. Argentina uses its C-130 in humanitarian and Antarctic missions. Argentina, which already has C-130s in its inventory, will have no difficulty absorbing the upgraded systems into its armed forces. The proposed sale will enhance US and Argentine Air Force relations. SP

Boeing completes delivery of RAAF Super Hornets

Four new Boeing F/A-18F Super Hornets joined the Royal Australian Air Force (RAAF) Super Hornet fleet at RAAF Base Amberley recently, completing delivery of all 24 RAAF Super Hornets ahead of contract schedule.

The arrival at the base was marked by the four new Super Hornets joining 16 other RAAF F/A-18Fs for a dramatic 20-aircraft flyover.

"The Super Hornet provides a major advancement in capability for the RAAF and the entire Australian Defence Force," said RAAF Group Captain Steve Roberton, Officer Commanding 82 Wing. "The F/A-18F employs the world's most advanced combat radar, ensuring our forces have a clear advantage in both technology and capability, whether conducting air, ground or maritime operations."

"The Super Hornet's ability to collect and seamlessly distribute information to our other platforms is proving to be invaluable as a true force multiplier," Roberton added.

"Boeing made a commitment to RAAF, and to the citizens and Government of Australia, promising that these advanced Super Hornets would be ready to join the RAAF fleet on time and on budget," said Dennis Muilenburg, President and CEO of Boeing Defense, Space & Security. "The men and women of Boeing are incredibly proud to have delivered on that promise." SP

Brazilian C295 fleet reaches 25,000 flight hours

Brazilian C295 fleet, consisting of 12 Airbus Military aircraft, has reached 25.000 flight hours after six years of successful operation in Amazonia and Mato Grosso, two big areas where these airplanes are vital for the local population.

These aircraft are working in particularly difficult environments, carrying out operations like the transport of basic necessities, medical evacuation and military missions, from the bases of Manaus – in Amazonia– and Campo Grande – in Mato Grosso – with the support of the maintenance center PAMA Sao Paulo.

"We are very proud to see the C295 operating so successfully with the Brazilian Air Force. Passing these 25.000 flight hours is a clear demonstration of the reliability and versatility the C295 offers to the Air Force, operating in difficult areas", said Philippe Galland, Airbus Military Head of Customers Services.

The contract between the Brazilian Air Force and Airbus Military was signed in 2005. The contract also included maintenance for five years, which was extended in 2010 for another five years.

Till date, Airbus Military has sold 83 C295 aircraft to 12 different operators. SP

Eurocopter showcases Surion at Seoul Show

Eurocopter has been supporting Korea Aerospace Industries (KAI), who is the producer of the Surion, as a primary partner in the Korea Utility Helicopter (KUH) programme. To ensure its full support, Eurocopter has set up a full-fledged subsidiary, KHDS, to provide technical assistance for the programme since 2006.

In January 2011, Eurocopter and KAI then set up a joint venture, KAI-EC, for the marketing and sales of the Surion for the export market, projecting a sales volume of about 250-300 units worldwide in the next 10 years.

"South Korea has been our customer for over 30 years, and it has always been one of our key markets in Asia," stated Eurocopter President & CEO Lutz Bertling. "We have also enjoyed a very fruitful partnership with KAI over the years, as can be seen in the success of the Surion programme whose development phase has been outstandingly on time. Together with KAI, we will help to fuel the growth of the country's aerospace industry by developing indigenous products that will have great export value."

Surion is an 8.7 tonne helicopter which can carry 2 pilots and 16 troops (or 2 pilots plus 2 crew and 9 troops). 245 units of the Surion will be manufactured from 2011, to replace the Republic of Korea (RoK) Army's ageing fleet of utility and transport helicopters.

The six-year KUH development phase ran from 2006 to 2011 and it has successfully completed the initial flight test on March 2010, with the first Surion scheduled to be delivered in the third quarter of 2012.

KNH is the Surion naval derivative proposed for the RoK Navy. It is being developed by KAI in partnership with Eurocopter and Elbit, using their extensive specialist experience, as the ideal aircraft for the RoK Navy and other modern naval or maritime forces. SP

PHOTOGRAPHS: RAAF, Airbus Military, Korea Aerospace Industries

Northrop Grumman completes lot 1 deliveries of LITENING G4 targeting pod

Northrop Grumman Corporation has completed delivery of the first 50 LITENING G4 advanced targeting (AT) pods under a $277.8 million indefinite delivery, indefinite quantity contract from the US Air Force.

"Completing Lot 1 is an important milestone because it puts a significant capability in the hands of our war fighters," said Jim Mocarski, Vice President of Electro Optical/Infrared Targeting Systems at Northrop Grumman. "It also demonstrates our expanded production and upgrade capacity to execute Lot 2, our Marine Corps G4 and US Air Force advanced targeting pod – sensor enhancement orders."

The LITENING G4 advanced targeting pod

is the newest addition to the company's LITENING family of targeting pods, delivering the latest advancements in sensor, laser imaging and data link technology. LITENING G4's full 1Kx1K forward looking infrared and charge-coupled device (CCD) sensors, wider field of view and enhanced zoom deliver more accurate target identification and location at longer ranges than previous generations of LITENING targeting pod systems. The short wave infrared laser imaging provides a unique capability to capture images in situations where forward-looking infrared and CCD are ineffective.

"The prior generation LITENING AT pods are upgradable to the G4 configuration," Mocarski said.

Northrop Grumman has delivered over 550 targeting pod systems to US and international customers. These systems have maintained an operational availability greater than 98 per cent, and have flown more than 5,40,000 combat flight hours. LITENING G4 has begun full operations at its first military base. SP

PHOTOGRAPHS: USAF, Northrop Grumman

New airlift routes provide new possibilities

Planners here teamed with planners from the US Transportation Command and the aircrew of a C-5M Super Galaxy to open a new non-stop route from the US to Bagram Airfield, Afghanistan.

The flight marked the first time a C-5 has flown this route from the United States East Coast, across the Atlantic Ocean, then over Europe into Afghanistan, officials said. The total flight time was less than 14 hours, cutting time off of traditional routing and eliminating the need for crews to rest overnight in Germany. The new route also enhances the ability of air mobility forces to respond worldwide despite challenging environments including volcanoes, floods, natural disasters or weather-related diversions.

"This was a huge collaborative effort," said Harold Guckin, Chief Planner for the Contingency Channel Operations Directorate.

The success of the flight also required in-flight refuelling over England by a KC-135R Stratotanker from the 100th Air Refuelling Wing at Royal Air Force Mildenhall, England. SP

Embraer strengthens partnership with Brazilian industry for KC-390 Program

The Brazilian company AEL Sistemas, based in Porto Alegre, was selected by Embraer Defense and Security to supply three more components to the KC-390 military airlifter and tanker jet: the self-protection system (SPS); the directed infrared countermeasures (DIRCM); and the head-up display (HUD).

Embraer is developing the KC-390 under a contract with the Brazilian Air Force (FAB), that has the final word on the selection of suppliers for systems considered as strategic, such as propulsion, avionics, mission, self-protection, cargo handling and aerial delivery, among others. AEL was selected by Embraer, last September, to supply the new jet's mission computers. The aircraft flight tests will begin in 2014, and first delivery is expected for 2016.

"The KC-390 is being designed to operate all over the world, in different scenarios, with the same outstanding performance," said Eduardo Bonini Santos Pinto, Vice President Operations & COO, Embraer Defense and Security. "The selection of the main suppliers is of utmost relevance for us to achieve our commitment with the Brazilian Air Force of placing the KC-390 at the highest technology standard, as a unique aircraft that will add much value for Brazil."

Shlomo Erez, President of AEL, commented: "We are very proud to have been selected to provide Embraer's KC-390 with our cutting-edge technological systems – the SPS, DIRCM and HUD – in addition to the mission computer that has already been selected. This selection attests to AEL's relevance to the most advanced aircraft industries, and we are pleased to have this opportunity to share our know-how and proven experience with our partners Embraer and the Brazilian Air Force." SP

PHOTOGRAPH: Aerovironment

'Kamikaze drone' in the making

Kamikaze pilots or pilots on a suicide mission, first came to light during World War II. Now men need no longer give up their lives in a war in such fashion as new drones are being developed with suicide mission capabilities.

According to reports, part missile, part intelligence, surveillance and reconnaissance tool, the new drone locks on its enemy target and crashes into it, delivering a lethal attack.

The drone's maker, AeroVironment, is calling it the Switchblade. The Army awarded the company a contract worth almost $5 million for the system.

AeroVironment announced that it received a contract from the US Army Close Combat Weapons Systems (CCWS), Program Executive Office Missiles and Space (PEO MS). The $4.9 million contract for the Switchblade agile munition includes engineering services and operational systems for deployment with the US Army.

This award represents the culmination of years of development, testing, demonstrations and customer evaluations. The prototype Switchblade system previously received safety confirmation and underwent military utility assessment with the US Army in the fall of 2010. The award is for rapid fielding of this capability to deployed combat forces.

The Switchblade air vehicle launches from a small tube that can be carried in a backpack and transmits live colour video wirelessly for display on AeroVironment's standard small unmanned aircraft system (UAS) ground control unit. Upon confirming the target using the live video feed, the operator then sends a command to the air vehicle to arm it and lock its trajectory onto the target. Flying quietly at high speed the Switchblade delivers its onboard explosive payload with precision while minimising collateral damage. With the ability to call off a strike even after the air vehicle is armed, Switchblade provides a level of control not available in other weapon systems.

"The unique capabilities provided by the Switchblade agile munition for standoff engagement, accuracy and controlled effects make it an ideal weapon for today's fight and for US military forces of the future," said Bill Nichols, Deputy Product Director at the Army's Close Combat Weapons Systems project office.

Instead of requiring support from weapon systems controlled by other operating units, operators will be able to use the ground launched Switchblade variant to respond to enemy combatants with precision fire from a significant standoff distance, when and where required.

"Our dedicated team developed this breakthrough solution with a focus on satisfying important customer needs," said Tom Herring, AeroVironment Senior Vice President and General Manager of Unmanned Aircraft Systems. "Just as our small unmanned aircraft systems provide game-changing reconnaissance capabilities to ground forces, Switchblade provides a revolutionary rapid strike capability to protect our troops and give them a valuable new advantage on the battlefield."

"The Switchblade is designed to provide the warfighter with a 'magic bullet.'"

While it is in flight, the drone's operator can view the video it transmits at a ground control unit. The operator can identify and lock on a target, and then command the drone to crash. Even after arming the drone, AeroVironment said, the operator can call off the strike, which provides troops with "a level of control not available in other weapon systems".

Billed as a "powerful but expendable" device, the Switchblade is a major change from the larger multimillion-dollar armed drones the military uses, like the Predator and Reaper. Those drone systems, which consist of four drones each, cost $20 million and $53.5 million respectively. SP

Turkey seeks partner for naval copter drones

To boost Turkey's naval intelligence capabilities, military and procurement authorities here have launched a new programme for the co-production of unmanned helicopters.

Officials with the Undersecretariat for Defense Industries (SSM) said the procurement office likely will release requests for proposals before the end of the year.

"The competition will be open to foreign bidders, but they will have to agree to work with a Turkish prime contractor," a spokesperson said.

Industry sources said the local prime contractor most likely will be Tusas Turkish Aerospace Industries (TAI). Last December, TAI's first unmanned helicopter prototype, the Sivrisinek, made successful test flights equipped with the Cirit, an indigenous rocket developed by Turkish missile maker Roketsan.

The co-production programme will involve an initial batch of up to 30 unmanned helicopters.

Procurement officials said the initial specification for the unmanned platform is a range of 180 kilometres and a flight time of up to 10 hours. In its first test, the Sivrisinek flew for an hour and a half. According to planned contract specifications, the helicopters must be able to perform vertical takeoffs and landings since they will operate from ships. SP

US spends billion dollars on UAV data links and ground-control stations

The US Department of Defense (DOD) spending for unmanned aerial vehicle (UAV) data links and UAV ground-control stations exceeded $1 billion in federal fiscal year 2010, report market researchers at Frost & Sullivan.

The DOD spending in 2010 was $797.8 million for UAV data links, and $209.8 million for UAV ground-control stations, Frost & Sullivan said in the report US Department of Defense: Unmanned Aircraft System (UAV), Ground Control Stations and Data Links.

UAV data link and ground-control station spending reflects DOD efforts to use UAVs in multi-purpose and multi-role support functions, and adapt a control architecture that is open, standard, scalable and that enables operators to control several UAVs from a common control system, Frost & Sullivan analysts say.

UAV-related tactical data links, meanwhile, accounted for nearly half of DOD spending for data links,. Tactical data links exchange information and situational awareness during combat.

The US Navy consumed most of the UAV-related data link contracts, accounting for 85.9 per cent of the total spent by all the services in 2010. Updates to common data link (CDL) specification and developmental systems will influence more than 10,000 DOD airborne and ground intelligence, surveillance and reconnaissance (ISR) systems.

Increased dependence on UAVs also will drive the need for redundant anti-jam data link capabilities.

Defence against electromagnetic pulse requires solutions such as shielding and redundancy. Emerging technology such as the US Army's federated universal synchronisation engine (FUSE) that will combine video feeds and sensor data from several UAVs on one ground control station also may find a niche within the ground-control station market.

The migration towards standardised ground-control station software will open opportunities for companies that have established a foothold in the ground-control station market, analysts say. Other opportunities will involve UAV electronic warfare, data link encryption, and laser weapons. SP

PHOTOGRAPH: USAF

Harfang passes 5,000 flight hour milestone

On October 15, the Harfang medium-altitude long endurance (MALE) unmanned aircraft logged its 5,000th combat flight hour. All of these hours were flown in Afghanistan and over Libya, and amount to about 560 sorties. Its role was reconnaissance and surveillance of Libyan territory.

Harfang has operated in Afghanistan since February 2009 in support of French and foreign forces of the international coalition. It carries out, by day and night, a wide range of missions such as the surveillance of villages, convoy escort, search for improvised explosive devices (IEDs) as well as the distribution of intelligence data to ground troops.

During Operation Harmattan carried out over Libya, Harfang was also deployed to Sigonella air base, in Sicily, from which it flew its first operational sortie on August 24. SP

AEgis largest provider of 3D visualisation for unmanned vehicles

The AEgis Technologies Group is now the largest provider of 3D visualization and embedded training devices for unmanned systems. More than 2,700 licences have been purchased for Vampire (visualisation and mission planning integrated rehearsal environment) embedded training software for Raven, Wasp and Puma AE small unmanned air vehicles. AEgis is delivering licences to the US Army, US Air Force, US Navy Special Warfare elements and US Marine Corps.

"All of us at AEgis Technologies are extremely excited about the success of the Vampire training product," said AEgis President & CEO Steve Hill. "We are continually receiving exceptionally positive feedback directly from the warfighters about the effectiveness of this tool for familiarisation, training and mission rehearsal. It is very gratifying for our team to 'Make a Difference' as that is our primary corporate mission." SP

AAI delivers Aerosonde and Orbiter UAVs to the US Army

AAI unmanned aircraft systems (UAS) announced on October 26 that it has delivered an Aerosonde Mark 4.7 small unmanned aircraft system and an Orbiter miniature UAS to the US Army Communications-Electronics Research, Development and Engineering Center (CERDEC).

The systems will support the five-year cooperative research and development agreement (CRADA) into which the organisations recently entered, enabling AAI UAS and CERDEC to work together on various payloads for three classes of UAS — tactical, small and miniature, also known as Groups 3, 2 and 1. SP

AAI introduces next-gen Shadow M2 tactical UAS

AAI unmanned aircraft systems (UAS), an operating unit of Textron Systems, a Textron Inc. company, introduced the Shadow M2 tactical unmanned aircraft system (TUAS) at the Association of the US Army (AUSA) 2011 Annual Meeting & Exposition.

The Shadow M2 is the next generation of AAI UAS' renowned, battle-proven Shadow 200 TUAS, which has amassed nearly 7,00,000 flight hours with customers including the US Army and Marine Corps.

With a wingspan of 25 feet, the Shadow M2 aircraft offers greater endurance for longer mission capacity, as well as execution of new mission profiles. Increased payload volume, dual payload bays and external wing hard points provide additional room for avionics, mission equipment, communication solutions and sense-and-avoid equipment. SP

Thales to study UAS command and control by satellite

Thales Alenia Space has won a contract from the European Space Agency (ESA) to lead a nine-month study regarding satellite communications solutions for unmanned aircraft systems (UAS).

The emerging system concepts for UAS command & control via satellite (ESPRIT) study will focus on the provision of communication capacity for command & control (C2) links to unmanned aircraft vehicles (UAVs) flying through civilian airspace. As of today, UAVs are operated exclusively in so-called "segregated airspace" where they do not interfere with non-military aircraft.

As the leader of an industrial consortium for ESPRIT, Thales Alenia Space will study solutions at both spectrum and system levels. To cover all aspects of the domain, its team includes major actors in the aeronautical satellite communications, UAS, space systems and regulatory issues. SP

South Korea developing VTOL UAV

South Korea is developing its first indigenous vertical take-off and landing (VTOL) aircraft. Sikorsky has partnered with Korea Aerospace Research Institute (KARI), which has been developing the Smart unmanned air vehicle (UAV) tiltrotor for about nine years.

South Korea is developing a tiltrotor type of UAV which has the same vertical-takeoff capability of a helicopter but still retains the speed and range of a traditional, winged aircraft. SP

PHOTOGRAPHS: US Army, KARI

UAV research takes off with NSF grant

Aerospace engineering Professor Subodh Bhandari has received a $3,60,000 grant from the National Science Foundation (NSF) to continue research on the development of robust controllers for unmanned aerial vehicles (UAVs).

The department has a variety of UAVs, from remote-controlled airplanes to the Yamaha R-MAX helicopter, which was a gift valued at $2,00,000 from Northrop Grumman.

"We have the equipment and hardware available," Bhandari says. "We need mostly time, time for faculty and undergraduate students to work on these research projects."

At Cal Poly Pomona, faculty and students are developing custom controllers that will allow UAVs to fly on autopilot. Without someone in the cockpit, the control system must be programmed to handle all elements and situations, including changes in flight conditions, wind and other flying objects. That involves hundreds of hours of flight testing in the field and in the wind tunnel, collecting data and programming. Each control system is also customised to each aircraft in order to maximise its flying abilities.

"They're specifically tailored for high performance," says Matthew Rose, an aerospace engineering senior. "We're designing them to be more nimble, easier to move, easier to work with."

Developing custom controllers is time- and labour-intensive, says aerospace engineering junior Hovig Yaralian. A team of full-time engineers and programmers needs about a year to develop one, which translates into two or three years for a student team, Yaralian says.

The NSF grant will involve faculty and students from aerospace engineering, electrical and computer engineering, engineering technology, and computer science. Bhandari, who says UAV projects are collaborative by nature, hopes to bring in additional funding and partnerships with companies and other universities.

"Local industries like Northrop Grumman and Boeing want our students to work in a collaborative environment," Bhandari says. "That's why this project is good." SP

Security market moving towards integration of systems: Report

The civil security market in the United Kingdom is moving towards the integration of systems. The aim is to ensure that all segments can be managed from a single platform, reducing operational costs and increasing technology efficiency. The demand for integrated security solutions is primarily concentrated in airports, both for existing and new infrastructure.

New analysis from Frost & Sullivan finds that the market earned revenue of £310 million in 2010 and estimates this to reach £388 million by 2020. Between 2010 and 2017, the market is likely to see cumulative revenue of £2.8 billion from the airports, energy, borders and mass transport sectors.

"Increasing passenger throughput is underlining the urgent need for integrated solutions in airports. Integration of all airports systems, including security, is seen by operators as the best way to manage passenger flows more efficiently," notes Frost & Sullivan Programme Manager Balaji Srimoolanathan. "In the future, the market is likely to be characterised by integration as opposed to the procurement of new systems."

Security system integration projects, that are designed to merge the existing disparate systems, are expected to continue for at least the next three years. Success in this market is expected to lead to an increasing number of integration projects throughout the UK.

"However, many security authorities have expressed a strong sense of disappointment with the level of funding required to implement cutting-edge security technologies and systems," explains Srimoolanathan. "This has led them to redirect their security budgets towards more manpower-intensive solutions or towards solutions that offer slightly less capabilities but have been commoditised to the point that they offer a greater level of cost efficiency."

Private enterprises operating in a competitive environment are primarily interested in improving the customer experience, while managing costs. Therefore, in addition to demonstrating the functional benefits of their security solutions, suppliers must provide evidence that these solutions can lead to reduced operator costs in the long term. Operators look for ways to maintain high standards of security at lower costs, especially during recessionary times.

"System integrators are in a strong position to market the cost-cutting benefits of their solution," remarks Srimoolanathan. "Although start-up spend is high, an integrated security network allows operators to cut costs in the long term and improve profitability." SP

Crime in India has increased by nearly 5 per cent

Crime in 2010 has increased by 4.9 per cent compared to 2009. In 2010 a total of 22,24,831 crimes were reported under Indian Penal Code against 21,21,345 cases in the year 2009. Murder cases during the year 2010 (33,335) went up by 3 per cent as compared to 2009 (32,369).

This has been revealed in the "Crime in India 2010", a publication brought out by the National Crime Records Bureau (NCRB), New Delhi. The publication was recently released by the Union Home Minister P. Chidambaram in the presence of N.K. Tripathi, Director General, NCRB and B. Bhamathi, Additional Secretary, Ministry of Home Affairs. This report is widely referred by policymakers, police personnel, researchers, NGOs, media persons and other stake holders.

"Crime in India 2010" throws light on the crime scenario in the country for the year 2010. Cases under the following heads shown an increasing trend in the year 2010 compared to 2009 - Attempt to commit murder increased by 1.3 per cent, rape cases by 3.6 per cent, kidnapping and abduction cases by 13.5 per cent, robbery cases by 4.4 per cent and dowry deaths by 0.1 per cent. Crime against women during 2010 (2,13,585) has gone up by 4.8 per cent compared to 2009 (2,03,804). Crime against children has also gone up by 10.3 per cent in 2010 (26,694) compared to 2009 (24,201).

Crime against scheduled castes declined by 2.6 per cent in 2010 (32,712) compared to 2009 (33,594). Crime against scheduled tribes during 2010 (5,885) has shown an increase of 8.5 per cent as compared to 5,425 cases in 2009. SP

Reliance ties up with Siemens

Reliance Industries Ltd (RIL) is entering India's fast growing homeland security service business which is expected to grow to over $13 billion by 2014. Recently, Reliance Security Solutions, a subsidiary of RIL, signed a memorandum of understanding (MoU) with Siemens to jointly develop homeland security solutions in India.

RIL said the objective of the partners is to provide safe, secure, smart cities and highways in India. "The Indian security market is expected to be one of the largest growing markets in the world over the next decade and this initiative will result in India joining a select set of advanced nations, which are beginning to use 4G wireless networks for law enforcement purposes," RIL said in a statement.

The role of surveillance has assumed a great level of importance considering the fact that insurgency and terrorism have become a global phenomenon. "With the traditional security platforms being inadequate to address these new challenges, there is an emerging need to move over to intelligent electronic security solutions," RIL said.

"Reliance and Siemens will combine to leverage the 4G network for the low latency and assured quality of service required for video and security applications," RIL said. Reliancet has designed and operates the world's largest integrated security automation system consisting of over 12,000 cameras apart from other advanced security sensors, radars and video analytics etc. Indian companies such as Tata, Larsen & Toubro and Mahindra are already present in the homeland security space.

The venture is headed by Dr Vivek Lall who is President and CEO of Reliance Security Solutions. SP

Chinese-Russian security and energy relations are crumbling, says SIPRI

China's rising global influence is straining its strategic partnership with Russia. Decreasing dependence on Russian arms exports and a growing number of alternative energy suppliers mean that China has taken the upper hand in the relationship, according to a new report by the Stockholm International Peace Research Institute (SIPRI), launched recently in Stockholm.

The report "China's Energy and Security Relations with Russia: Hopes, Frustrations and Uncertainties" presents analysis and insights based on interviews with both Chinese and Russian experts on the mutual perceptions and developments of the China–Russia relations.

Between the collapse of the Soviet Union in 1991 and 2010, more than 90 per cent of China's imported major conventional weapons were supplied by Russia. Since 2007 there has been a dramatic decline in the volume of Chinese arms imports from Russia. China is today mainly interested in acquiring technology to further develop its own arms industry, which is increasingly capable of meeting both domestic needs and export demand.

"Russia is unwilling to provide China with advanced weapons and technology primarily because it is concerned that China will copy Russian technology and compete with Russia on the international arms market," says Dr Paul Holtom, Director of the SIPRI Arms Transfers Programme and one of the authors of the report. "The nature of the arms transfer relationship will increasingly be characterised by competition rather than cooperation."

As of 2009 Russia became the world's largest producer of oil and second largest of natural gas, whereas China, which shares a 4,000-kilometre border with Russia, surpassed the US in 2010 to become the world's largest energy consumer. Despite these complementarities, Russian crude oil constitutes a smaller share of China's overall oil imports compared with five years ago. China has strategically diversified its suppliers. Its largest oil supplier is Saudi Arabia, followed by Angola, Iran and Oman. In the gas sector, Russia's negotiating position has been seriously weakened by China's success in finding other partners, especially in Central Asia.

The US factor hinders genuine cooperation China and Russia do not share a deeper world view. While China and Russia still often take similar positions on significant global issues in opposition to the United States and share a dislike of a unipolar world, for both China and Russia individually their relationship with the US is paramount. Furthermore, there are strategic planners in Beijing and Moscow who view the other side as the ultimate strategic threat in the long term.

"The China-Russia partnership is plagued with problems. In reality cooperation is not as smooth as depicted in official rhetoric by top leaders on each side," says co-author Linda Jakobson, formerly with SIPRI and currently at the Lowy Institute for International Policy. "Above all, both countries approach the relationship pragmatically. When interests converge, Beijing and Moscow collaborate, but when interests diverge the strategic partnership has little meaning. Genuine political trust is lacking." SP

PHOTOGRAPH: Indian Coast Guard

Interceptor boat joins Coast Guard fleet at Porbandar

Vice Admiral Anil Chopra, Director General, Indian Coast Guard, commissioned the Indian Coast Guard Ship (ICGS) C-153 at Porbandar recently.

The ICGS C-153 is the 11th and the last in the series of 11 interceptor boats (IBs) built by ABG Shipyard, Surat. C-153, on commissioning will be based at Veraval. With the induction of C-153, the security off the coast of Gujarat will be greatly enhanced. This boat is of 30 metres in length and of 90 tonne displacement. C-153, commanded by Comdt LM Gajbhiye, has 11 crew onboard. This waterjet-propelled vessel has an endurance of 500 nm at 25 knots and is capable of doing high speed up to 45 knots. The vessel is fitted with latest state-of-the-art navigation, communication equipment and armament, thus making it an ideal platform for close coast/shallow water operations. SP

Doctrine to establish rules of engagement against cyber attacks

New doctrine under review by the Joint Staff will lay out rules of engagement against an attack in cyberspace, the commander of US Cyber Command has said.

The doctrine, once adopted, will help to define conditions in which the military can go on the offensive against cyber threats and what specific actions it can take, Army General Keith B. Alexander told reporters at an International Systems Security Association conference here.

It will support the Defense Department's strategy for operating in cyberspace, released in July, and President Barack Obama's international cyberspace strategy, the General added.

Once the doctrine is approved, Cyber Command will put out guidance to its cyber warriors spelling out, "Here is how we operate in cyberspace," and tailor its training accordingly, Alexander said. In the meantime, the laws of land warfare and law of armed conflict apply to cyberspace, he said. The challenge, he explained, is how to translate laws that govern physical space to cyberspace — now a fifth domain of conflict.

"That is what the Defense Department and others are working right now: to come up with the standing rules of engagement and those different parts," he said.

Among issues the Defense Department is considering, Alexander said, is what constitutes a war in cyberspace.

The United States also must determine what represents a reasonable and proportional response to a cyber attack, he said. The law of armed conflict authorises a reasonable, proportional defence against a physical attack from another country. Extending that logic to cyberspace, Alexander said, it remains unclear if it includes authority to shut down a computer network, even if it's been taken over by a malicious cyber attacker intent on destruction.

If it does, also left unanswered so far is who would have that authority: the FBI, the National Security Agency, the military, the Internet service provider or another entity.

"That is something policymakers are going to have to tell us: 'Here is what you are authorised to do,'" Alexander said. SP

New cloud continuity solution for SMBs

Research by Contingency Planning, Strategic Research Corporation, and DTI/PricewaterhouseCoopers found that the effect of downtime and data and application loss on small to medium enterprises caused 70 per cent of small firms to go out of business within a year of the event; a new cloud-based continuity service addresses this problem.

US-based Axcient has launched its Axcient cloud continuity which the company claimed enables businesses to launch all of their servers in Axcient's Cloud with just a couple of clicks. "With Cloud Continuity, SMBs now have total business continuity for the first time," the company says. When local servers fail, users can run a virtual office on Axcient's cloud platform allowing employees to continue working on their data and applications — from any Internet-enabled device at any location – regardless of what happened to being the server down.

Cloud Continuity does not require users to make changes to their network environment, install software, or make upfront investments. The company offers Cloud Continuity as a monthly service. Cloud Continuity is built on HP hardware and will be available in early November 2011. SP

General Dynamics wins $86 million to support DIA cyber security

General Dynamics Information Technology, a business unit of General Dynamics, has been awarded an $86 million task order to provide information assurance and cyber security services to the Defense Intelligence Agency (DIA) in the US and worldwide.

The single-award task order, competed under the solutions for the information technology enterprise (SITE) contract, will extend to May 2016 if all options are exercised.

General Dynamics will provide services to ensure the security, authenticity, integrity and confidentiality of the DIA's information, as well as computer network defence of the DIA's enterprise-level assets, networks, security domains and data resources globally.

"General Dynamics will provide the highest level of information assurance and cyber security support to DIA's enterprise, networks and security domains," said Thomas Kirchmaier, Senior Vice President and General Manager of General Dynamics Information Technology's Intelligence Solutions Division. "Our cadre of cyber professionals has over 40 years of experience supporting the DIA worldwide and will provide unparalleled service." SP

PHOTOGRAPH: DoD US

Supersizing
robotic system capabilities

Robots on the battlefield remain among the most exciting advancements of technology's meet-up with warfare since the machine gun, but as with any other modern tech luxury, these once-fascinating soldier-must-haves need for more capabilities has been supersized.

Military, industry and academia are combining resources to upgrade fielded combat robots through proofs of concept they've designed under the US Army Research Laboratory-managed Robotics Collaborative Technology Alliance, which formed in 2010. This is so teleoperated systems like Talons and iRobot Packbot can become autonomous, meaning, "a soldier doesn't have to use a joystick to direct a robot to a location. He can treat it like another soldier and tell the robot to go down the road and peer into a window. It would be as a good as a soldier but if the robot gets shot, at least we don't lose a soldier," said Dr Jonathan Bornstein, ARL's collaborative alliance manager in Aberdeen, Maryland.

Already, a team of researchers who first met as part of this collaborative alliance combined technological ingenuity to morph the Talon, a man-portable tracked vehicle, into a new autonomous system for small robots, equipped with customised sensors, an in-house INS/GPS unit, a 360-degree camera system and a 360 LADAR scanner. Together, these allowed for greater obstacle detection and 3-D mapping. The new system also included upgraded power distribution boards, e-stop system, Ethernet radios, control computers and the code for running the system. It was showcased at the MAGIC 2010 competition in Australia, and placed third across the globe. Work on the autonomous Talon will continue under the Robotics CTA, Bornstein said, to enable further development of autonomous mobility technology for small unmanned ground vehicle systems.

Robot autonomy can be a touchy subject though, because many solutions, although unmanned, are actually teleoperated, even from distances as far away from military operations as Las Vegas like the Predator was during the Bosnian conflict. To arrive at a truly autonomous state, Bornstein said, robots will need to be given "basic behaviours much like we do a trained dog; we'd be doing good then."

That means, robots will need to be programmed to perceive, understand and easily adapt to dynamic, unknown and changing environments and scenarios, independently plan and execute military missions, and learn from prior experiences like people and share common understanding with Soldiers, and eventually, other robots. Researchers are investigating ways to get robots to, essentially, seamlessly integrate into military and civilian societies beyond learning and reasoning, but also to react with near-human dexterity to do what's currently impossible like turn a doorknob or pick up a needle or manoeuvre through three-dimensional environments like dark caves that have rugged dry terrain, mud and water.

Modeling human behaviour in robotic systems isn't easy. Some experts say translating the world into symbolic coding schemes is frankly close to untenable. But ARL engineers specialising in human factors integration are leading military efforts in cognitive robotics research to take ground-based robotic systems beyond architectures that support a robot's working memory to architectures that will support perception and long-term memory.


Talon robot

Here's the difference: with working memory, robots could play a game of chess or complete any other task-related function but to group that with long-term memory and perceptual systems, robots could play chess and think about the world around them to consider memories about things that are rarely ever forgotten like George Washington was a President or cats are mammals, or even more difficult to programme, that a particular door — because of its size, shape, colour, thickness, fixtures, etc. — is one that's never been seen before, explained Troy D. Kelley, team leader of the cognitive robotics and modeling research area.

"We can't programme robots for everything; they'll have to learn from experience just like humans so we have to programme them to have adaptive learning," Bornstein said. "A soldier has to be adaptable through training and intuition to fulfill operations. Technology can satisfy this in a robotic system." SP

PHOTOGRAPH: US Army

FLIR Systems introduces personal radiation detector, nanoRaider

FLIR Systems announced introduction of the latest in handheld radiation detection technology. The nanoRaider spectroscopic personal radiation detector (SPRD) is a pager-sized device with full detection and identification capabilities.

The nanoRaider provides the highest detector resolution available in a pager-sized device with sensitivity and identification capabilities not previously available in an SPRD. The nanoRaider uses the same easy to navigate interface customers have come to know from the identiFinder as well as one touch reachback capability for immediate reporting. By incorporating identification capabilities, the nanoRaider can virtually eliminate the false alarm and false positives that are common to non-identifying pagers.

"Ease of use is a key component in all FLIR handheld radiation monitors," said Bill Sundermeier, President of FLIR Government Systems. "With the nanoRaider, FLIR has enabled precise identification capabilities never before seen in a spectroscopic pager." SP

BAE Systems introduces gun shield to ease transport of vehicles

Responding to the need to make gun shields easier to transport on vehicles, BAE Systems developed the Marine Corps transparent armored gun shield – reducible (MCTAGS-R), a gunner protection system collapsible for shipment.

The patent pending MCTAGS-R is the first height reducible gunner protection kit designed to meet vehicle shipping height requirements. MCTAGS-R is part of the BAE Systems modular gunner protection system family of protective armaments and provides the same level of protection from small arms and IED fragments as the currently fielded MCTAGS kit. MCTAGS-R can be adapted to any tactical vehicle.

The gunner protection system enhances survivability by providing target acquisition capability and protection from small arms fire and improvised explosive device fragments. MCTAGS-R has been configured for installation on the M1114 and M1151 HMMWVs, medium vehicle replacement, logistic vehicle system replacement, mine resistant ambush protected vehicles and joint light tactical vehicle. SP

Resolute ETR launched

Renishaw launched its new low temperature, true absolute position encoder at the DSEI military exhibition recently.

The range of high performance position encoders are meant for tough environments and mission critical reliability, including a new low temperature absolute optical encoder with a range of serial communication protocols.

Suitable for use in demanding applications such as targeting systems, remotely-operated weapons, long-range vision systems and radar installations, Resolute extended temperature range (ETR) is the latest true absolute encoder from Renishaw, guaranteeing operation down to -40°C in non-condensing environments. SP

GFF 4 wheeled armoured vehicle

The Geschützte Führungs und Funktionsfahrzeuge (GFF) 4 is a medium weight, highly protected class four wheeled armoured vehicle manufactured by Krauss-Maffei Wegmann (KMW) for the German Army. The vehicle is known to have an innovative crew protection system.

The vehicle bridges the gap between the 33t Boxer (8x8) multirole armoured vehicle (MRAV) and the 12.5t Dingo 2 which are used by the German Army. GFF 4 was originally named as Grizzly, but later renamed as GFF to avoid confusion with other vehicles of the same class. The vehicle is currently being used by the German Army on trial basis. SP

RFI/RFP/TENDERS

Indian Army

Tender: **Holographic weapon sight for AK 47**
Northern Command
Publication date: October 13
Last date: November 13

RFI: **Passive Night Sight for assault rifle**
Infantry Directorate
Publication date: October 27
Last date: November 15

Tender: **Establishment of Network Operations Centre**
MCTE, Mhow
Publication date: October 27
Last date: November 21

Indian Navy

Tender: Hiring of launches
INS Gomantak
Publication date: October 14
Last date: November 9

Tender: **Upgradation of hydraulic repair bay of weapon submarine mounting**
Director General Naval Project
Vishakapatnam
Publication date: August 8
Last date: November 9

Indian Air Force

Tender: **Spares for MI8 helicopters**
Ministry of Defence
Publications date: October 3
Last date: November 9

RFP: **Procurement of safety and communication equipmt**
Ministry of Defence
Publication date: September 26
Last date: November 11

Tender: **An 32 spares**
Vayu Bhavan
Publication date: September 19
Last date: November 15

PHOTOGRAPHS: FLIR, KMW

Lockheed Martin sales up

Lockheed Martin Corporation has reported third quarter 2011 net sales of $12.1 billion, compared to $11.3 billion in 2010. Earnings from continuing operations during the third quarter of 2011 were $665 million, or $1.99 per diluted share, compared to $557 million, or $1.53 per diluted share, in 2010. Cash from operations during the third quarter of 2011 was $511 million, compared to $513 million during 2010.

Third quarter 2011 results included a special charge of $39 million, which reduced earnings by $25 million, or $0.07 per diluted share, related to planned workforce reductions at Information Systems & Global Solutions (IS&GS) and corporate headquarters. The third quarter of 2010 included a special charge of $178 million related to the voluntary executive separation programme (VESP), which decreased earnings by $116 million, or $0.32 per diluted share.

"Our focus on programme execution in support of our customers resulted in a strong third quarter," said Bob Stevens, Chairman and Chief Executive Officer. "We continue to take aggressive actions, including painful workforce reductions, to reduce costs and deliver value to our customers and shareholders in this challenging global security and economic reality that we expect will extend into 2012." SP

Rockwell Collins declares quarterly dividend

The Board of Directors of Rockwell Collins has declared a quarterly dividend of 24 cents per share on its common stock, payable December 5, 2011. Rockwell Collins is a pioneer in the development and deployment of innovative communication and aviation electronic solutions for both commercial and government applications. Our expertise in flight deck avionics, cabin electronics, mission communications, information management, and simulation and training is delivered by 20,000 employees, and a global service and support network that crosses 27 countries. SP

Northrop Grumman's increased earnings

Northrop Grumman Corporation reported that third quarter 2011 earnings from continuing operations increased 16 per cent to $520 million, or $1.86 per diluted share, from $448 million, or $1.51 per diluted share, in the third quarter of 2010. For the nine months ended September 30, 2011, the company repurchased 28.4 million shares of its common stock for $1.6 billion, and $2.4 billion remained under its current share repurchase authorization.

"Superior operating performance in our businesses drove higher operating income, earnings, cash and a strong book-to-bill ratio for the quarter. Based on year-to-date operating results and effective cash deployment, we are again raising our 2011 EPS guidance. The combination of performance and share repurchases continues to produce strong earnings per share growth despite top line pressures," said Wes Bush, Chairman, Chief Executive Officer and President. SP

Raytheon gets green award

Raytheon has been selected as a top 10 green-IT organisation by IDG's *Computerworld* magazine for 2011. The publication has recognised Raytheon's innovative strategies and practices in information technology that deliver measurable results in sustainability.

"Raytheon's IT organisation will continue to be a leader and key partner to our other enterprise functions as we work together to meet and exceed our sustainability goals," said Raytheon Vice President and Chief Information Officer Rebecca Rhoads. "This distinction validates our commitment to IT operational efficiencies that enable business growth, and to developing a culture that values sustainability in everything we do."

Raytheon's green-IT programme has been the catalyst for various energy-saving initiatives across the company; this year's focus on improving networking and telecommunications infrastructure led to the 2011 *Computerworld* recognition. SP

SECURITY EVENTS

Defence and Security 2011
2–5 November
Impact Exhibition Centre,
Bangkok, Thailand
www.asiandefense.com

Cyber Security Asia
9–10 November
Singapore
www.cybersecurity.asia.com

Security Middle East Show
28–30 November
BIEL, Beirut
Lebanon
www.smesbeirut.com

3rd International Conference of Crisis Mappers
14–15 November
Geneva, Switzerland
http://ipsc.jrc.ec.europa.eu/events.php?idx=9

Future Artillery Middle East
21-23 November
The Four Seasons Hotel
Amman, Jordan
http://www.futureartilleryme.com

Airborne Early Warning and Control
28-29 November
The Prince Hotel
Kuala Lumpur
http://www.tangentlink.com/airborne-early-warning-malaysia-28th-29th-november-2011/

Defence Logistics 2011
29 November–2 December
Marriott Crystal,
Arlington, USA
http://www.wbresearch.com/defenselogisticsusa/home.aspx

Avril Lavigne has 'scare of her life'

Avril Lavigne, Canadian songstress, recently revealed how she was 'scared for her life' following a security breach ahead of a gig in London. The security incident happened backstage that left the 26-year old singer 'scared'.

On Twitter, she said, "I had a bad situation right before the show that made me scared for my life. There was a breach in security and now the police are handling it." The Sk8er girl had to cut her concert short after losing her voice during her breakthrough hit 'complicated'. SP

Universal Studios catchphrase to get in no longer valid

The Universal Studios lot in Hollywood is one of the most carefully guarded, high-security places in the city. After 9/11, security was beefed up to what some believed to be a ridiculous extent, with guards stationed at every gate checking under cars with mirrors and multiple forms of ID needed to get across the Universal threshold.

So, it's kind of surprising to hear that— for the past 27 years— virtually anyone could have wandered onto the Universal lot if they'd just use the magic phrase: "I'm a friend of Bill's". Anyone that's ever attended an AA (Alcoholics Anonymous) meeting will recognise that phrase but now that the breach has been identified, it will not be easy getting in.

Studio security is a big concern. Some years back, the Paramount/Dreamworks production offices where Steven Spielberg was putting together 'Indiana Jones and the Kingdom of the terrible sequel' were broken into and robbed of a treasure-trove of behind the scenes photos and knick-knacks SP

PHOTOGRAPHS: perfectpeople.net, wordpress.com

KFC's 'Colonel Sanders' gets past UN Security

As part of the promotional extravaganza of KFC's grilled chicken, a man dressed as Colonel Sanders sneaked into the United Nations recently in what actually sounds like a story from The Onion. Not only did the colonel manage to find his way into the restricted zones, but he actually posed for photos in the main General Assembly hall beneath the UN logo and with Ali Treki, the President of the UN General Assembly.

And just for good measure, the good colonel also submitted a letter—signed by KFC President Roger Eaton—that lobbies the UN to recognise the fictional Grilled Nation to be accepted as a member state. The official response from the United Nations, which has since deemed the letter void: "It should not have happened – that I will stress, and very strongly...There was some lapse in security." SP

The case of the missing laptop

Ravind Sistala had a crucial job at the National Technical Research Organisation (NTRO) set up in the aftermath of the Kargil war to be a single technical intelligence facility to keep watch on Pakistan. NTRO was also supposed to issue warning signals to those manning India's missile systems and nuclear warheads in real time.

According to media reports, in 2006, Sistala lost the laptop which reportedly had critical docuements related to India's weapons programme. He compromised a ₹1,850 crore intelligence-gathering programme that had key linkages to India's growing nuclear arsenal and missile systems. Unencrypted 'Top Secret' data pertaining to these was stored on Sistala's Hewlett-Packard laptop which disappeared mysteriously while he was on his way to the Delhi airport. There has been no news about the missing laptop since then, though an in-house inquiry was said to have been conducted. SP

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Photo: United States Air Force/Staff Sgt. Quinton Russ

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