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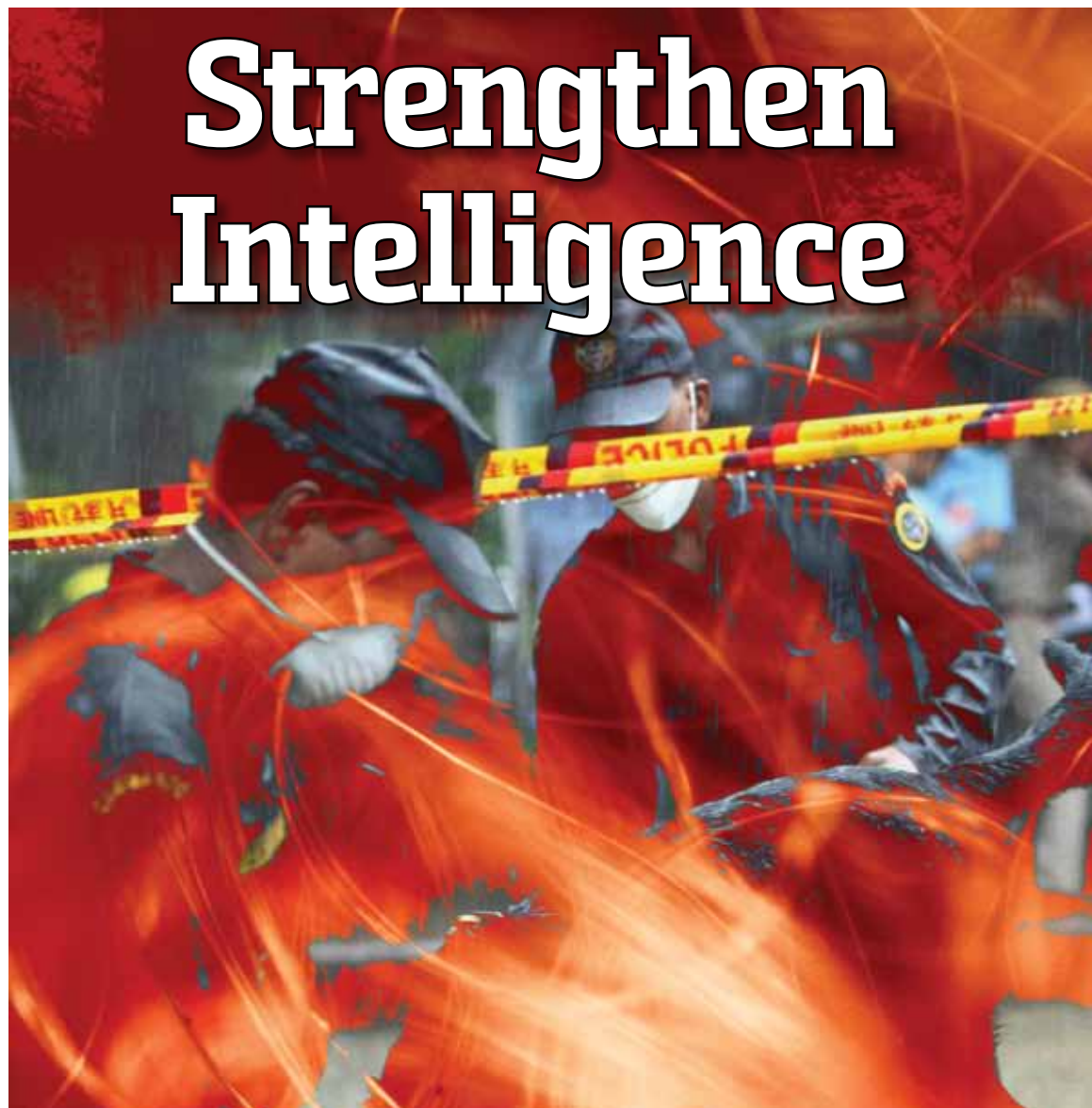
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Strengthen Intelligence



At regular intervals terrorists have been with devastating effect exposing chinks in our intelligence gathering methods. It is time indeed to invest heavily in building intelligence capabilities, both human and technology.



Lockheed says new machine cuts F-35 production costs

Lockheed Martin has obtained the US Government approval to use a groundbreaking cryogenic titanium machining process in the production of the F-35 Lightning II stealth fighter.

Cryogenic titanium machining improves cutting-tool life by a factor of 10 with appropriate material removal processing speed. The joint program office in coordination with the F-35 fracture control board (FCB) approved the new process for standard roughing operations, impacting the most time-consuming and cost-intensive machining processes associated with manufacturing titanium parts. Broadly applied, this new technology could improve affordability and



efficiency in the production of F-35, which is approximately 25 per cent titanium by weight.

The team of Creare Incorporated, H.M. Dunn Company, and MAG IAS has worked with Lockheed Martin, the US Navy small business innovation research (SBIR) programme office and the F-35 JPO for several years on the development of the low flow cryogenic machining of titanium, funded through SBIR programme awards. The high performance titanium machining process was designed, developed and tested at Creare, Inc., headquartered in Hanover, New Hampshire.

"This is a prime example of an SBIR-developed technology transitioning from the research and development phase to a system that can enhance affordability for near-term military projects like the F-35," said Mike Packer, Vice President of Manufacturing Strategy & Technical Integration at Lockheed Martin Aeronautics. **SP**



Cover:

At regular intervals terrorists have been with devastating effect exposing chinks in our intelligence gathering methods. It is time indeed to invest heavily in building intelligence capabilities, both human and technology.

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PUBLISHER AND EDITOR-IN-CHIEF

Jayant Baranwal

DEPUTY GROUP EDITOR

Prakash Chandra

ASSISTANT GROUP EDITOR

R. Chandrakanth

SR TECHNICAL GROUP EDITORS

Air Marshal (Retd) B.K. Pandey

Air Marshal (Retd) V.K. Bhatia

Lt General (Retd) Naresh Chand

Lt General (Retd) V.K. Kapoor

R. Adm (Retd) S.K. Ramsay

SPECIAL CONTRIBUTOR

Lt General (Retd) P.C. Katoch

SR COPY EDITOR & CORRESPONDENT

Sucheta Das Mohapatra

CHAIRMAN & MANAGING DIRECTOR

Jayant Baranwal

ADMIN & COORDINATION

Bharti Sharma

Survi Massey

DESIGN & LAYOUT

Senior Art Director: Anoop Kamath

Designers: Vimlesh Kumar Yadav,

Sonu Bisht

SALES & MARKETING

Director: Neetu Dhulia

Head Vertical Sales: Rajeev Chugh

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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Human intelligence network imperative

Within the span of a few months, the country saw two major terrorist strikes, first in Mumbai and very recently in Delhi, which claimed the lives of 15 people, exposing the serious chinks in the intelligence gathering system. The National Investigation Agency has commenced investigation, post the attacks, but what India needs urgently is a solid and widespread network of human intelligence, to prevent such attacks. Indeed, it is a massive task given the enormity of our physical borders and the size of the population.

The security environment in the country is certainly uncertain and acknowledging this the Prime Minister, Dr Manmohan Singh, addressing the Director Generals of Police recently emphasised the urgency for building human intelligence capabilities. The need for grassroots information and intelligence collection systems that have traditionally been a part of policing have languished or fallen into disuse in some place. The role of a vigilant and effective beat constable can be vital in checking the activities of networks, which otherwise operate under the radar. Besides human intelligence, effective use of technology has to be put in place. "As the 26/11 tragedy showed, terrorists use the latest technologies for communication and real time information sharing. We have, therefore, to remain one step ahead of our adversaries."

Echoing similar words, the Home Minister P. Chidambaram has said "more needs to be done" on building intelligence network capabilities. Apart from the constant attacks from across the border, the fear now is the rate of increase in home-grown terror modules and the only way to nip such activities in the bud would be through a combination of human and technology intelligence – humint and techint. Parallel to this, the government has to ensure that proper development works are undertaken to remove regional imbalances, many of which have resulted in the growth of radical movements, Naxalites being one.

Not just India, the global security environment is a matter of concern as evidenced by the need for enhanced security systems at the recently concluded Defence and Security

Equipment International Exhibition in London. While there is an amazing roll out of products and solutions on a continuous basis to deal with internal security issues, there is no denying the fact that the terrorists always look for loopholes. Terrorist outfits are major importers of arms and ammunitions, communication technologies, etc. Seemingly, they are one step ahead of government forces.

The global market for arms and ammunitions—both by state and non-state players—is astoundingly huge. The government has to build intelligence networks which track the movement of arms to non-state players.

In his fortnightly column, Lt General (Retd) P.C. Katoch while welcoming the constitution of a task force under Naresh Chandra to do a holistic review of national security, wonders how it would work in the absence of a strategic culture and a 'defeatist foreign policy'. There is a crying need to go in for Integrated Theatre Commands and Integrated Functional Commands, but these cannot come through sans a CDS. **SP**

Jayant Baranwal
Publisher and Editor-in-Chief

LT GENERAL (RETD)
P.C. KATOCH

BMS challenges the industry

The battlefield management system (BMS) for the Army has been cleared as a 'make' project by the Defence Acquisition Council. The DG Acquisition, MoD will now order constitution of an Integrated Project Management Team (IPMT) to undertake a study, following which an expression of interest (EOI) will be issued by MoD to the Industry RURs. Going by earlier norms, the IPMT Report should take about 12 months, implying that the EOI can be expected to be issued by October 2012. Considering the response time to the EOI (about 3-4 months), nomination of prototype developers plus development time (about 12 months) and the test bed, Phase 1 may be expected to be completed by 2015 (instead of 2012 that was perceived earlier) provided no further hurdles are encountered. The cascading effect has already delayed completion of Phase II (Equipping) from initial plan of 2017 to 2020 and Phase III (Change Management and Upgradation of System) from 2022 to 2025 as per current status. The private industry should take note that development of such an important Information Systems project has come into a level playing field without the DRDO hijacking it *ab initio* for the very first time. The BMS is a finance intensive project considering Phase 1 (establishment of test bed lab and field trials at test bed location of one Combat Group and three Infantry Battalion Groups) was earlier estimated to be around ₹350 crore.

Overall, financial implication can only be holistically worked out at the end of Phase I but would be colossal since it is to cover battalion/regiment level and below pan army. Therefore, what should be vital to the private industry is to invest heavily into R&D and produce state-of-the-art prototypes well before issue of the EOI - before October 2012. The project must be accorded top priority as it would be the very beginning of large scale private industry partnership in the defence sector. PSUs and individual

private industry including consortiums have an equal chance. In all probability, minimum two developers will be chosen to develop the prototypes. It is equally important to understand that should the prototypes not be of the required standard and found wanting, the project will then go the DRDO way, delaying the overall project by yet another few years. More importantly, similar system will eventually be required by the para military forces (PMF) and central armed police forces (CAPF) involved in anti-terrorist operations if we are to achieve national net-centricity to counter the increasing asymmetric threats of terrorism, insurgencies and fourth generation warfare.

The prototype should be developed as a suitable application on an intuitive operating system with GIS suitability customised to meet military requirements. Voice and data communications must be always up. Computer hardware should be rugged and non-obtrusive with retro fitment maintaining platform integrity. System integration should include application software, data links with radio systems, integration of battalion/regiment level sensors BFSR, thermal imagers, UAV/MAV data, satellite imagery, etc. The army must avoid further delays as have already



occurred on account of delimiting the BMS and F-INSAS and repeating the feasibility study. Inadequacy in understanding technology at the top echelons is a real problem that needs to be looked at seriously. If this is not addressed, the BMS may get further delayed every time new incumbents take over as Vice Chief and Deputy Chiefs, particularly if someone is hell bent to push computer and radio subsystems and software integration of F-INSAS separately disregarding disadvantages in terms of time and costs including the requirement to develop yet another system to make the two interoperable. **SP**

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

The private industry should take note that development of such an important Information Systems project has come into a level playing field without the DRDO hijacking it *ab initio* for the very first time



India to strengthen Kyrgyzstan defence and security apparatus

India has assured its willingness to support Kyrgyzstan in strengthening its defence and security apparatus. The matter came up at a meeting between the Defence Minister, A.K. Antony and his Kyrgyzstan counterpart Major General Abibilla Kudaberdiv here recently.

They discussed the enhancement of training and other exchanges between the armed forces of both countries and also possibilities of military technical cooperation, including defence research and development. Cooperation in training for UN peacekeeping operations was specifically discussed. The two leaders also discussed various global and regional security issues.

The Kyrgyzstan Defence Minister conveyed condolences for the loss of life in the terrorist attack in Delhi on September 7, 2011. He noted that there is need for all the countries to unify forces to fight terrorism jointly.



At the meeting the visiting dignitary was accompanied by a three-member delegation, while the Indian side included the Defence Secretary Shashi Kant Sharma, Scientific Adviser to Defence Minister Dr V.K. Saraswat, Vice Chief of Army Staff Lt General A.S. Lamba and other high ranking officials. **SP**

Global security environment worrisome: Antony

The Defence Minister A.K. Antony cautioned that the global security environment continues to be a cause of concern and the situation in our neighbourhood poses various challenges.

Inaugurating a joint venture project between Indian Army and the Indira Gandhi National Open University (IGNOU) 'Gyandeept Centre of Excellence' in Delhi he emphasised the need to strengthen the internal fabric of the society to generate more strength to meet such challenges.

"Our armed forces have given a good account of themselves during external aggression or internal strife. These veterans must be integrated into the society, as they could no doubt continue to work with the same dedication and commitment that they displayed as members of our armed forces," he said.

Empowerment of soldiers is an important issue that must be addressed and monitored at all levels on a regular basis.

The Chief of the Army Staff General V.K. Singh, Vice Chancellor of IGNOU, Professor V.N. Rajasekharan Pillai and Adjutant General Lt General Mukesh Sabharwal also addressed the gathering and emphasised the importance of the programme for army personnel. **SP**



PHOTOGRAPHS: PIB

Raytheon, BCL ink first order for VIRTSIM in India

Raytheon Company signed a contract with BCL Secure Premises Pvt. Ltd. to provide a virtual immersive training system to the New Delhi-based company, which serves as an exclusive re-seller of VIRTSIM in the region.

Raytheon is teamed with Motion Reality Inc. (MRI) in providing VIRTSIM, a fully-immersive, 3-D small unit tactical training simulation system that applies MRI's industry-leading motion capture and Hollywood movie technology. A single system allows a full squad of up to 13 individuals to interactively train in customised mission scenarios with complete freedom of motion.

"This order makes VIRTSIM available for the first time to Indian and regional customers, through BCL, to experience for themselves this amazing 3-D training technology," said Gene Blackwell, Vice President of Raytheon Network Centric Systems' International Business Development. "The contract also confirms a commitment between Raytheon and BCL Secure Premises to offer the most effective virtual training, which is second only to executing the mission itself."

In New Delhi to mark the contract award, Blackwell also spoke at the SEM-SIM 2011 Conference about the benefits of VIRTSIM and small unit immersive training.

In July 2011, BCL entered into an agreement with Raytheon to exclusively market VIRTSIM in India and the region. The first system will support demonstrations and training scenario development for military, law enforcement and security in the region.

"We are proud to represent Raytheon and MRI as India's only seller of VIRTSIM," said retired Colonel M.K. Channan, Vice President, Corporate & Planning Strategy, and newly appointed CEO for Smart Warrior, BCL Secure Premises. "In offering VIRTSIM, BCL Secure Premises is also applying our regional knowledge and security expertise to best meet the training needs of our customers."

VIRTSIM trainees experience realistic sensory feedback, such as muscle stimulation, when they are "shot" as they



Oshkosh Defense unveils nextgen light combat vehicle

As the next generation of light combat military vehicles require new levels of mobility and protection to operate effectively in remote, rugged and hostile landscapes. Oshkosh Defense, a division of Oshkosh Corporation, designed the light combat tactical all-terrain vehicle (L-ATV) to meet the military's future needs based on 10 years of operational experience with the military utilising Oshkosh's heavy, medium and MRAP vehicle fleets in Iraq and Afghanistan.

The affordable Oshkosh L-ATV incorporates field-proven technologies, advanced armor solutions and expeditionary levels of mobility to redefine safety and performance standards for the US armed forces and international militaries. The L-ATV also is designed for future growth, with the ability to accept additional armour packages and technology upgrades as the mission requires.

"We designed the L-ATV to address the rapidly evolving threats and provide troops with greater ability to navigate through extreme driving conditions," said Ken Juergens, Vice President and General Manager of Joint Programmes for Oshkosh Defense. "Battlefields have changed – threats are more dangerous, operating environments are more rugged and fuel efficiency is more important than ever. The state-of-the-art L-ATV is designed to meet these challenges, today and well into the future, just as our M-ATV continues to meet evolving battlefield threats without compromising its payload and off-road mission profile."

Equipped with the Oshkosh TAK-4i™ independent suspension system the L-ATV can safely navigate dangerous on- and off-road terrain while providing unmatched ride quality. The TAK-4i technology uses a proprietary technology to deliver 20 inches of independent wheel travel – 25 per cent more wheel travel than any vehicle in the US military's fleets. **SP**

interact with other live or AI (artificial intelligence) characters in combat, law enforcement or security-based scenarios. The system has been refined by Raytheon and MRI through the past two years and provides users with unmatched training fidelity unencumbered by wires or cables in a 360-degree virtual environment. **SP**

FLIR Systems bags US Navy contract

FLIR Systems has been awarded a contract from the Naval Air Warfare Center Aircraft Division valued at up to \$52.1 million for its Star SAFIRE HD family of digital, high-definition, full-spectrum imaging systems. Under the terms of the three year, firm fixed price contract, the Navy has placed an initial order for \$25.6 million of Star SAFIRE 380-HD systems and related support, and has the option to procure an additional \$26.5 million of Star SAFIRE 380-HD and Star SAFIRE HD systems over the next three years. The systems are expected to be deployed on aerostats as part of the Navy's persistent ground surveillance system (PGSS) programme.

It is expected that the work under this contract will be performed primarily out of FLIR's facilities in Wilsonville. Deliveries under the initial order are expected to begin in September of this year.

"Our success at providing surveillance systems that directly protect troops in the field is unmistakable," said Earl Lewis, President and CEO of FLIR. "This award showcases how FLIR's commercial operating model, which includes self-funded research and development, yields highly advanced military-qualified products that can be attained quickly, at low prices, and with superior service." **SP**

UK second biggest defence exporter

The UK Defence Secretary Liam Fox said the Government strongly supported the defence industry which is the second biggest defence exporter in the world.



He was speaking at the opening of the UK's DSEi arms fair in London. The biannual show attracted more than 20,000 visitors over three days, with 1,200 defence manufacturers showcasing equipment for land, naval, air and security divisions. Delegations from 65 countries have been invited.

"This British success story is not just about global prime contractors – it is about the small businesses who are world leaders in cutting-edge technologies – they are the lifeblood of the industry," he said.

The defence industry employs more than 1,10,000 people across the whole country and generates more than £22 billion for the UK economy in 2010, according to ADS, the UK's aerospace, defence and security organisation. **SP**





Raytheon BBN Technologies' shooter detection system to UK

Raytheon BBN Technologies will provide its Boomerang shooter detection systems to the UK Ministry of Defence. BBN is a wholly owned subsidiary of Raytheon Company.

Through the contract with UK distributor Maxord Ballistics Limited, Raytheon BBN Technologies will deliver Boomerang perimeter defence and vehicle systems to alert troops to the location of incoming small arms fire. Boomerang immediately alerts troops to incoming hostile fire and pinpoints the location of the enemy shooter. **SP**

FLIR Systems gets maintenance contract of US Army

FLIR Systems has been awarded a contract from the US Army valued at up to \$50 million for repair and maintenance services for the army's force protection surveillance systems that are fielded across the globe. Under the terms of the five-year contract, the army has placed an initial order for \$10.2 million of repair and maintenance services for one year, and has the option to procure an additional \$39.8 million of similar services over the following four years.

It is expected that the work under this contract will be performed out of FLIR's foreign sales operations in the Middle East, as well as its facilities in Wilsonville, Oregon, and Billerica, Massachusetts.

"FLIR has delivered to the army hundreds of advanced surveillance systems, each of which serves to protect the men and women that are on the front lines of conflict," said Earl Lewis, President and CEO of FLIR Systems. "FLIR is pleased to assist in safeguarding the army's key assets by being a leader in providing timely and high quality service and support to these fielded systems." **SP**

Rosenbauer selects ARMOR rugged tablets of DRS

DRS Technologies, a Finmeccanica Company, announced that its Tactical Systems Group has been selected by Rosenbauer, a global leader in fire-service technology, as the mobile hardware that supports its EME-REC mobile information management system.

This system wirelessly links the ARMOR rugged tablet in the field with operations command and a central database to provide real-time information such as maps, plans, lists, data sheets, vehicle rescue sheets and available rescue equipment.

Rosenbauer selected the ARMOR X10gx rugged tablet because it is designed for the demanding conditions firefighters are likely to encounter. "Even under difficult fire and disaster conditions, the device must remain fully functional," said Hubert Heissl, Head of Business Development for Rosenbauer. "The new ARMOR X10gx hardware was developed in line with the highest standards and matched to our requirements."

Weighing just 4.7 lbs., the ARMOR X10gx rugged tablet meets MIL-STD-810G and is approved by UL for use in explosive and/or hazardous environments. It carries an ingress protection (IP) rating of 67. Its LCD display offers optimum readability both in darkness and direct sunlight.

"The ARMOR X10gx rugged tablet allows rapid operational reactions irrespective of how tough the prevailing conditions may be. There is no other system currently on the market which can serve emergency teams in a comparable manner," said Heissl.



Lockheed Martin to upgrade US Army gunnery systems

The US Army programme executive office of simulation, training and instrumentation (PEO STRI) has awarded Lockheed Martin a \$28.6 million contract to upgrade more than 60 advanced gunnery training systems (AGTS) for M1A1 and M1A2 main battle tanks. The company will also provide 11 new M1A2 training systems as part of the two-year effort.

The AGTS is a simulator designed to train individuals, crews, platoons and companies in precision gunnery skills, enabling trainees to transition quickly to live fire or combat gunnery. As part of the upgrade effort, Lockheed Martin will integrate the newest version of its scalable advanced graphics engine (SAGE) image generation technology, which draws from extensive visual databases to help warfighters experience a more detailed environment and encounter more realistic targets.

"These upgrades will help keep warfighters prepared for a dynamic operational environment," said Jim Craig, Vice President of training systems in Lockheed Martin's Global Training and Logistics business. "Through the AGTS and our SAGE image generation software, they get a training experience that is unmatched – except in real life."

Additional upgrades include new graphic user interfaces, such as more pull-down menus for the instructor screens, making it even easier for instructors to monitor and control the training scenarios. Since Lockheed Martin developed the original AGTS architecture more than 15 years ago, the company has delivered over 200 AGTS systems and upgrades to US Department of Defense customers with an additional 180 to foreign partner nations. **SP**



MBDA readies Fire Shadow weapon

The Fire Shadow weapon system has successfully completed a series of demonstration trials and two more successful firings in a ground-breaking rapid development programme that was launched in March 2010. These achievements pave the way for a planned entry into service next year with the British Army.

The first of these firings, using a complete weapon system, was carried out on November 21, 2010 at Vidsel, Sweden, to demonstrate system integration, launch, stable flight, waypoint navigation and data-link function which supports the maturation of the munition and its control. The munition flew for several tens of kilometres and its trajectory included a number of manoeuvres, such as a loitering pattern. All objectives were satisfied and the trial was witnessed by UK customer representatives, said a press release.

The second firing at the same location took place on May 13, 2011. A more complex trial scenario was conducted where the man-in-the-loop functionality was fully exercised. The operator was able to select and successfully engage a representative target. The trial was another complete success, underlining the performance and robustness of the product.

Throughout the programme MBDA has continued to work closely with the End User and other stakeholders. Various “hands-on” trials at MBDA integration facilities at Filton and Bedford have enabled the Army personnel to tailor the “look and feel” of the system, to refine Tactics, Techniques and Procedures (TTPs) and to prepare for formal training later this year. The system was also demonstrated to operate seamlessly



within a modern battlespace HQ context at the Coalition Warrior Interoperability Demonstration event.

Steve Wadey, Executive Group Director Technical and MBDA UK Managing Director said: “Fire Shadow fills a gap in the capabilities needed by the Armed Forces as ongoing operations show every day. From the outset the Fire Shadow programme has been leading by example with its rapid development approach. The incredible rate of technical achievement and progress means that this unrivalled capability will be ready for delivery to the UK early next year. The system’s potential is such that it lends itself to new roles and has been designed to adapt and evolve to ensure that weapon provides an operational edge now and for the future.” **SP**

“We are thrilled that Rosenbauer has chosen the ARMOR™ X10gx tablet as the mobile platform for its EMEREC system. This partnership will enable firefighters immediate access to mission-critical information when they need it most via a proven and reliable ARMOR tablet PC,” said Mike Sarrica, Vice President and General Manager for DRS Tactical Systems. **SP**

DRS Tactical Systems partners with Rugged Notebooks

DRS Technologies, a Finmeccanica Company announced that its Tactical Systems Group has partnered with Rugged Notebooks, Inc. a leading provider of ruggedised portable computers and handheld devices. The partnership will enable Rugged Notebooks to resell DRS ARMOR rugged mobile solutions.

As part of the agreement, Rugged Notebooks will offer to its customers the ARMOR X10gx and ARMOR X7 rugged mobile tablets, which are specifically designed for mission-critical tasks that require connectivity, mobility, ease of use, and the durability to support all-weather operations.

“Rugged Notebooks has built a strong reputation in rugged computing with their excellent customer knowledge and customer care,” says Mike Sarrica, Vice President and General Man-

ager for DRS Tactical Systems, Inc. “We are excited that they have partnered with us to provide the ARMOR product line to their loyal customer base.”

“We’re pleased to partner with DRS Technologies to provide its top-of-the-line ARMOR rugged tablets,” said Alan Shad, President of Rugged Notebooks. “The ARMOR X10gx and ARMOR X7 are among the most reliable fully rugged mobile computers available. They protect data from the harsh conditions that workers in public safety, energy, utilities, manufacturing, and other industries encounter each and every day.” **SP**

DSEi 2011 closes stall as it violates display norms

Defence & Security Equipment International (DSEi), London which concluded recently in an official statement has announced that Beechwood Equipment’s stand was closed after literature showing equipment banned under UK Government export controls and contractual requirements were found on display. “The stand was closed as soon as the literature was found and we should stress that no equipment was found. We have informed the Export Control Organisation of the breach and of our decision to close the stand.” **SP**



LT GENERAL (RETD)
P.C. KATOCH

Strategising sans CDS

The government has constituted a task force under Naresh Chandra, with former RAW Chief K.C. Verma, Adm (Retd) Arun Prakash, ACM (Retd) S. Krishnaswamy and Lt General (Retd) V.R. Raghavan as members to do a holistic review of national security. This review has apparently been ordered with China's aggressive attitude, continuing Pakistani policy to 'balkanise India', India being repeatedly subjected to terror and cyber attacks and inept administration in managing social change leading to proliferating insurgencies, with the Maoists even establishing front organisations in cities.

So far so good in setting up the present task force but in the total absence of strategic culture and a defeatist foreign policy that refuses to draw lessons from history, only time will tell what will be the outcome. Every time we have arisen from hibernation to order a security review was only after a crisis – Sino-Indian War (1962), Indo-Pakistan War (1965), Mizo uprising (1966), Kargil conflict (1999) and the 26/11 Mumbai terrorist attack. If we had the strategic culture, a Comprehensive Defence and Security Review should have been institutionalised every five years.

The recent 7/11 terrorist strike in Mumbai proved we have learnt nothing from 26/11. The impression created in respect of the Kargil Review Committee recommendations is that everything less than appointing a CDS has been accepted. Nothing could be further from the truth. The major implementation failings, mostly advertent, are: One, no CDS appointed; two, HQ Integrated Defence Staff created as a separate HQ, instead of merging it with MoD; three, Chairman COSC gradually eased out from the loop of control of Strategic Forces Command; four, Defence Intelligence Agency stopped from its authorised mandate of operating trans-border intelligence sources; five, Andaman & Nicobar Command remains toothless without requisite forces under its command; six, Directorate General of Armed Forces Medical Ser-

vices and Director General Quality Assurance not permitted to be brought under HQ IDS.

The Parliamentary Committee on Defence is as toothless as any other committee whose recommendations get largely ignored. The recently retired Air Chief stated that he was not for a CDS in "present form" but was portrayed as saying he is not for a CDS. The fact remains that no matter what the façade of Services jointness and integration, it is simply not going to come through without a CDS. Former Army Chief, General V.P. Malik had gone on record to say, "It is not my case that the Service Chiefs do not cooperate in war. Were they not to do so, it would be churlish. But in war, cooperative synergies are simply not good enough".

There is a crying need to go in for Integrated Theatre Commands and Integrated Functional Commands, but this cannot come through sans a CDS. Former Army Chief, General Padmanabhan had said, "There is no escaping the military logic of creating suitably constituted Integrated Theatre Commands and Functional Commands for the armed forces as a whole". In UK the debate over the CDS raged for 18 years, till the government forced a CDS on the Services.

Plenty has come in the media on the state of our defence forces including the widening gap compared to the PLA. There have been suggestions that only an act of Parliament like the Goldwater Nichols Act, Berlin Decree, or political leadership can break the logjam. It is difficult to identify a political leader with the required mettle or a bureaucrat who could draft such an act of Parliament. The government-appointed task force has no active Services representation. Interacting is different from having full time members. Besides, interacting with Services is not the same as interacting with a CDS. **SP**

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



Every time we have arisen from hibernation to order a security review was only after a crisis. If we had the strategic culture, a Comprehensive Defence and Security Review should have been institutionalised every five years.



Combat aircraft procurement strategy

The Minister for Defence A.K. Antony has said in Parliament that the government's procurement programme entailed a mix of outright purchase from original equipment manufacturers from overseas and subsequent manufacture in India with increasing levels of indigenisation. He said that Su-30 MKI aircraft and Tejas light combat aircraft (LCA) are the major modern combat planes that have been contracted for induction into the Indian Air Force (IAF). The total cost of procurement of the Su-30 MKI is over ₹55,717 crore while the cost of procurement of the Tejas is about ₹8,691 crore.

Capacity for design and manufacture of modern combat aircraft involves development of very high and sophisticated technology skills which is a gradual process. Technology denial regimes have thwarted this effort in the past. The Defence Procurement Procedure (DPP) provides for procurement of aircraft and their subsequent manufacture in India. Hence, major aircraft procurement programme entail a mix of outright pur-



chase from abroad and subsequent manufacture in India with increasing levels of indigenisation. Hindustan Aeronautics Limited (HAL) is already manufacturing the Su-30 MKI aircraft as well as the Tejas for the IAF. Further, HAL would also eventually be manufacturing the medium multi-role combat aircraft (MMRCA) and the fifth generation fighter aircraft (FGFA). **SP**

Nearly 46 per cent of IAF crashes due to technical reasons

During the last two years approximately 46 per cent of the aircraft crashes in the Indian Air Force (IAF) have been due to technical defects, the Defence Minister A.K. Antony has stated in Parliament.

He said that any IAF aircraft accident is thoroughly investigated by a Court of Inquiry (Col) to ascertain the cause of accident and remedial measures are taken accordingly to check their recurrence in future. IAF has taken various measures relating to invigoration of aviation safety organisation, streamlining of accident/incident reporting procedure, analytical studies and quality audits of the aircraft fleets to identify vulnerable areas and institute remedial measures to reduce aircraft accidents.

An ornithology cell, for bird surveys at flying bases and bird prevention modules, has been established at the Directorate of Aerospace Safety. All flying bases have been visited by senior Aviation safety personnel of the IAF to apprise and caution the operating units about the causes of the accidents and to get views towards enhancing aviation safety.

Accident prevention programmes have been given an added thrust to identify risk prone/hazardous areas specific to the aircraft fleets and operational environment to ensure safe practices/procedures. Steps have been taken by the government to train pilots to prevent accidents due to human error. These include increased use of simulators to practise procedures and emergency actions, focused and realistic training with additional emphasis on the critical aspects of mission, introduction of crew resource management (CRM) and operational risk management to enable safe mission launches, aviation psychology courses and introduction of aerospace safety capsules in the ab initio training of air crew. **SP**

Huge requirements of advanced simulators in IAF

The present requirement of advanced simulators for providing effective training to Indian armed forces in a cost effective manner is significantly high, said Air Marshal K.K. Nohwar, Vice Chief of Air Staff.

Delivering the inaugural address of SEM-SIM 2011, a National seminar on 'Leveraging Simulation Technologies to Enhance Combat Potential' organised by the Confederation of Indian Industry (CII) in Delhi, he called for a strong and long-lasting partnership between industry and the armed services to meet the growing needs of simulators and leveraging simulation technologies to enhance the combat potential of Indian armed forces. This clearly indicates huge business opportunities for Indian industry in defence simulation sector.

While underlining the wider applicability of simulation technologies in defence arena, Air Marshal Nohwar further mentioned that simulation technology is the answer to enhance combat capability of Indian armed forces. According to him joint warfare training under a common platform and common doctrine can be effectively conducted through the optimal use of simulators. Besides, he said that the use of simulators would significantly bring down the flying cost, fuel cost and most importantly reduce the loss of life and equipments.

Satish K. Kaura, Co-Chairman, CII National Defence Council, pointed out that in the backdrop of a highly complex environment, good quality training of the Indian armed personnel is of utmost necessity. "One can imagine the precious time and resources lost in mobilising the troops from one place to another just for the training purposes." There is a need to adopt simulation methods to better orient soldiers with the typical geographical conditions before they actually get deployed in inhospitable conditions. **SP**





Raytheon to integrate Griffin on light attack aircraft

Raytheon is seeking to integrate the combat-proven Griffin missile onto the Hawker AT-6 light attack aircraft. Griffin weighs 44 pounds with its launch tube, is 43 inches long and is an air- and ground-launched, precision-guided missile designed for rapid integration onto rotary- and fixed-wing aircraft and ground-launch applications.

"Integrating Griffin on the AT-6 aircraft gives the warfighter a cost-effective solution to provide persistent surveillance and low-collateral damage in counterinsurgency and irregular warfare operations," said Harry Schulte, Vice President of Raytheon Missile Systems' Air Warfare Systems. "The integration of precision weapons onto versatile light-attack, reconnaissance platforms enables customers to take off-the-shelf capabilities and rapidly field a solution that meets their needs."

Griffin enables the warfighter to engage targets via a user-friendly graphic interface and guide the weapon to the target using GPS coordinates or laser designation. To maximise lethality, the user can choose to engage the target with height of burst, point detonation or fuze delay.

The Griffin missile is in production and integrated on the C-130 Harvest Hawk. Griffin A is an aft-eject missile designed for employment from non-conventional platforms such as the C-130 aircraft. Griffin B is a forward-firing missile that launches from rotary- and fixed-wing aircraft and ground-launch applications. **SP**

A330 MRTT gets UK certification

Airbus Military has obtained military and civil certification for the Future Strategic Transport Aircraft (FSTA) version of the A330 MRTT for the Royal Air Force of the United Kingdom. This paves the way for first delivery of the aircraft to the RAF in the coming weeks.

The approval was granted by Spanish military certification authority Instituto Nacional de Tecnología Aeroespacial (INTA). It follows the civil certification of the FSTA which was awarded by the European Aviation Safety Agency (EASA) in July.

Together these certifications cover the specific configuration of the UK version of the MRTT and lay the ground for its eventual operation on both the military and civil registers, as currently envisaged by the RAF. It will be known in RAF service as "Voyager".

The initial configuration which will enter service, and which is covered by the certification, is the two-point aircraft with hose-and-drogue refuelling pods under each wing. The three-point configuration, which also includes a centreline fuselage refuelling unit (FRU) will be certified at a later date as contracted.

"It is deeply satisfying to see this FSTA variant of the A330 MRTT receive its certification as per schedule," said Airbus Military Senior Vice President, Engineering Miguel Angel Morell. **SP**

Lockheed Martin awarded combat support programme

The US Air Force has awarded Lockheed Martin a \$791 million contract to provide IT services on the global combat support system programme. "Lockheed Martin is looking forward to continue the partnership with the Air Force implementing an affordable and innovative solution to fulfill the combat support mission area," said DeEtte Gray, Lockheed Martin IS&GS-Defense Vice President for Enterprise IT Solutions.

Work will include operations and sustainment of the enterprise infrastructure, delivery of infrastructure, data services, warfighter mission capabilities, and evolution of Air Force information technology architecture. The contract includes a period of performance of three years and four, one year options.

Lockheed Martin has been the prime contractor for GCSS-AF since 1996 and has worked with the Air Force to deliver enterprise services, including the Air Force portal, providing Air Force users a single point of entry to mis-





Japan orders AW139 helicopters

AgustaWestland, a Finmeccanica company, and Mitsui Bussan Aerospace have announced that the Japan National Police Agency (JNPA) has signed contracts for three AW139 medium twin helicopters. These helicopters will be used by the Tokyo Metropolitan Police, Nagaono Prefectural Police and Hokkaido Prefectural Police to perform multi-role law enforcement missions. The helicopters will enter operational service with their prefectures in spring 2013. These latest orders bring the number of medium twin-engine law enforcement helicopters ordered for Japan to seven, and follows recent orders by the Tokyo Metropolitan Police Agency and JNPA, who will deploy the AW139 to both the Chiba and Osaka Prefectural Police.

AgustaWestland's Head of Region, NE Asia, Andrew Symonds, said: "We are proud to have been selected by the Japanese Government and the JNPA in particular for another three AW139 helicopters. The AW139 is ideally suited to provide capability across the JNPA's range of demanding mission requirements. This order further strengthens AgustaWestland's relationship with the JNPA, building upon the established success of the AW109 Power. These orders bring the number of AW139 helicopters ordered by customers in Japan to over 30, a remarkable number for a helicopter that has only been in service for a short period of time, and strongly confirms the AW139's position as the most advanced mission capable helicopter available today in the medium twin class." **SP**

sion applications, information and collaboration tools. The portal is the premier web gateway to the Air Force enterprise, giving warfighters worldwide instant, secure access to the information they need – from the status of critical parts and supplies to up-to-date information on their benefits. The GCSS-AF team supports more than 8,00,000 registered users. **SP**

Cobham to supply aerial refuelling kit for KC-390

Cobham has been selected to develop and supply the wing aerial refuelling pod for the KC-390 tanker aircraft under development by Brazil's Embraer and has received an order with an initial contract value in excess of \$60 million. Air refuelling operations will be a key tactical role of the KC-390 following its introduction into service, scheduled to commence in 2015.

Selection by Embraer follows a comprehensive competitive process and reflects Cobham's unrivalled experience in the design, development and



delivery of air refuelling systems. Cobham will supply Embraer with one of its state-of-the-art air refuelling pods, specially modified to fit the KC-390. The system architecture will be tailored to meet the aircraft's air-to-air refuelling capability requirements, and enable refuelling of a range of fixed and rotary-wing aircraft.

Embraer's launch customer for the KC-390 is the Brazilian Air Force and it expects to secure significant additional orders from export customers.

Following the selection announcement, Iain Gibson, Vice President of Cobham Mission Equipment, said: "Cobham Mission Equipment is delighted with its selection by Embraer and the Brazilian Air Force to provide the wing air refuelling pod solution for the KC-390 following a rigorous competitive tendering process. This is an important and significant programme with a new customer and provides a platform for Cobham to further grow its business in Brazil. It also serves to underline Cobham's position as the world leader in providing air-to-air flight refuelling. We are confident that the wing pod solution for the KC-390, the basis of which has been designed and qualified to the latest and most stringent military requirements, will provide an optimum solution for the KC-390." **SP**





Lockheed Martin completes assessment of unmanned cargo

The Lockheed Martin-led unmanned K-MAX team successfully completed a five-day quick reaction assessment (QRA) for the US Navy's Cargo unmanned aircraft systems (UAS) programme.

"The autonomous flying K-MAX is designed to resupply marines on the battlefield and in remote locations," said Roger Il Grande, Director of Airborne Systems at Lockheed Martin Mission Systems and Sensors. "Through various scenarios during QRA, the unmanned K-MAX UAS performed extremely well, exceeding the cargo delivery objectives of the assessment."

The US Navy awarded Lockheed Martin a \$45.8 million contract in December 2010 for unmanned K-MAX helicopters to perform in a US Marine Corps evaluation of unmanned cargo resupply. The Navy intends to field a Cargo UAS this fall for a six-month deployment to augment Marine Corps ground and air logistics operations in Afghanistan.



"The quick reaction assessment proved sustainment of a cargo-carrying capability in an operational environment," said Captain Patrick Smith, Cargo UAS Program Manager. "We look forward to deploying a capability that will supplement rotary wing assets and reduce Marine Corps exposure to improvised explosive devices in theatre." **SP**



AeroVironment bags Raven UAS support

AeroVironment has been awarded a \$1,59,09,962 cost-plus-fixed-fee contract order, under an existing contract with the US Army. The order comprises Army contractor logistics support for Raven systems. The logistics support services are scheduled to be delivered within the next several months.

"Raven unmanned aircraft systems continue to provide valuable situational awareness directly to our warfighters, increasing mission effectiveness and safety," said Tom Herring, AeroVironment Senior Vice President and General Manager, Unmanned Aircraft Systems. "We remain focused on providing our customers with battle-proven Raven systems and support services to enable success."

The Raven unmanned aircraft is a 4.2-pound, backpackable,

hand-launched sensor platform that provides day and night, real-time video imagery for "over the hill" and "around the corner" reconnaissance, surveillance and target acquisition in support of tactical units. US armed forces use Raven systems extensively for missions such as base security, route reconnaissance, mission planning and force protection. Each Raven system typically consists of three aircraft, two ground control stations and spares. **SP**

Embraer, Elbit to make unmanned aircraft

Brazilian aircraft maker Embraer has set up a joint company with the Brazilian arm of Israeli weapons maker Elbit Systems to make unmanned aircraft. Embraer will control 51 per cent of Harpia Sistemias, while Elbit subsidiary AEL Sistemias will hold 49 per cent.

Harpia "will be an important instrument to respond to the necessities of the armed forces and security," said Luiz Carlos Aguiar, President of Embraer Defence and Security.

Embraer last December had announced the creation of a defence department where it plans to develop security and communications systems. **SP**

Israel to use UAVs as missile-armed gunships

The Israeli Air Force is increasingly using unmanned aerial vehicles not just for reconnaissance and surveillance but for striking. Some of the drones built by Israel Aerospace Industries (IAI) and Elbit Systems are to be used as missile-armed gunships. The Israeli Air Force is expected to form a new squadron of



AeroVironment introduces lightweight UAS

AeroVironment has introduced its lightweight and man-portable Shrike VTOL (vertical take off and landing) unmanned aircraft system. In August 2008 AeroVironment announced the receipt of a contract from DARPA (Defense Advanced Research Projects Agency) to develop a portable, stealthy, persistent perch and stare (SP2S) unmanned aircraft system. Shrike VTOL represents the conclusion of this development effort.

"With more than four years of customer funding behind it, our new Shrike VTOL unmanned aircraft system is designed to address the need for a small, light-weight hovering aircraft that delivers unique surveillance and intelligence capability not provided by current solutions.

"Not only does Shrike VTOL hover for more than 40 minutes with a high resolution video camera, but its innovative design also allows for the transmission of several hours of live video as a remotely emplaced perch and stare sensor," said Tom Herring, Senior Vice President and General Manager of AeroVironment's UAS business segment.

"This new solution adds an important set of new capabilities to our existing and battle-proven family of small unmanned aircraft systems that are saving lives in theatre today." SP

medium-altitude, long endurance UAVs consisting of Elbit's Hermes 900 and IAI's Heron 1.

The Jerusalem Post has reported that IAI has joined hands with Rheinmetall Defense of Germany to develop a new weapons system for aerial drones to cope with proliferating threats. SP

GA-ASI tests new UAS open payload architecture

General Atomics Aeronautical Systems (GA-ASI), a leading manufacturer of unmanned aircraft systems (UAS), tactical reconnaissance radars, and electro-optic surveillance systems, has completed initial testing of a new UAS open payload architecture in its Poway, California, System Integration Laboratory. The testing demonstrated the ability to host third party-developed payload control software on existing airborne and Ground Control Station (GCS) processors and was conducted in partnership with SELEX Galileo in support of the integration of SELEX Galileo's SeaSpray 7500E radar into GA-ASI's Predator B UAS.

"GA-ASI's implementation of the UAS open payload architecture greatly reduces integration complexity by allowing payload providers and mission systems integrators to develop their own payload control software and ultimately integrate their own payloads," said Frank Pace, President, Aircraft Systems Group, GA-ASI.

The new open payload architecture supports sovereign payload integration capability by enabling integrators to perform the mission management, sensor integration, sensor control, and sensor fusion tasks. Due to the aircraft's segmented avionics and open payload architectures, payloads can be integrated without the need to modify UAS or GCS software, yet integrators can access aircraft data links and communication buses, control certain aircraft power switching, and receive vehicle and sensor data feeds. SP

QinetiQ to deliver scenario-based programme

The QinetiQ West Wales UAV Centre (WWUAVC) and Clarion Events demonstrated at DSEi exhibition in London the integration and interoperability of numerous unmanned ground and airborne systems with force patrol operations in support, surveillance and protection roles through a 'real world' scenario.

The two have come into a strategic partnership to deliver the world's first scenario-based programme of indoor unmanned systems demonstrations. The first such scenario, a "foot patrol in Afghanistan" was unveiled at DSEi.

The QinetiQ WWUAVC is the gateway to a unique environment that has been created to facilitate and accelerate the growth of the unmanned air systems (UAS) industry. The WWUAVC provides significant operational airspace for UAS R&D, training and demonstration, together with safety infrastructure and complementary environmental and communications test facilities across the full range of UAS platforms. SP

Blue Bear launches iStart

Blue Bear has launched the iStart one-man portable UAV, a platform which can be airborne within five minutes. The platform has a 'shake and start' engine with 40 minute endurance. It has folded wings for easy carriage.

The system has a 'plug and play' payload architecture, and the company is looking into decreasing the size of the payloads to be able to fit several onto the system at once. It also has a forward looking EO camera installed onboard, as well as an ultrasonic sensor, and it can land fully-autonomously. SP





Grave challenges to national security: Prime Minister



The Prime Minister Dr Manmohan Singh has said that the security environment in the country continues to be uncertain. The recent terrorist attacks in Mumbai and Delhi are grim reminders of the grave challenges posed by terrorism to our national security. Over the last one year, left-wing extremism has also claimed the lives of many innocent persons and police personnel.

Addressing the annual conference of Director Generals of Police (DGPs) in Delhi, he said: "The Home Minister has already briefed you on the large resources that have been deployed by the Government of India in dealing with the problem of left-wing extremism. There have been some successes on the ground. But if we seek a decisive change in the situation, then a huge collective and coordinated effort is required both by the Centre and the States acting in concert. The role of the DGPs in leading this effort is crucial and I urge that more focused attention be given to this problem.

"We are trying to give a sustained thrust to development processes in the Naxalite affected areas. I am hopeful that with these changes and the setting up of Specialised India Reserve Battalions, that will assist directly in these development efforts, there will be some positive difference on the ground.

"We have initiated a process of broad-based consultations to find a way forward in Jammu and Kashmir. We need to give the

processes of dialogue and democracy a chance to secure a just and honourable settlement that meets the aspirations of all sections of the people. Despite these positive developments, there is no room for complacency on the security front. There are reports of cross-border camps for terrorists being reactivated, and of attempts to induct fresh batches of militants into the country. We need to ensure that such attempts are foiled through smooth and coordinated functioning of all security agencies working in the State.

"In the Northeast, there has been a gradual yet substantial improvement in the security situation. The climate for talks with different groups in Assam has improved. The situation in the Darjeeling Hills has shown improvement. Over the past few years we have learnt some lessons in dealing with our multiple security challenges.

"Our human intelligence capabilities need to be improved. The grassroots information and intelligence collection systems that have traditionally been a part of policing have languished or fallen into disuse in some places. The role of a vigilant and effective beat constable can be vital in checking the activities of networks, which otherwise operate under the radar. Some reorientation in the functioning at these cutting edge levels is necessary and the role of community policing should also be emphasised. Shortage of manpower is another problem and we are trying to address it on a war footing.

"As the 26/11 tragedy showed, terrorists use the latest technologies for communication and real time information sharing. We have therefore to remain one step ahead of our adversaries. With this in mind, connectivity has been established between subsidiary multi agency centres and State Special Branches. I hope that the NATGRID would enable seamless retrieval and dissemination of data critical to the task of anticipating and preempting terrorist attacks.

"The constabulary is the mainstay of our police forces, constituting about 87 per cent of their total strength. Improving the image of the constabulary is, therefore, critical to building public trust in our police forces. Police personnel must also be adequately trained to upgrade their professional skills and inculcate the right attitude towards the public.

"These are difficult and challenging times for our security forces. Our social fabric continues to be targeted by organised terrorism, abetted by misguided zeal and false propaganda among the youth and the marginalised sections of society. We have to contend with left-wing militancy, parochial and chauvinistic movements, and tensions caused by socio-economic imbalances and iniquities and also by rapid urbanisation. Policing the metropolitan areas, the control of organised crime and the protection of women and the elderly require special attention.

While dealing firmly with these challenges, the police must function within the bounds of a democratic framework, in which human rights of our people are scrupulously respected and upheld." **SP**



Home Minister underscores importance of intelligence network



The Union Home Minister P. Chidambaram who inaugurated the DGPs/IGPs Conference in New Delhi exhorted the Intelligence Bureau and the intelligence wings of State police forces to continue to do their silent and solid work. The Minister said that we have taken up the task of capacity building since the Mumbai terror attacks, but more needs to be done.

“We meet this year under the shadow of two terrorist attacks that took place in Mumbai on July 13, 2011 and Delhi on September 7, 2011. Innocent lives were lost; many were injured and, in Delhi, many are still in hospitals.

“Questions have been raised about the capacity, competence and commitment of our security forces and, especially, of the intelligence community. Doubts have been expressed about the investigations that are under way and, especially, of the cases that remain ‘unsolved’. There is concern about the long time taken for completion of trials and conviction of the accused. Comparisons have been made between India and other countries, particularly the United States.

“I think the leaders of the police forces – and especially the intelligence community – need to communicate more openly and more often to the people.

“Left-wing extremism is the most violent movement in the country. The CPI (Maoist) is the most violent organisation in the country. I have always maintained that dealing with left-wing extremism is a shared responsibility of the Centre and the States. The Central Government has shouldered its share of responsibility in dealing with the left-wing extremism. We have deployed 71 battalions of CAPFs as against 37 in 2009.

“Two terrorist attacks in the space of two months are indeed blots on our record. The epicentre of terror is Afghanistan-Pakistan. Four out of five major terrorist groups are based in Pakistan and three of them – LeT, JeM and HM – continue to target India. There is no let up in attempts to infiltrate from across the line of control in Jammu and Kashmir. Besides, there are attempts to infiltrate terrorists via Nepal and Bangladesh into India as well as find a safe transit route from Sri Lanka to Tamil Nadu.

“There are Indian modules too. They seem to have the capacity to attract radicalised youth to their fold. Some modules are loosely knit under an organisation called Indian Mujahideen. Many old cadres of the banned Students Islamic Movement of India have morphed into IM cadres. There are other Indian modules that espouse the cause of right-wing religious fundamentalism or separatism. Many of these modules have acquired the capacity to make bombs.

“The challenge of terrorism is a formidable challenge and requires a comprehensive strategy of counter terrorism. We do not have just one pre-eminent threat; we have several. We must build the capacity to deal with these multiple threats. Capacity building is work in progress. It requires time, money, human resources, technology and harnessing the capacity of every agency and organisation in the country.

“Have we done enough to build capacity since the Mumbai terror attacks? The answer is yes and no. 36 battalions comprising over 36,000 personnel have been raised after November 2008 and 21 more battalions are being raised. Since 1971, States have raised 132 IR battalions and the Central Government has reimbursed ₹1,002 crore for this purpose. 13 training institutions are being upgraded and 17 new institutions are being set up. 16 out of 21 new CIAT schools are functional. The CAPFs recruited 91,761 constables in 2009-10 and 2010-11. On their part, State police forces have reported that they have recruited 1,07,238 constables in 2009 and 90,359 in 2010. In 2011-12, CAPFs will recruit 92,168 constables and 29,370 officers and other ranks. I am confident that State police forces will recruit another nearly 1,00,000 personnel in 2011. In addition, huge quantities of rifles, carbines, pistols, BP jackets, night vision devices and vehicles have been procured for CAPFs and State police forces.

“Yet, we have not done enough. There are still over 5,00,000 vacancies in State police forces. We will spend ₹1,01,858 crore this year on policing the whole country. This figure must be compared with ₹1,64,415 crore that has been budgeted for the defence services. It is obvious that the Centre and States must provide more money to their police forces.” **SP**



Terror strikes Delhi again

On September 7, terrorists struck Delhi again. A high intensity bomb went off outside the Delhi High Court at 10.17 a.m. As per latest updates, the death toll has been 15 and 76 injured, some critically.

The blast occurred between Gate No. 4 and 5 of the Delhi High Court when around 200 visitors, mostly litigants, were waiting in queue to get passes to enter the court premises. The bomb is believed to have been placed in a briefcase and left near gate No. 5 of the court.

The National Investigation Agency (NIA) is probing the blast and reportedly has taken a few persons for interrogation. The Union Home Secretary R.K. Singh has said that "some people have been arrested and they are being interrogated. We have clues and there is progress in the investigation." The NIA has also announced ₹10 lakh reward for any information on the people behind the blast.

Meanwhile, the Home Minister, P. Chidambaram has stated in Parliament that "Delhi is a target of terrorist groups. When Parliament is in session and during certain other times of the year, Delhi is placed on high alert. Intelligence agencies constantly share intelligence inputs with Delhi Police. Intelligence pertaining to threats emanating from certain groups was shared with Delhi Police in July 2011. At this stage it is not possible to identify the group that caused the bomb blast."

Meanwhile, the Uttar Pradesh Police has ruled out any terrorist angle in the blast that took place in a hospital in Agra on September 17.

The Special DGP (Law and Order) Brij Lal said neither the materials used nor the design of the device pointed to the in-



volvement of terrorists.

As per preliminary investigation, the blast was caused by a crude device without a timer, or a detonator. The explosive materials were potassium chlorate, sulphur and charcoal, all of which are used in making firecrackers.

Brij Lal said the state's investigating agencies, including the ATS, are working to track down those involved in making and planting the bomb at Jai Hospital. **SP**

Security implications of Chinese goods

The Minister of State for Defence M.M. Pallam Raju has said that the Government has taken cognizance of security implications of the import of electronic components from China especially while manufacturing encryption products.

Bharat Electronics Ltd. (BEL), a defence public sector undertaking, which is a manufacturer of strategic defence electronic systems has been advised to ensure that components of encryption products manufactured by BEL are not imported from China. **SP**

Dosi Meters for disaster management

The Government has decided to provide Dosi Meters, which measure radiation, to 35 cities in the country as a step towards disaster management preparedness.

The national guidelines for management of nuclear and radiological emergencies prepared by the National Disaster Management Authority stipulate that in addition to the existing 18 specialised emergency response centres (ERCs) established by the Department of Atomic Energy, additional emergency response centres (AERCs) in the form of mobile radiation detection systems are to be located in major cities. These centres have

been identified for equipping with appropriate radiation detection instruments including digital Dosi meters for personal protection in Chennai, Kolkata, Mumbai, New Delhi, Ahmedabad, Bangalore, Hyderabad, Agra, Bhopal, Guwahati, Indore, Jaipur, Kanpur, Lucknow, Madurai, Nagpur, Patna, Pune, Surat, Vaddara, Bhubaneswar, Dehradun, Jodhpur, Ludhiana, Mysore, Nasik, Raipur, Ranchi, Rohtak, Shillong, Shimla, Srinagar, Thiruvananthapuram, Varanasi and Visakhapatnam. **SP**

India-Bhutan review border security

The 7th India-Bhutan meeting on border management and security was held at New Delhi recently. The Indian delegation was led by A.E. Ahmad, Secretary (Border Management), and the Bhutanese delegation was led by Dasho Penden Wangchuk, Secretary, Ministry of Home and Cultural Affairs (MHCA).

The two sides reviewed issues relating to threat perceptions, security and border management, sharing of real time information, opening of a seasonal land customs station at Jiti, training of security personnel, misuse of SIM cards, coordination of entry-exit points on the Indo-Bhutan border, etc.

The talks are expected to further catalyse the cooperation and traditionally friendly relations between the two countries. It was also decided that the next India-Bhutan meeting on border management and security will be held in Bhutan in 2012. **SP**



UN chief takes to cyberspace

The UN Secretary General Ban Ki-moon took the United Nations pulpit live to cyberspace for the first time recently, answering questions submitted through Facebook, LiveStream, Twitter and other social media networks on issues ranging from UN reform and the Middle East conflict to poverty and food security.

The 'Global Conversation,' lasting just over half an hour and moderated by Juju Chang of the United States ABC television network, saw Ban sitting in a studio at UN Headquarters in New York as he fielded questions from countries as far apart as China and Canada, and South Africa and the Philippines.

More than 5,500 questions were sent in over recent weeks in the six official UN languages – Arabic, Chinese English, French, Russian and Spanish – as well as in Portuguese and Swahili, while others came in live during the event, which was simultaneously translated into Chinese through the Weibo social media network.

The first question, in Spanish on Twitter, asked when the UN would be reformed to match today's needs, and Ban stressed the complexity of making decisions in an organisation numbering 193 members.

Some questions dealt with more general issues such as



peacekeeping and corruption ("It is the cancer of our society, it must stop," Ban said), while others targeted specific topics such as the Palestinian issue ("I'm a strong supporter of this two-state vision" – Palestine and Israel), and war-torn and famine-stricken Somalia ("I sincerely hope the international community will provide the generous humanitarian assistance"). **SP**

General Dynamics joins cyber security group

General Dynamics Advanced Information Systems, a leading provider of cyber security solutions, has joined with Virginia Tech as an affiliate of the newest Security and Software Engineering Research Center (S2ERC), founded with support from the US National Science Foundation (NSF). The NSF established the S2ERC programme 25 years ago as the Industry and University Cooperative Research Center (I/UCRC) programme dedicated to software engineering and recently re-chartered the centre with an added focus on security.

The National Science Foundation awarded Virginia Tech a five-year grant to support the centre, which includes the participation of industry and academia. The new cyber security site becomes the third primary S2ERC location in the country. The two other primary site locations are Ball State University and Iowa State University Tech.

"It is vital to America's security that industry remains a prominent contributor in the education and training of our future cyber leaders," said Lou Von Thaer, President, General Dynamics Advanced Information Systems. "The strides we make in cyber security benefit not only industry, but protect our national security as well. That is why we are committed to helping Virginia Tech create and sustain this centre as a nexus for collaborative cyber security research.

"Partnering with one of the leading engineering institutions in the country, we expect this centre for cyber research to improve our customers' mission capability and strengthen their defences on the Internet," said John Jolly, Vice President and General Manager of General Dynamics Advanced Information Systems' Cyber Systems division. **SP**

Spies collaborate with hackers

Hackers sponsored by the Chinese Government and other nations are collaborating with profit-driven malware gangs to infiltrate corporate networks storing government secrets and other sensitive data, state media reports citing research.

In many ways, the relationship between state-sponsored actors and organised crime groups that target online bank accounts resembles the kind of mutually benefiting alliances found in nature everyday. Just as human intestines create the ideal environment for certain types of bacteria – and in turn receive crucial nutrients and digestive assistance – crimeware operators often cooperate with government-backed spies perpetrating the kinds of APTs, or advanced persistent threats, that have pillaged Google, RSA Security and other US companies. **SP**

Smartphone could be a tool for cyber criminals

Reports have indicated that the new android phone or the latest model of the smart phone may be vulnerable to smishing or hacking of smart phones, the latest entry in cyber crime. Smishing is nothing but the mobile phone variant of a phishing attack, usually seen through the e-mails on your computers. Experts believe that it is very easy to access not only phone number, but everything that is saved in the phone through smishing.

Gaurav Kanwal, Country Sales Manager, India & SAARC, Symantec, has been quoted in the media that a sample study revealed that 17 per cent of total mobile phone users are victims of mobile smishing, and most of them had occurred due to downloading of applications. **SP**



BAE Systems new helicopter landing system

During the Defence and Security Equipment International (DSEi) exhibition in London, BAE Systems showcased its Brownout Landing Aid System Technology (BLAST), a situational awareness solution that helps helicopter pilots see in degraded visual environments (DVE).

BAE Systems utilised “off-the-shelf” technology garnered from already-fielded systems in developing BLAST, which addresses the urgent need for rotorcraft operation in DVE, such as brownout, fog and smoke. Helicopter brownout occurs when a pilot loses visual references due to dust or sand recirculating during take-off or landing, which is a major problem in arid desert terrain. Brownout poses a major safety risk to helicopter operations in desert operations, which the new BLAST system could solve. As allied forces have investigated reducing the high accident rates caused by poor visibility when DVE conditions exist, they have realised this phenomenon will not be resolved through training alone but is one that requires a technology solution.



BAE Systems successfully tested BLAST during a two-week campaign in April 2011 at the Yuma Proving Grounds in Arizona. Fitted on a Bell UH-1 “Huey” test-bed helicopter, the system demonstrated effective real-time 3-D visual landing zone representation with overlaid flight symbology information to a pilot in DVE conditions. The flight symbology provides all relevant flight critical information, allowing the pilot to easily judge the height, speed, and drift of the aircraft.

“The system combines proven millimetre wave (MMW) technology with advanced situational awareness capabilities, and provides safe-flight capabilities for front-line helicopter crews in diminished visibility conditions such as brownouts, whiteouts, darkness and adverse weather, helping the pilot achieve mission success,” said Paul Cooke, Business Development Director of defence avionics for BAE Systems.

BLAST is at a technology readiness level (TRL) 6 as a prototype DVE System demonstrated in a relevant environment.

The system’s light weight, flexible architecture and ruggedised features allow it to be installed on both new and legacy helicopter models. The strong, versatile nature of this technology allows all platforms requiring real-time 3D situational awareness in DVE to benefit from this solution. **SP**

DARPA’s hybrid small UAS fuel cell

Small unmanned aircraft systems (UAS) provide valuable intelligence, surveillance and reconnaissance (ISR) capabilities for units at the infantry company level and below, allowing over-the-next-hill imagery or short-term monitoring of convoys as an example. State-of-the-art battery power for these small UASs, however, has limited the duration of missions to about two hours.

“A small unmanned aircraft system with long-endurance capability could give the military the ability to do with a small craft what has previously been doable only with larger airframes. This has potential for tremendous cost savings – we can maintain and even improve on our UAS capabilities with a much smaller footprint and lower operating cost,” said Brian Holloway, Defense Advanced Research Projects Agency (DARPA) programme manager.

DARPA’s Tactical Advanced Power (TAP) programme has addressed the power limitation by developing a compact solid oxide fuel cell (SOFC) fuelled by propane, a very high energy density hydrocarbon fuel. DARPA researchers have also developed the Stalker XE, a small UAS powered by this fuel cell to provide extended mission endurance for more than eight hours with the reliability and ruggedness required to perform real-world missions. The Stalker XE has demonstrated an improvement of more than four times the endurance of existing state-of-the-art small unmanned aircraft systems.

The fuel cell was the basis for the hybrid power source on the Stalker XE, in which the high energy density fuel cell system was

combined with a conventional lithium polymer battery to handle peak power requirements. Its high energy density hydrocarbon fuel to handle energy storage rather than a relatively low energy density battery. The Stalker XE enables persistent surveillance operations for small units. As a 22-pound bungee-launched system, it operates without the large footprint and high cost of current tactical UAS platforms.

The enabling technology is the compact SOFC developed by DARPA for portable power applications, but the notable achievement of the Stalker XE demonstration is ruggedisation of the advanced SOFC power source and integration into a fieldable platform. Stalker XE was subjected to rigorous flight-testing, where it was required to perform back-to-back flights on a single airframe and single fuel cell with turnaround times of less than 30 minutes. During these tests, the aircraft encountered wind gusts of 74 kph and sustained winds as high as 45 kph. The system also performed at altitudes of greater than 15,000 feet.

The TAP portfolio programme develops advanced portable power and energy in program efforts ranging from fundamental materials and chemistry to systems engineering of mature portable power systems. The fuel cell power source in the Stalker XE was developed and matured under DARPA’s palm power and robust portable power sources programmes. Under the TAP programme, the fuel cell system was ruggedised for integration into a fieldable small UAS.

“Stalker XE is a great example of how TAP may help reduce logistical burdens, enhance mission capability and fundamentally change how the US military uses power and energy,” said Holloway. **SP**



RFI/RFP/TENDERS

Indian Army**RFI: 120 MM Mortar Terminally guided Munitions(TGM)**

Indian Army

Publication date: August 29

Last date: September 30

Indian Navy**RFI: Multi Influence Ground Mine**

Indian Navy

Publication date: August 24

Last date: September 22

RFP: Consultancy for Naval Aviation Management System

Indian Navy

Publication date: August 25

Last date: September 22

Indian Air Force**Tender: Spares for IL series aircraft**

Air Hqrs

Publication date: July 26

Last date: September 22

RFP: Spares for Chetak and Cheetah helicopters

Air Hqrs

Publication date: August 9

Last date: September 29

RFP: Spares for Avro

Air Hqrs

Publication date: August 9

Last date: September 29

Tender: Advanced interoperability communication system

Air Hqrs

Publication date: August 18

Last date: September 30

Tender: Hydrogen gas

Air Hqrs

Publication date: September 2

Last date: October 10

Ministry of Home Affairs**Tender: Explosive detector**

CISF

Publication date: August 5

Last date: October 4

Tender: Bomb suit

CISF

Publication date: August 10

Last date: October 5

Tender: X-ray baggage screening (small)

CISF

Publication date: July 19

Last date: October 11

Photonic launches pirate defence system

Photonic Security Systems, UK-based, marine security specialist company, has launched a new proactive pirate defence system, the SMU100. It was displayed at the Defence and Security Equipment International Exhibition (DSEi), London recently.

The Shoulder Mounted Unit 100 (SMU100) acts in a non-lethal and humane manner and is based on a proactive method to prevent pirates from approaching a ship. The system works by sending a 10-metre-wide multi-band laser light beam, up to a distance of 1 km, to dazzle the potential intruder and disable them from locating and boarding the ship.

Through this newly developed alternative to firearms security teams can effectively prevent pirates boarding merchant ships. The SMU100 makes it very difficult for them to filter the beam and still retain a view of the intended target.

PSS technology utilises multi-colour channels that are blended via a transmitter control unit and then directed to a lens through a fibre-optic cable. When activated and directed at an incoming craft, the multi-colour laser inflicts a dazzling effect allowing the ship's captain to take a suitable evasive course of action to minimise further attacks.

Each unit package is built to suit the voltage supply available onboard and to the requirements of the ships' owner or managers. The warm-up time is short and the units can be linked to threat detection devices or thermal imaging equipment if required. **SP**

Rubb's expeditionary forces aircraft shelters

Rubb Buildings, a world leader in design, manufacture and delivery of relocatable helicopter and fixed wing aircraft 'super tents' has launched the expeditionary forces aircraft shelter system (EFASS) during the DSEi exhibition recently.

The EFASS shelter system, which features hangars, sunshades and warehouses, is uniquely suitable for the military services, designed to be rapidly deployed and erected anywhere in the world.

Structures are available in three spans: 11.1 m (36 ft), 20.4 m (67 ft), 25 m (82 ft) and pack into 20 ft ISO containers ready for transport by sea or air. With unmatched engineered fabric structures currently in action across the globe, Rubb has the solution to military and defence application requirements. **SP**



Aero Sekur's military clothing and microensors

Aero Sekur returned to the DSEi exhibition with an extended defence clothing range including CBRN suits and respirator, sniper suit and poncho. Continued innovation in advanced soldier equipment includes a new ballistic jacket offering high levels of protection, low weight and quick release system.

Capability in advanced combat clothing has been confirmed with Aero Sekur's role as a key player in Forza NEC – the Italian Future Soldier programme. The company is responsible for development of NBC masks/canisters, NBC combat suits including NBC gloves and boots, combat suits, battle dress uniforms, combat boots, sniper suits and under/overgarments.

An integrated personal protection platform is now offered by Aero Sekur: the result is a one stop solution for defence apparel with full compatibility between elements including suits, masks, armour and electronic equipment. The platform philosophy is a technical springboard for advancements such as body mapping systems. **SP**





Boeing leads on environmental performance

For the third consecutive year, the Carbon Disclosure Project recognised Boeing as one of the world's leading companies in reporting climate-change risks and taking action to improve environmental performance.

The Carbon Disclosure Project, an investor-funded non-profit organisation that produces the most comprehensive survey of global corporate carbon emissions, listed Boeing in its 2011 Carbon Disclosure Leadership Index.

"We've seen many instances where environmental improvements have resulted in cost savings, productivity gains and fuel-efficient new products," said Mary Armstrong, Boeing Vice President of Environment, Health and Safety.

"Focusing on the environment has enabled us to develop the next generation of aerospace products, pioneer research into cleaner fuels, improve the efficiency of the global air traffic management system to reduce the global carbon footprint of air travel, and invest in new technologies to create a brighter future."

Since 2002, on a revenue-adjusted basis, Boeing US operations have reduced carbon dioxide emissions by 28 per cent, energy consumption by 30 per cent, hazardous-waste generation by 44 per cent and water intake by 41 per cent. **SP**

Rockwell Collins anticipates revenues close to \$5 billion

Rockwell Collins has reaffirmed all aspects of its fiscal year 2011 guidance including revenue of \$4.80 billion to \$4.85 billion, cash flow from operations of about \$650 million and earnings per share from continuing operations of \$4.00 to \$4.10, which excludes the gain on sale of Rollmet and any impact from potential restructuring actions.

For fiscal year 2012 the company anticipates revenues between \$4.9 billion and \$5.0 billion, earnings per share in the range of \$4.40 to \$4.60, and cash flow from operations of \$625 million to \$725 million.

"Strong growth in Commercial Systems is anticipated to more than offset a modest revenue decline for Government Systems in fiscal year 2012. The structural balance our company maintains between these two businesses has served us well during previous market cycles and should continue to enable stable, positive growth in the year ahead, despite weaker conditions in our US Government markets," said Rockwell Collins Chairman, President and Chief Executive Officer, Clay Jones. **SP**

Nine Indian companies visit Saab

Nine Indian companies operating in the defence sector visited Sweden in order to meet the Swedish defence industry. The Swedish Security and Defence Industry Association (SOFF) and Saab Group hosted the visit together, with a focus on business-to-business meetings between participating Indian and Swedish companies.

The nine companies visiting under the aegis of the Confederation of Indian Industry (CII) also had the privilege of visiting Saab's Capability Development Centre, where they witnessed an impressive integration demonstration. Saab also presented Gripen, Dynamics, special mission aircraft, unmanned aerial systems, as well as Saab's civil aircraft production for Airbus and Boeing.

"The CII participants were hugely impressed with our broad technical expertise and our long history in the defence sector! One of the key conditions for succeeding with our business in India is based on finding the right business partners. For Saab, the visit has resulted in identifying at least three potential areas of collaboration that will now be explored further. It is important, even in the early stages, to develop industry partnerships that increase our chances of winning business in strategically important countries like India," said Ulf Rudebark from Saab Industrial Cooperation. **SP**

SECURITY EVENTS

SPIE Security + Defence 2011

19-22 September 2011

Clarion Congress Hotel Prague
Prague, Czech Republic

<http://spie.org/x6201.xml>

5th Annual Infantry Weapons 2011

26-28 September

Copthorne Tara Hotel, Kensington
London

<http://www.infantryweaponsconf.com/Event.aspx?id=407888>

MRO Military Europe

28 September

IFEMA

Madrid, Spain

<http://www.aviationweek.com/events/current/meumil/index.htm>

Geospatial Defence and Intelligence APAC

28-29 September

The Westin

Kuala Lumpur, Malaysia

<http://www.iqpc.com/Event.aspx?id=456688&MAC=CAC>

Soldier Modernisation India

4-6 October

The Oberoi, New Delhi

<http://www.soldiermodindia.com/Event.aspx?id=375188>

Armoured Vehicles Asia

19-21 October

Swissotel Merchant Court, Singapore

<http://www.armouredvehiclesasia.com/Event.aspx?id=500808>

IDEAS International Defence Exhibition & Seminar

7-11 November

Karachi Expo Centre, Main University
Road, Gulshan-e-Iqbal, Karachi

<http://www.ideaspakistan.gov.pk/>

Defence Logistics

29 November-2 December

Marriott Crystal Gateway, Arlington USA

<http://www.wbresearch.com/defense-logisticsusa/home.aspx>



U2 star Bono's daughter in security lapse

U2 star Bono's eldest daughter, Jordan Hewson, was recently at the centre of a security lapse, which saw her personal details posted online. The 19-year-old is studying politics and history in a prestigious university in the US. The university came under fire for revealing her home address, telephone number and personal e-mail address on the web. Subsequently, it was removed.

The lapse comes a year after it was revealed that that the rocker's daughter was once the target of a foiled kidnap plot. Martin 'The General' Cahill's daughter had said in her book that Hewson was the target of a gang who hoped to extract a multimillion-dollar ransom from her famous father in 1994. **SP**



Oscar awards gatecrasher hired to prevent security breaches

It happens only in Hollywood. Post a gatecrasher to catch a gatecrasher. Oscars in 2009 hired the services of a professional gatecrasher to plug the gaps in security.

Scott Weiss, the poacher turned gamekeeper oversaw security operations at the Kodak Theatre in Los Angeles, ensuring



there was no gatecrashing of any kind. Weiss, a former actor who had a small speaking role in *Robocop*, has been known for breaking into events with Clint Eastwood, Prince Charles, David Beckham and the Spice Girls, not to forget Emmys, Grammy, Golden Globes, Screen Actors Guild awards.

The final frenzy of gatecrashing was for a guerrilla documentary film called *The Crasher*, which details the meticulous lengths he went to in order to gain entry and then get himself photographed with stars of the silver screen.

Armed with a camera, a laptop loaded with Photoshop software, coloured paper and a portable laminator, Weiss photographed and then mocked up fake security passes to gain entry. **SP**

Duquesne spy ring, the largest in US history

In June 1941, Fritz Joubert Duquesne, also known as 'The man who killed Kitchener' was arrested by the Federal Bureau of Investigation with two associates on charges of relaying secret information on Allied weaponry and shipping movements to Nazi Germany.

On January 2, 1942, 33 members of the Duquesne Spy Ring, the largest espionage ring conviction in the history of the United States, were sentenced to serve a total of over 300 years in prison. William G. Sebold, a double agent, was instrumental to the capture and conviction. One German spymaster later commented that the ring's roundup delivered 'the death blow' to their espionage efforts in the United States. The 1945 film *The House on 92nd Street* was a thinly disguised version of the uncovering of this spy ring. **SP**

Detention of Chinese shows security gaps

Four Chinese who were detained at the Jaisalmer border for staying illegally in the sensitive region has exposed the loopholes in the country's security setup. The four, who were reportedly working for an oil exploration company on the India-Pakistan border, did not have any valid documents. The passports and visa papers did not reveal their address in China.

"The entire incident shows a serious security lapse and negligence of the officials including the security staff. We are conducting a thorough probe to see how it all happened," a police officer has been quoted in the media.

The Jaisalmer police arrested them recently, after they worked for Focus Energy in Shahgarh Bulge for about 10 days. **SP**

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