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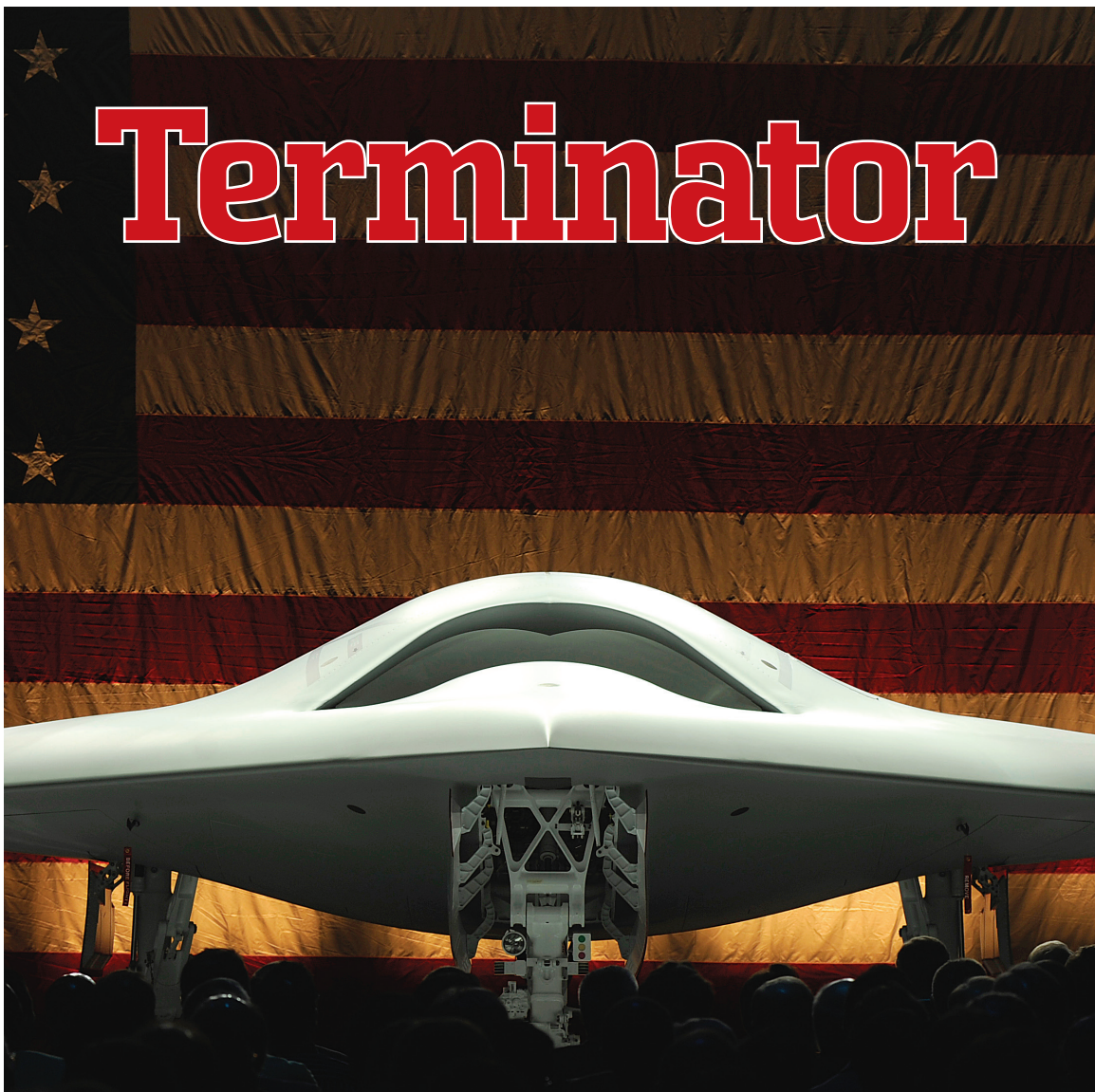

US aerospace 'n' killware goliath Northrop Grumman's most advanced robot aircraft in the world, the X-47B Unmanned Combat Air System (UCAS) is intended to operate from the flight deck of US Navy aircraft carriers, carrying out entire missions including air-to-air refuelling without pilot input

Unmanned aerial systems (UAS) are reshaping the battlefield of the 21st century and helping deliver persistent intelligence, surveillance, and reconnaissance capabilities. As UASs take on a growing role, military forces are re-evaluating the requirements for UAS operators, and there is an increasing need for more robust and capable mission training solutions.

As a global leader in modeling and simulation and integrated training solutions, CAE is applying its expertise and experience to support UAS mission training. We are focusing on the training required by the mission team – including the pilot, payload specialist and mission commander. Our solutions are non-proprietary, flexible, adaptable and interoperable to enable distributed mission operations. Our simulation technology leadership in areas such a sensor simulation, weapons effects, computer-generated forces, artificial intelligence, common databases and true fidelity modeling – combined with our training systems integration expertise – come together to help our customers stay one step ahead and prepare the UAS mission team for mission success.

Come visit CAE's booth (Hall C, Booth #C7) at Aero India 2011 to see a demonstration of our UAS Mission Training Solutions.

CAE's UAS mission training solutions feature a fully immersive synthetic environment, state-of-the-art sensor simulations, common database (CDB) architecture and additional simulation technologies to support complete mission crew training and rehearsal requirements.

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one step ahead

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Cover Photo:
The military role of unmanned aircraft systems is growing at unprecedented rates. Their roles have expanded to areas including electronic attack, strike missions, suppression and/or destruction of enemy air defense, network node or communications relay, combat search and rescue, and derivations of these themes.

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SP's M.A.I. for "Actionable Intelligence"

We grew up walking into a place of religious worship; into a cinema house; into a railway station and other public places without going through the security drill which the present generation is getting used to. All we knew was the enemy was always across the border. Not within. That has changed radically over the years and the present generation is confronted with asymmetrical warfare.

With terror outfits mushrooming across the globe, the fear of the unknown is getting magnified. When, where and how they strike has left all of us a lot more insecure than ever before. The need to secure not just the borders, but also our religious places, our institutions, our entertainment zones etc is becoming a big challenge—first in terms of change in mindset and secondly in terms of investing in security.

After the September 11 attacks in the US, the concept of homeland security, an umbrella term for security efforts to protect the nation against terrorist attacks, gained currency. In India the major terrorist jolt was the September 26 Mumbai terror attacks. It was time for the government to pull up its socks to secure the nation and its people. As India is emerging not just as an economic force but a regional power, security concerns have become primary.

Post-26/11, the government initiated several measures to strengthen the Armed Forces, the Intelligence Bureau, the National Security Guards, the Coast Guard and other security agencies. This has opened up the security industry like never before, and we believe, that there has to be a proper information flow to connect the industry to the end-user.

In this background, SP Guide Publications, a well-known publishing house established in 1964 with titles in the defence and aviation realms, has launched *SP's M.A.I* (Military, Aerospace and Internal Security) fortnightly publication. *SP's M.A.I* will cover exhaustively issues, events, technologies, and other related elements that add up to providing information on securing nations.

We have timed the launch of *SP's M.A.I* with that of Aero India 2011 happening in Bengaluru from February 9 to 13, 2011. SP Guide Publications is proud to be associated with the premier aerospace event as the 'Official Media Partner'. Aero India has been growing in scope and is the perfect platform not just to showcase India's defence and aviation strengths, but also to partner with the world to take it to the next level.

In the inaugural issue of *SP's M.A.I*, we are covering a vast gamut of issues/technologies/events related to security—including current trends in military strategies, equipment, aerospace challenges, unmanned aerial vehicles; cyber security etc, written by domain experts.

We have adopted a quick-read format while ensuring that information is power-packed. It is our endeavour to keep evolving, staying abreast of industry developments. We hope that you will find the news, interviews and other information we have compiled can be categorized as "actionable intelligence". We look forward to your feedback. SP

Jayant Baranwal
Publisher and Editor-in-Chief

रक्षा मंत्री
भारत
MINISTER OF DEFENCE
INDIA

I am pleased to learn that SP Guide Publications is introducing a fortnightly magazine – *SP's M.A.I* on the various issues concerning our Armed Forces and the internal security scenario.

Our economy's growth has altered the security scenario. Conventional wars have given way to unconventional threats. However, these changing dimensions require our Armed Forces to be ever vigilant. Our Armed Forces personnel strive tirelessly to preserve the sanctity of our borders on land, air and water. We want our Armed Forces to get the latest and best equipment. However, modernization cannot remain dependent forever on import of equipments. We have to develop technology indigenously for the gains to be permanent.

I hope that the fortnightly magazine – *SP's M.A.I* will provide a balanced coverage to our Forces and adopt a constructive approach in discussing security-related issue. Today, with technology changing at a rapid pace, the magazine will also have to address technological issues from time to time.

I am confident that *SP's M.A.I* will be read and liked by its readers.

Please accept my best wishes for your future endeavours. SP

A.K. Antony

DRDO, ISRO and others off US Entity List

To facilitate high-tech trade with India, the United States has removed from its Entity List as many as nine Indian defence and space-related companies, including the Defence Research and Development Organisation (DRDO) and the Indian Space Research Organisation (ISRO).

The US Department of Commerce's Bureau of Industry and Security recently took the first steps to implement the export control policy initiatives announced by President Barack Obama and Prime Minister Dr. Manmohan Singh on November 8, 2010.

With the removal from the Entity List, it eliminates a licence requirement specific to the companies, and results in the removed companies being treated the same way as any other destination in India for export licensing purposes.

As per the Export Administration Regulations (EAR), India has been removed from several country groups in the EAR resulting in the removal of export licence requirements that were tied to India's placement in those country groups. It also adds India to a country group in the EAR that consists of members of the Missile Technology Control Regime, to recognise and communicate India's adherence to the regime, the US-India strategic partnership, and India's global non-proliferation standing.

"This marks a significant milestone in reinforcing the US-India strategic partnership and moving forward with export control reforms that will facilitate high technology trade and cooperations," said Commerce Secretary Gary Locke. The Commerce Secretary will be in India (New Delhi, Mumbai and Bengaluru) in early February leading 24 US companies on a high-tech trade mission.

The entities removed are: Bharat Dynamics Ltd (BDL), the four remaining subordinates of the DRDO: Armament Research and Development Establishment (ARDE), Defence Research and Development Lab (DRDL), Missile Research and Development Complex; Solid State Physics Laboratory; and the four remaining subordinates of ISRO: Liquid Propulsion Systems Centre, Solid Propellant Space Booster Plant (SPROB), Sriharikota Space Centre (SHAR), and Vikram Sarabhai Space Centre (VSSC). SP

Samtel-HAL Display Systems on Su-30 MKI fighters

The Indian Air Force Sukhoi Su-30 MKI fighters will soon be installed with an advanced multi-functional display system developed by Samtel-HAL. The display systems are being manufactured under a limited series production by the joint venture in collaboration with scientists and engineers of the state-run Defence Research and Development Organisation (DRDO) at a cost of ₹250 crore.

"The first home-grown multi-functional display (MFD) system will be fitted in the cockpit of a Sukhoi for a roll-out. We have supplied five ship sets of MFD systems to the IAF for conducting flight trials in association with the Aircraft Systems Testing Establishment (ASTE), the Centre for Military Airworthiness and Certification (Cemilac) and HAL."

"We will have to produce five ship-sets every month. We hope to meet the requirement in the next five years. The systems were cleared for the series production a fortnight ago. Our technology is ready and the potential is huge as it operates in all-weather conditions." Samtel-HAL Display Systems Ltd Executive Director Puneet Kaura has said. SP

Harris bags $300 million Tactical Radio contract

Harris Corporation, an international communications and information technology company, has received a multi-year contract exceeding $300 million from an international customer to provide military radios and other equipment as part of a tactical communications modernisation programme.

Harris will provide the full range of communication capabilities from its Falcon II line, including Falcon II RF-5800M multiband radios; RF-5800V, very high-frequency (VHF) radios; and RF-5800H high-frequency (HF) radios.

"Our tactical radios form the backbone of critically important systems that enable defence forces to communicate by voice and data in a range of missions, including defence and homeland security," said Andy Start, President, International Business unit, Harris RF Communications.

Falcon II RF-5800H high-frequency radios provide beyond line-of-sight communications in the most demanding environments, along with advanced features such as third generation-Automatic Link Establishment (3G-ALE), integrated data link protocols and embedded GPS receivers. The Falcon II RF-5800M is a software-programmable handheld radio supporting continuous VHF/UHF operation across the 30 to 512 MHz bandwidth. RF-5800M radios provide multi-mission, multi-mode secure interoperability in a compact, lightweight package. The Falcon II RF-5800V is a lightweight VHF handheld radio that provides squad-level communications using the Harris Quicklook waveform and Citadel II encryption. SP

PHOTOGRAPHS: PIB, Sikorsky, Lockheed Martin

Sikorsky to build prototype light tactical helicopters

Sikorsky Aircraft will design, build and fly two prototype light tactical helicopters as the follow-on advancement to the X2 TechnologyTM demonstrator aircraft that unofficially shattered the helicopter world speed record in September last with a flight speed of 250 knots (460 kph). The decision to continue development of the next-generation rotary wing technology will enable Sikorsky and select suppliers to offer the high speed X2 prototype vehicles for flight test and evaluation by US armed forces. Sikorsky Aircraft is a subsidiary of the United Technologies Corp.

"Having proved the X2 Technology design to ourselves, we have full confidence we can now mature the technology for the US Army's light armed reconnaissance helicopter size," said Sikorsky President Jeffrey Pino. "Self-funding the design of a brand-new light tactical helicopter – the Sikorsky S-97 – and manufacturing two prototypes we have designated as the Raider™ X2 helicopter will help military aviation evaluate the viability of a fast and manoeuvrable next generation rotorcraft for a variety of combat missions."

In March 2010, Sikorsky submitted an X2 aircraft design to the Army's Armed Aerial Scout (AAS) programme. The AAS programme is currently conducting an analysis of alternatives for the Army's next armed reconnaissance helicopter. SP

Lockheed Martin contract for Long Range Anti-Ship Missile (LRASM) demos

Lockheed Martin has received two contracts totaling $218 million for the demonstration phase of the Defense Advanced Research Project Agency's (DARPA) long range anti-ship missile (LRASM) programme.

The programme encompasses the rapid development and demonstration of two distinct variants of the LRASM missile: LRASM-A is a stealthy air-launched variation and LRASM-B is a high-speed ship-launched missile.

Lockheed Martin's LRASM-A team received a $60.3 million cost plus fixed fee contract to execute two air-launched demonstrations, leveraging its Joint Air-to-Surface Standoff Missile – Extended Range (JASSM-ER) experience and demonstrating Navy and Air Force tactical aircraft employment.

Lockheed Martin's LRASM-B team received a $157.7 million cost plus fixed-fee contract to complete four vertical launch system (VLS) demonstrations, proving applicability to Navy surface combatants. Both LRASM-A and LRASM-B designs plan to support air-launch and VLS-launch configurations.

"Both of our LRASM solutions will deliver extraordinary range, willful penetration of ship self-defence systems and precise lethality in denied combat environments," said Rick Edwards, Vice President of Tactical Missiles and Combat Maneuver Systems at Lockheed Martin Missiles and Fire Control. "The maturity of these weapons and technologies allows near-term transition to Navy magazines at an affordable price. These are low risk, practical options with the Navy initiating studies of anti-surface warfare capability."

The joint DARPA/US Navy LRASM programme was initiated in 2009 to deliver a new generation of highly capable anti-ship weapons. Current anti-ship weapons possess limited range and lethality. As at-sea warfare advances, a new generation of stand-off anti-ship weapons systems are needed. SP

CAE wins contracts from 12 countries

CAE, a world leader in providing simulation and modelling technologies for the civil aviation industry and defence forces, has announced that it has bagged a series of military contracts for the defence forces of 12 countries valued at more than $140 million.

Among the contracts are: the design and manufacture of a C-130J weapon systems trainer and other training devices for Lockheed Martin; a contract from Boeing Training Systems and Services to build two M-346 full-mission simulators; an agreement with IGTEC to design and manufacture a C-130H full-mission simulator; a contract from Airbus Military to develop A400M maintenance trainers; a contract from Boeing to provide CAE's magnetic anomaly detection (MAD) system for the Indian Navy's P-8I Poseidon aircraft; and a contract from the United Kingdom Ministry of Defence to continue providing training support services for Royal Navy helicopter training systems.

"We are continuing to see opportunities and solid order activity around the world for CAE's comprehensive suite of military simulation products and services," said Martin Gagné, CAE's Group President, Military Products, Training and Services. "We have made it a strategic priority to position the company on key military aircraft that have a long life ahead, such as the C-130, M-346, A400M and P-8." SP

2,000th US Army vehicle refurbished in-theater by Oshkosh Defense

Oshkosh Defense, a division of Oshkosh Corporation, commemorated its refurbishment of the 2,000th US Army vehicle in the Theater-Provided Equipment Refurbishment (TPER) programme. Oshkosh collaborates with the US military on the TPER programme, which eliminates the cost of shipping vehicles to the US for repairs and returns the trucks to soldiers stationed in-theater more quickly.

"Many of the heavy and line-haul trucks that come to this facility have seen almost a decade of rugged, in-theater use," said Mike Ivy, Vice President and General Manager of Army Programmes for Oshkosh Defense. "The TPER programme allows us to significantly reduce the cost of refurbishing the Army's vehicles, and cuts maintenance cycle time by at least 60 days compared to US-based repairs – more quickly getting the trucks back out where they are needed. The 2,000th truck that we're delivering to the Army today represents the success of this programme and our combined commitment to supporting soldiers as close to point of use as possible."

Oshkosh executives and Army officials gathered at Oshkosh's Defense Logistics Center in Kuwait to celebrate the milestone and pay tribute to Oshkosh employees, as well as the US Army staff, who support the TPER programme. An Oshkosh heavy equipment transporter (HET), part of the Army's family of heavy tactical vehicles (FHTV), was the 2,000th refurbished vehicle.

The TPER programme restores battle-damaged and heavily worn vehicles from the Army's FHTV and line-haul fleets to the military's strict equipment-readiness standards so they can be returned to the field.

The DCMA and Oshkosh's quality-assurance offices work together to ensure vehicles are restored to full mission-capable operability. The Kuwait facility sees as many as 60-65 vehicles a month that need anywhere from 300-1,000 replacement parts. To meet these requirements, Oshkosh collaborates extensively with Defense Logistics Agency to maintain a multifaceted supply-chain management approach.

Oshkosh Defense provides after-market service and support with a full life-cycle approach. The company has led customer service projects at more than 100 locations globally, including in-theater. These efforts, along with factory-trained field service representatives (FSRs) and web-based parts support ensure customers can access service, repair and parts distribution in any corner of the globe, any time of the day. More than 700 Oshkosh service personnel are currently deployed across the US and abroad, including more than 280 FSRs in Afghanistan. SP

PHOTOGRAPHS: OshKosh

Raytheon's Patriot GEM-T Missiles for Kuwait

Raytheon Company has received a $145 million Foreign Military Sales production contract for Patriot Guidance Enhanced Missiles–Tactical (GEM-T) to augment Kuwait's air and missile defence.

The US Army Aviation and Missile Command, Redstone Arsenal, issued the contract to complement Kuwait's configuration-3 radar system upgrade work already underway at Raytheon.

"This new GEM-T missile production contract highlights the efforts by Kuwait Air Defense to maintain readiness and effectiveness of the Patriot Air and Missile System to counter evolving regional threats," said Sanjay Kapoor, vice president of Patriot Programmes at Raytheon Integrated Defense Systems (IDS). "We continue to modernize the Patriot system and are committed to providing Kuwait and our 11 other partner nations globally with increased system reliability and reduced life-cycle costs."

Work will be performed by Raytheon IDS at the Integrated Air Defense Center in Andover, US Raytheon IDS is the prime contractor for Patriot Air and Missile Defense Systems and is the system integrator for Patriot Advanced Capability-3 missiles. SP

NATO's theatre ballistic missile defence (TBMD) capability

NATO's first ever theatre ballistic missile defence (TBMD) capability has been handed over to NATO's military commanders. The handover took place at the NATO Combined Air Operations Centre (CAOC) in Uedem, Germany, in the presence of NATO Deputy Secretary General, Ambassador Claudio Bisogniero, and civil and military authorities from NATO and host nation Germany. The NATO Combined Air Operations Centre demonstrated how this interim capability allows NATO commanders, for the first time ever, to do limited ballistic missile defence planning and exchange information with national ballistic missile defence assets.

"The handover of this interim capability marks an important step in NATO's missile defence efforts," said Bisogniero. "In line with the NATO Lisbon Summit decision, this capability will be further expanded to form the cornerstone of a future missile defence system for the protection of territory and populations." NATO provides a command and control system that links sensors and interceptors from nations into a capability that can protect deployed forces from ballistic missile attacks. SP

LT GENERAL (RETD)
P.C. KATOCH

C4I2SR
Key to the Forces

To respond to 21st century battlefield requirements the defence forces need to usher in change. Through this transition to NCW capabilities, the requirement of information superiority and information assurance will remain dominant.

Look around the stalls in Aero India 2011 and the one thing you find common is command, control, communication, computers, intelligence, surveillance and reconnaissance (C4I2SR), indicating its increasing relevance. Battlefield requirements have changed with long range precision weapons, increased lethality and high mobility. Space and cyberspace have added new dimensions.

The Kargil War and macabre scenes of 26/11 Mumbai terror strike were brought into our bedrooms. Battlefield transparency, technological superiority, information advantage, telescoped sensor to shooter link and decision cycle are of vital importance. We must exploit technology to boost combat potential at strategic, operational and tactical levels transcending the physical, information and cognitive domains of war. Optimising C4I2SR enables defence forces transform into net-centric warfare (NCW) capable forces.

Net-centricity requires a reliable and robust communications network that ensures interoperability within the Services, entire security establishment and concerned government agencies. C4I2SR can mould public opinion and assist in perception management. While Services are progressing individually towards NCW capabilities, an integrated C4I2SR structure to link the strategic, operational and tactical domains needs to be established. Roadmaps of Information and Communications must converge into an integrated Information Communication Technology (ICT) roadmap, which is yet to take off.

Services need to focus on spectrum management and technology to telescope bandwidth. Resistance to change apart, senior officers, especially those in decision making hierarchy dealing with the C4I2SR network, need to put in extra effort to understand technology. Intransigence and in Service bureaucracy is not permitting the much needed C4I2SR network to progress with the desired momentum. Adding to these negative factors is the government apathy towards appointing a chief of defence staff (CDS) despite strong recommendations made by the Kargil Review Committee a decade back. Importance of interoperability increases manifold owing to future joint operations and situational awareness to enable cohesive application of joint forces. Challenges that need to be overcome are frequent changes in requirements, security architecture, connectivity matrix and points of exchange of information, integration, legacy systems, standards and protocols, functionalities and procedures, time sensitivity, human resource issues, training of users and management of trained manpower.

Implementation strategy should include operational interoperability, joint doctrine, identification of information required and its form, time frame in which information is required, joint training standards, technical interoperability and interface requirements of various systems. Architecture of the systems must have a common database, compatible communications and applications standards. Middleware technology should be developed to achieve interoperability. Integration of legacy systems needs to be taken care of after evaluating the residual life and viability of such systems. Strategic surveillance can be ensured by fusing data from all strategic sources such as satellites and then fused data being made available in real time.

A design of common applications for integrated C4I2SR is also required. C4I2SR system can be viewed as the final state which would act as a force multiplier. Besides, more results would appear like integration of various sensors, weapon platforms and logistics operating in varied environments of the three Services in a seamless manner. Robustness imparted to the system should enable its survivability during operations including nuclear contingencies. The system should be operational from land, air and sea. Synergy in warfare can only be achieved if there is interoperability between disparate systems of the Services.

Some of the issues related to interoperability concern the organisation/environment where development takes place, while others are related to the actual development process itself. Command and control functions have to be re-scripted. The battlefield needs to be 'flattened' and hierarchical set ups in various systems and sub-systems including communication have to be adjusted according to the requirements of changing times. Finally, while indigenous systems are very much desired the government must ensure a level playing field allowing equal opportunities to the private industry, drawing in the best technology. SP

DRS Tactical Systems all-new compact tablet

DRS Technologies, Inc., a Finmeccanica company, has announced that its Tactical Systems Group has recently unveiled its newest ARMOR rugged mobile computer, the ARMOR X7 compact tablet. This all-new small mobile computer is specifically-designed for those mission-critical tasks that require connectivity, hand-held mobility, ease of use and the durability to support all-weather operations.

"The ARMOR X7 is a completely new product created in response to our customer's request to take our knowledge in tablet computing and make it more portable," said Mike Sarrica, Vice President and General Manager for DRS Tactical Systems. "The result is a very unique, ergonomically-friendly compact tablet that expands the capabilities of tablet computing in the field and mobile workplace like never before."

"Built with integrated non-slip handgrips, the ARMOR X7 utilizes dual, hot-swappable battery options to exceed nine hours of operating time. It builds on many years of our experience in field service; transportation, rail and port facilities; public safety, and other areas of challenging environments as well as the experience from our military and commercial personnel that have deployed our rugged mobile computers around the world," Sarrica added.

The ARMOR X7 is certified to MIL-STD-810G for extremes in temperature, vibration, shock and drops. It is highly resistant to dust and moisture, earning an IP65 rating for ingress protection, while providing a 7" sunlight readable touch screen display. It includes a range of connectivity options such as Gobi 2000 WWAN, Bluetooth wireless, integrated GPS and 802.11 a/g/n WiFi, at a weight of only 2.8lbs. It features a single-core Intel Atom processor N450 and runs Windows Microsoft Windows 7 Professional.

Additionally, the ARMOR X7 marks the debut of the new m-SATA solid-state drives from Intel in the rugged marketplace, in both 40GB and 80GB capacities. "Our compact tablet carried a requirement for a compact memory solution and the Intel Solid-State Drive 310 Series design fit the bill," commented Sarrica. "It was an easy choice based on quality and performance."

"The ARMOR X7 from DRS is an excellent embedded implementation of the Intel Solid-State Drive 310 Series m-SATA form factor," said Pete Hazen, Director of Marketing for Intel's NAND Solutions Group. "The ultra-small Intel SSD offers high performing, reliable and low-power storage for on-the-move systems like the DRS ARMOR." SP

Seeing through walls

The ability to see through walls like Superman has always fascinated all of us, and that is happening in a way. Security forces now can see through walls, using Xaver 400/800, products developed by Camero, an Israeli company.

The striking feature of Xaver 400/800 is its ability to see through thick walls and give inputs to the user. It uses a unique, multi-channel; ultra-wideband (UWB) sensor that operates at very high bandwidth enabling reliable detection and good resolution of objects. It allows quick location of people who are hidden behind walls or are in rooms, thereby giving an extra edge to tactical teams.

Xaver 400 is a compact, lightweight and durable personal device. It is about the size of a laptop and allows maximum mobility and manoeuverability in any type of urban operation. It is optimized for gathering instant and accurate real-time information from behind the walls. It delivers unprecedented performance levels, yet it is small enough to be carried and operated by a single person. It is ready to be operated on a single push button, requires no warm-up time or complicated boot–up routines.

Xaver 400/800 have common features such as they can penetrate through cement, plaster, brick, concrete, reinforced concrete, adobe, stucco and drywalls; detection range of 4m, 8m, and 20m; field view of 80 degrees in both Azimuth and Elevation; display modes 2D plain view, 1.5D (range with history); battery operating time of 150 minutes etc. SP

PHOTOGRAPHS: DRS, Camero

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Dogfight!

India's medium multi-role combat aircraft decision

The Carnegie Endowment for International Peace (CEIP) has published a report that favours US-made fighters in the competition for India which is entering the final stages of selecting a new medium multi-role combat aircraft (MMRCA). The Washington-based think-tank has argued that the US combat aircraft were "formidable best buys", despite the aircraft from Europe being "technically superb".

The report by Ashley J. Tellis of CEIP has said that at a cost of about $10 billion for 126 aircraft, the MMRCA competition is the largest Indian fighter tender in years. Eight countries and six companies eagerly await the outcome of the selection process, which has garnered high-profile attention for its sheer size, its international political implications, and its impact on the viability of key aircraft manufacturers. Furthermore, the winner will obtain a long and lucrative association with a rising power and secure a toehold into other parts of India's rapidly modernising strategic industries. Once selected, the aircraft will play an essential role in India's military modernisation as the country transitions from a regional power to a global giant.

The MMRCA competition comes as challenges to India's national security are increasing in intensity and complexity. Ever since the 1971 War, India's defence strategy has relied on maintaining superior airpower relative to both China and Pakistan. In the event of a regional conflict, Indian air power would serve as the country's critical war-fighting instrument of first resort. Due to delays in its defence procurement process as well as accidents and retirements of older fighter aircraft, India's force levels have reached an all-time low of 29 squadrons, and the IAF is not expected to reach the currently authorised force levels of 39.5 squadrons before 2017. This growing and dangerous hole in the IAF's capabilities comes as India's neighbours are aggressively modernising their own air forces, making India's need to expand its combat aircraft inventories all the more urgent.

In choosing an aircraft, the Government of India must employ a speedy decision process that is focused on the right matrix, taking both technical and political considerations into account. The IAF has already evaluated the six MMRCA competitors against 660 technical benchmarks and has provided its recommendations to the Ministry of Defence. While the IAF has paid special attention to the fighters' sensors and avionics, weapons, aerodynamic effectiveness, and mission performance, India's civilian security managers are certain to emphasize technology transfer as well as costs when making their decision. In fact, the winning aircraft for the IAF ought to be chosen on the triangular criteria of technical merit, relative cost, and optimal fit within the IAF's evolving force architecture.

Political considerations, however, will be key in the selection process. In choosing the winning platform, Indian policy makers will seek to: minimize the country's vulnerability to supply cutoffs in wartime, improve its larger military capacity through a substantial technology infusion, and forge new transformative geopolitical partnerships that promise to accelerate the growth of Indian power globally. While Indian leaders may be tempted to split the purchase among vendors to please more than one country, doing so would needlessly saddle the IAF with multiple airframes in return for meagre political gains.

Given the technical and political considerations, New Delhi should conclude the MMRCA competition expeditiously, avoid splitting the purchase between competitors, and buy the "best" aircraft to help India to effectively prepare for possible conflict in Southern Asia. Because of the dramatic transformations in combat aviation technology currently underway, the Indian Government should select the least expensive, mature, combat-proven fourth-generation fighter for the IAF as a bridge toward procuring more advanced stealth aircraft in the future.

Under this criterion, the European aircraft are technically superb, but the US entrants prove to be formidable "best buys." If Washington wants an American aircraft to win the game, however, it will need to offer generous terms on the transfer of technology, assure India access to fifth-generation US combat aircraft, and provide strong support for India's strategic ambitions—to counter the perception that the older US designs in the MMRCA race are less combat effective.

In making its decision, Indian Government must keep the IAF's interests consistently front and centre to ensure that its ultimate choice of aircraft is the best one for the service. This will not only help India to strengthen its combat capabilities in the coming years but position it as a rising global power worthy of respect far into the future. SP

ILLUSTRATION: Anoop Kamath

Airbus Military demonstrates A330 MRTT refuelling system

The Airbus Military A330 MRTT has successfully passed fuel to receiver aircraft using the Fuselage Refuelling Unit (FRU) for the first time – meaning that all of the aircraft´s refuelling systems have now been demonstrated.

In a three hour 10 minute sortie from Getafe near Madrid on January 21, the future strategic transport aircraft (FSTA) variant for the UK Royal Air Force conducted a series of "wet contacts" with two F-18 fighters of the Spanish Air Force.

Contacts were successfully performed with both fighters at an altitude of around 15,000 ft and at speeds from 250 kt to 325 kt. The FRU is a hose and drogue similar to those fitted under the wings, but with a higher rate of fuel transfer, and which is also developed and supplied by Cobham of the UK.

The full complement of refuelling systems which can equip the A330 MRTT, and which have now all been demonstrated, consists of: the FRU, the underwing hose-and-drogue, and the Airbus Military Aerial Refuelling Boom System (ARBS), plus the Universal Aerial Refuelling Receptacle Slipway Installation (UARRSI) used to receive fuel from another tanker.

Head of Airbus Military Derivatives Antonio Caramazana said: "This demonstration of the last of the A330 MRTT's refuelling systems clearly positions it as the most capable, flexible and proven transport/tanker available to the world´s air forces today. We now look forward to conducting the first contacts with Royal Air Force fighters in the coming months." SP

Airbus Military performs A330 MRTT receiver testing with a French Air Force KC-135

100,000 flying hours for Eurofighter Typhoon

The operational fleet of Eurofighter Typhoons in service since the second half of 2003 achieved the impressive milestone of 1,00,000 flying hours in January 2011. This total was celebrated recently during an event held at Eurofighter headquarters in Munich, Germany.

At the event were senior representatives from the Eurofighter programme, Eurofighter management agency NETMA alongside senior staff from all six customer nations including those from the export customers Austria and the Kingdom of Saudi Arabia. The 1,00,000 hours were achieved flying the Typhoons in the bitter cold weather of the Baltic Sea, in the temperate climate of the Tyrrhenian Coast, in the torrid heat of the Arabic Peninsula and over the rough South Atlantic Sea. A range of operational scenarios have tested the Typhoon to its limits and is testament to the reliability, operational readiness and the durability of the platform and systems under operational conditions. SP

General Dynamics to supply next-gen Deep Space Network antennas for NASA

General Dynamics SATCOM Technologies received a $40.7 million contract from the National Aeronautics and Space Administration's (NASA) Jet Propulsion Laboratory (JPL) to build two additional 34-metre (112-foot wide) beam waveguide antennas as part of NASA's modernisation and transformation plan to continue scientific studies of the Earth as well as explore distant bodies in the solar system. The new antennas will be located at the Deep Space Network (DSN) facility in Canberra, Australia.

Gary Kanipe, Vice President of General Dynamics SATCOM Technologies, said, "This contract, combined with General Dynamics' continuing work to modernise the space administration's ground systems, meets NASA's critical need for seamless upgrades to communications and network infrastructure, while maintaining mission critical operations."

Originally designed by JPL and built by General Dynamics, the antennas enable the Deep Space Network to communicate with existing flight missions such as the Mars Exploration Rovers, Spitzer Space telescope, Saturn explorer Cassini, as well as support future NASA space missions. SP

PHOTOGRAPHS: Airbus, Eurofighter, NASA

HAL on aggressive capacity expansion: Ashok Nayak

With defence acquisitions gaining momentum in the country, the Hindustan Aeronautics Limited (HAL) has embarked upon a capacity expansion programme and accordingly is on a restructuring mode. Much before the government is going to seal the deal for the medium multi-role combat aircraft (MMRCA) and other programmes, HAL is working out a preparedness plan. Revealing this to **SP's team of Jayant Baranwal,** Editor-in-Chief and **R. Chandrakanth,** Editor, the Chairman of HAL, **Ashok Nayak** said investments worth more than ₹10,000 crore are required in many Greenfield projects and that HAL itself would be making substantial plans.

SP's MAI (SP's): With doubling of aircraft production/acquisition plans there would be capacity expansion. Could you outline HAL's expansion plans?
Ashok Nayak (Nayak): Capacity expansion will not happen overnight. The existing infrastructure will not suffice for the new inductions including MMRCA. We have to build infrastructure now for which we need massive investments and we are working in that direction. We will have to have a different factory for the light combat helicopter (LCH). So also, there is need for a new infrastructure for the light utility helicopter (LUH), which presently is on the design board. The first prototype is expected to fly in 2012 and the requirement is 187 units. In all, these Greenfield projects require investments of over ₹10,000 crore. We are looking at outsourcing substantial amount of work.

SP's: With regard to MMRCA, which contender is the friendliest one to current infrastructure?
Nayak: The current infrastructure just cannot match. Each aircraft is different, accordingly infrastructure is created. Having dealt with Jaguar, Sukhoi 30 and other aircraft, we believe we can have an appreciation of something new.

SP's: On the fifth generation fighter aircraft (FGFA) what will be HAL's contribution?
Nayak: We have signed the contract for the preliminary design of the FGFA with Russia's Rosoboronexport and Sukhoi. It will involve the production of 200-250 aircraft. We are in the preliminary stages and the entire manufacturing will follow, led by HAL. And HAL on its own cannot do everything. We certainly need active involvement of the private industry.

SP's: Delayed deliveries of Hawk is said to have affected training schedules of the IAF? Has HAL resolved delivery issues?
Nayak: We had some problems with equipment and tooling with BAE systems. It has been overcome. Hawk was well defined. Hopefully the first batch of 42 aircraft will be completed in 2011-12. We have delivered 15 or 16 aircraft. With regard to the Advanced Light Helicopter (ALH), we had delays in certification. Now we are working on the new Shakti engine. However, serviceability has been an issue both with the army and the air force. But we have made many changes and now serviceability is hovering around 60 to 70 per cent, far greater than sub 50 per cent we had. Next year, we will improve upon that. They (armed forces) have seen some change. There is no magic wand but we are at it continuously.

SP's: What in your opinion needs attention?
Nayak: Customer satisfaction…we need to focus more on that. There have been teething problems with regard to ALH serviceability. Now we are having higher levels of resolution. Whatever we promise, we must achieve within the time targets. SP

PHOTOGRAPH: Abhishek / SP Guide Pubns

First hydrogen-powered UAV flight

AeroVironment, Inc. (AV) reports that the Global Observer unmanned aircraft system has successfully completed its historic first flight powered by the aircraft's hydrogen-fueled propulsion system at Edwards Air Force Base (EAFB) in California. This milestone marks the beginning of high altitude, long endurance flight testing for the demonstration and operational utility phase of the joint capability technology demonstration (JCTD) programme.

Because of its extreme endurance and range, Global Observer can be based out-of-theatre, which will further reduce operating costs and local air traffic congestion while significantly reducing risk to operational personnel. AV plans to make Global Observer systems available for procurement and for operation as a turnkey service to provide communications and remote imaging in a manner similar to satellite services, but at a much lower cost.

The hydrogen-powered flight lasted for four hours and reached an altitude of 5,000 feet above sea level over the United States Air Force Flight Test Center at EAFB. This first flight follows the successful battery-powered flight test phase of the demonstration programme that took place during the months of August and September last. SP

Hand-held mini-UAV soon

DEMA Mechatronic Technologies, the manufacturing arm of the Defence Electronics Manufacturers Association (DEMA), has manufactured 'E-5', the country's first hand-launched mini-UAV. E-5 was successfully tested at the Gliding Centre in Hadapsar.

"This is the first time a UAV has been developed by a professional body. Traditionally, defence procurement is a laid down procedure that involves placing requirements followed by research, development, and then transfer. This time, we decided to develop the product and approach the Armed Forces with it. The UAV is ready and, depending upon the end-user, which in this case could be the Armed Forces as well as paramilitary forces, we would customise the product further," said D.S. Kamlapurkar, former President, DEMA. SP

"Frontier Formidables" at Porbandar

The maritime reconnaissance on the West Coast got a boost with the commissioning of an Unmanned Aerial Vehicle (UAV) Squadron at the Naval Air Enclave, Porbander by the Governor of Gujarat, Dr. Shrimati Kamla.

The Squadron is nicknamed "Frontier Formidables". Designated as INAS 343, this is the first operational UAV Squadron under the Western Naval Command, thus enhancing the maritime surveillance and coastal security in this region. SP

Terminator all set for take-off

The first unmanned aircraft designed as a carrier-based strike jet is almost ready to take to the air for the first time, US Navy officials have confirmed. Northrop Grumman's X-47B Unmanned Combat Air System Demonstration (UCAS-D) drone has been performing taxi tests for several weeks at Edwards Air Force Base, California.

Programme officials had hoped for a flight by mid-December, but weather and other factors delayed the event. Officials are hopeful the flight will take place before the end of the year.

Two X-47Bs have been built by Northrop's Integrated Systems sector under a 2007 development contract. The stealthy aircraft, which resembles a miniature B-2 bomber—also built by Northrop—is intended to test the concept of operating a small, unmanned, combat jet from aircraft carriers.

Although numerous technical and command-and-control issues need to be addressed to bring the concept to maturity, war planners have routinely been using X-47s in war games as part of a carrier strike group. In some cases, they have even swapped out the manned air wing for an all-UCAS wing, with, reportedly, great success.

Northrop's work includes the design and development of airborne precision-guided positioning system algorithms to help navigate the aircraft, and autonomous aerial refueling technology to keep the planes aloft—perhaps for several days at a stretch.

The single-engine, tailless X-47B has a wingspan of 62 feet and is 38 feet long. It is designed to carry 2,000 kg of weapons in its payload bay, reach high subsonic speeds, and fly to altitudes of about 40,000 feet. Without refueling, it should be able to operate at ranges up to 2,100 nautical miles and stay in the air for more than six hours.

Lockheed Martin, Pratt & Whitney and GKN Aerospace are teamed with prime contractor Northrop on the UCAS-D programme. SP

PHOTOGRAPHS: AeroVironment, Indian Navy, Northrop Grumman

Robust Transformer (TX) programme

To meet much of transportation needs of today's deployed warfighter, either highly mobile multipurpose wheeled vehicles (HMMWV) are used, or helicopters, which have limited availability, are used. DARPA's Transformer (TX) programme seeks to combine the advantages of ground vehicles and helicopters into a single vehicle equipped with flexibility of movement. The concept is to provide options to avoid traditional and asymmetrical threats while avoiding road obstructions.

With this technology, transportation will no longer be restricted to trafficable terrain that tends to make movement predictable. Benefits of enhanced mobility are numerous. The capabilities TX plans to provide may allow for improved resupply operations, fire-team insertion and extraction, and reduced time for medical evacuation—increasing probability of survival. Key to the success of this technology is the ability for guidance, navigation and control of the TX to be conducted without a dedicated pilot—increasing flexibility.

The TX programme aims to develop a robust ground vehicle that can transform into an air vehicle with vertical take-off and landing (VTOL) capability, while offering significant operational flexibility with the ability to efficiently travel 250 nautical miles on land and in the air, while carrying up to 450 kg. This payload requirement represents up to four warfighters and their equipment, including a critical medical evacuation capability.

It is envisioned that guidance and flight control systems will allow for semi-autonomous flight, permitting a non-pilot to perform VTOLs, transition into forward flight, and update the flight path in response to changing mission requirements or threats.

DARPA has selected six vendors to participate in this 12-month effort: AAI Corporation and Lockheed Martin Company, prime system integrators; Carnegie Mellon University and Pratt & Whitney Rocketdyne, developers of critical enabling technology; and Aurora Flight Sciences partnered with ThinGap, and Metis Design Corp, Small Business Innovation Research (SBIR) recipients. SP

DARPA kicks off Mind's Eye programme

Ground surveillance is a mission normally performed by human assets, including Army scouts and Marine Corps Force Recon. Military leaders would like to shift this mission to unmanned systems, removing troops from harm's way, but unmanned systems lack a capability that currently exists only in humans: visual intelligence.

The Defense Advanced Research Projects Agency (DARPA) is addressing this problem with Mind's Eye, a programme aimed at developing a visual intelligence capability for unmanned systems.

Humans perform a wide range of visual tasks with ease, something no current artificial intelligence can do in a robust way. They have inherently strong spatial judgement and are able to learn new spatio-temporal concepts directly from the visual experience. Humans visualise scenes and objects, as well as the actions involving those objects and possess a powerful ability to manipulate those imagined scenes mentally to solve problems. A machine-based implementation of such abilities is broadly applicable to a wide range of applications, including ground surveillance.

The joint military community anticipates a significant increase in the role of unmanned systems in support of future operations including jobs like persistent stare. By performing persistent stare, camera-equipped unmanned ground vehicles (UGVs) would take scouts out of harm's way. Such a capability, however, would not constitute a force-multiplier because human analysts would have to interpret streaming video from these platforms to detect operationally significant activities. A truly transformative capability requires visual intelligence, enabling these platforms to detect operationally significant activity and report on that activity so warfighters can focus on important events in a timely manner.

DARPA has contracted with 12 research teams to develop fundamental machine-based visual intelligence: Carnegie Mellon University, Co57 Systems, Inc., Colorado State University, Jet Propulsion Laboratory/CALTECH, Massachusetts Institute of Technology, Purdue University, SRI International, State University of New York at Buffalo, TNO (Netherlands), University of Arizona, University of California Berkeley and University of Southern California. These teams will develop a software sub-system suitable for employment on a camera for man-portable UGVs, integrating the existing state-of-the-art computer vision and AI while making novel contributions in visual event learning, new spatio-temporal representations, machine-generated envisionment, visual inspection and grounding of visual concepts.

DARPA has also contracted with three teams to develop system integration concepts: General Dynamics Robotic Systems, iRobot and Toyon Research Corporation. These teams are taking a collaborative approach to developing architectures incorporating newly-developed visual intelligence software onto a camera suitable as a payload on a man-portable UGV. SP

PHOTOGRAPH: DARPA

PM Inaugurates Chief Ministers' Conference on Internal Security

The Prime Minister Dr. Manmohan Singh who inaugurated the Chief Ministers' Conference on Internal Security here on February 1 has said that the measures for strengthening the capacity to deal with internal security challenges, initiated post-November 2008, are now yielding tangible results.

The Prime Minister said that the number of incidents and casualties of security forces decreased in 2010 over the previous year. However, the number of casualties among civilians has increased. He emphasised the need for the police officers to be specially sensitive to the problems faced by the Scheduled Castes, Scheduled Tribes, Minorities and women and felt that changes to make policemen people-friendly were urgent.

The Home Minister, P. Chidambaram said: "Some of our neighbours appear to be vulnerable not only to acts of terror but also to destablising political developments, the consequences of which affect India in one way or another. Some obvious consequences are cross-border terrorism, covert support to insurgents, arms smuggling, fake Indian currency notes (FICN), inflow of refugees, and immigration. We have to deal with each one of them within the constraints of our obligations under international law and domestic law and in consonance with our open and democratic system.

"There is no let up in the attempts to infiltrate into India from across the India-Pakistan border. Besides, there are a number of modules operating within the country; and new groups have raised their heads that are suspected to be behind some terrorist attacks that took place in recent years." More border outposts are being constructed on the India-Bangladesh and India-Pakistan borders. Phase II of the Coastal Security Scheme, at an estimated cost of ₹1,580 crore, will begin on April 1, 2011.

Naxalism remains a grave challenge and there is no dilution in the two-pronged approach of development and police action to contain this challenge. "Looking back at 2010, my assessment is that there is a kind of a stalemate." Jammu and Kashmir presents a unique challenge. "My earnest appeal is that nothing should be said or done that will destroy the fragile peace or derail the process of finding a political solution."

The paramilitary forces are getting modern equipment such as assault rifles, carbines and pistols; mine-protected or bullet proof vehicles and armoured troop carriers; motorcycles, rescue boats and attack crafts etc. The best security lies in adding to capacity – human, material, intelligence and systems. SP

PHOTOGRAPH: PIB

BSF ready for anti-Maoist operation: DG

The Director General of Border Security Force (BSF), Raman Srivastav has stated that the BSF was ready to take on any left-wing extremism and that the jawans were all set to quell Maoist violence in Orissa's naxalite-prone areas.

The Director General who met the Orissa Chief Minister, Naveen Patnaik and the Chief Secretary, B.K. Patnaik recently is said to have assured the State that the BSF was working out the modalities of the operation with the State police. The BSF chief had a meeting with the Director General of Police M. Praharaj.

Prior to his meeting, the BSF chief had visited BSF camps in Malkangiri and Koraput districts. With paramilitary forces posted in Orissa and Chhatisgarh, he said it would facilitate development works to go on as many projects were held up due to lack of presence of security forces. SP

Border security, India's prime concern with Bangladesh

Home Secretary G.K.Pillai has reiterated India's commitment of "zero tolerance" towards deaths of Bangladeshi civilians along the border. The Home Secretary made a statement after a joint meeting with the Bangladeshi Home Secretary, Abdus Sobhan Sikdar.

The Bangladeshi officials accused Indian paramilitary forces of shooting down civilians to which the Indian side is reported to have told the delegation to "sensitise" the people on crossing the border by passing through official entry/exit points.

The joint statement mentioned that the number of deaths in the frontier areas had decreased of late. The statement said that the Indian side also requested Bangladesh to "sensitise people to follow the legal routes for crossing the border and particularly to restrict movement in those areas at night hours." SP

An alternative to body scans - Trace-Safe

They're in use in at least 19 airports in the US, but most people balk at the idea of a full body scan which essentially strips a passenger naked using radiation technology. Dangerous for the psyche and also for the frequent traveller who is exposed to numerous doses of radiation, an Israeli company working with a US partner could have the solution.

Trace-Safe from Israel and Raptor from the US have co-developed a chemical process, called, TraceGuard which can free particles from fabric and luggage for speedy detection and analysis.

The technology detects harmful substances and not benign ones like perfume or pharmaceuticals. It doesn't show false alarms, doesn't need filters or a cleaning. "You only want to detect the substances that you can make explosives or biological agents out of," says Sela.

It can be integrated into scanners and magnetometers and also into a wand that can be passed over both people and luggage. While Trace-Safe is struggling financially right now, Sela believes that TraceGuard has the potential to bring an end to the use of all other equipment at airports, including the detested body and shoe scanners. "I am among those experts who believe the full body scans are wrong and not healthy for people," Sela tells ISRAEL21c. "Especially since they are passing through radiation; it defeats the cause." SP

PHOTOGRAPHS: www.smithsdetection.com, ctv

Moscow blast shows chinks in airport security

The suicide attack on Moscow's Domodedovo airport has set off serious concerns on airport security across countries. Security experts have started pressuring the governments to give importance to airports and port security. The suicide attack on the international arrivals terminal at the airport took lives of 35 people and wounded 110.

Security experts have said as airport terminals are more than just arrival and departure lounges, security concerns had increased. Duty-free lounges, food courts, commercial centres and other facilities had increased footfalls at airports, thus exposing them to security risks. Airport terminals needed intensive screening and monitoring of people using the facilities.

Following the Moscow attack, Chinese authorities immediately announced that it was tightening security at Beijing's main airport. Security had already been intensified ahead of the annual travel surge for the Lunar New Year, which falls on February 3. SP

Cobham acquires supplier of advanced bomb disposal robots for €78 million

Cobham plc has acquired the share capital of Telerob GmbH, a privately-owned German-based manufacturer of advanced bomb disposal robots and threat response vehicles for EUR 78 million.

Telerob manufactures medium- and heavy-weight explosive ordnance device (EOD) robots and response vehicles designed to deal with nuclear, biological and chemical threats primarily for homeland security markets. The company has more than 700 systems in 55 countries, with many systems in operation in Asia and the Middle East where it has established itself as a market leader.

Cobham will be able to integrate its technology into Telerob systems, including communications equipment and sensors that it already provides for the EOD market along with specialist cameras manufactured by another recently acquired company, RVision. This will enable the Group to develop more distinctive and competitive systems, as well as increasing the value to Cobham of each system sold.

Telerob employs 80 staff, half of whom are engaged in R&D, and its skills base and technology are highly complementary to Cobham's. The company will become part of Cobham's Mission Equipment business unit and will significantly strengthen the Group's ability to deliver market-leading robot products to fast-growing homeland security markets around the world.

Cobham Mission Equipment has more than 20 years' experience working on unmanned, remote systems, from the Phoenix UAV to the latest generation of autonomous air-to-air refuelling systems. SP

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Cyber security is a top global 'risk to watch': World Economic Forum

The recent World Economic Forum meeting in Davos, Switzerland, has placed cyber security on its list of the top five global "risks to watch," right alongside demographic challenges, resource scarcity, globalisation retrenchment, and weapons of mass destruction.

In its Global Risks 2011 report, the Forum said that "awareness is growing that the real world is vulnerable to security threats from the virtual world, but the complexity of 'cyber security' issues is still not well understood and its risk could be underestimated." The report identified four cyber activities that pose global risks: cyber theft, cyber espionage, cyber war, and cyber terrorism.

The report noted that cyber theft "has become a growing industry with a long tail, particularly in countries where economic disparity has recently been combined with access to global communications technologies."

Cyber war has "stirred controversy among civilian and military leaders. While an open war in cyber space is possible, experts indicate that the interplay between cyber war and physical war poses a more likely risk for society, with aggression online not only serving but also potentially provoking conventional attacks," the report has cautioned.

The Global Risks 2011 report concluded that "understanding the range of negative consequences is central to managing effective risk response. The pervasiveness of the Internet and importance of related technologies to everyday life and business means that should a major disruption occur, it is likely to have high impact globally." SP

BAE Systems offer to acquire Norkom

BAE Systems has announced a recommended offer to acquire Norkom Group PLC, a provider of innovative counter-fraud and anti-money laundering solutions to the global financial services industry where its software assists institutions to comply with regulations on financial intelligence and monitoring. The offer is to acquire the entire issued share capital of Norkom for 2.10 per share in cash, which values the business at approximately $217 million.

Based in Dublin, Norkom has around 350 employees and its financial crime and compliance solutions are deployed in more than 100 countries, monitoring millions of financial transactions a day for its clients.

The proposed acquisition of Norkom is consistent with BAE Systems' strategy to grow its services business in cyber and intelligence. Norkom, coupled with Detica's leading counter-fraud software product NetReveal, will create a strong global player for financial crime and compliance products.

Ian King, Chief Executive BAE Systems, said: "Countering financial crime is a priority for governments and financial institutions. There is a compelling logic to the combination of Detica's NetReveal product and the complementary capabilities and customer reach of Norkom. The combination will result in a significantly enhanced offering for customers and present an opportunity for accelerated growth for the Group in the fast growing cyber and intelligence services sector." The proposed acquisition of Norkom follows BAE Systems' acquisition of Detica in 2008 and the recent agreement to acquire ETI A/S, a leading cyber and intelligence company based in Denmark, providing advanced technology products and services to government and commercial clients worldwide. It also follows agreements in 2010 to acquire L1 Identity Solutions, Inc's Intelligence Services Group in the US and stratsec.net in Australia.

The offer is subject to standard terms and conditions including sufficient acceptances being received from Norkom's shareholders. The proposed transaction is expected to complete later this year. SP

PHOTOGRAPH: Cassidian

Cyberabad Police inaugurate secure TETRA network by Cassidian

The Andhra Pradesh Cyberabad Police has inaugurated the TETRA communication network provided by Cassidian covering an area of 3,600 sq km. The AP Cyberabad Police is among the first police organisations in India to use a TETRA network of this size and functionality.

The Chief Minister of Andhra Pradesh, N. Kiran Kumar Reddy, recently inaugurated the network provided by Cassidian. Home Minister Sabitha Indra Reddy; Director General of Police K. Aravinda Rao; and Cyberabad Police Commissioner S. Prabhakar Reddy were present at the inauguration which took place at the Cyberabad Police headquarters.

The installation, commissioning and activation of the system were done by Cassidian India in cooperation with Cassidian's Indian Value Added Reseller, Sanchar Telesystems, and with the support of Andhra Pradesh's police communication officers. The system comprises nine base stations and can initially accommodate about 500 users.

"The Cyberabad Police is among the first police organisations in India to use a secure TETRA communication network of this size and functionality," said S. Prabhakar Reddy. "This new communication system will enable the Cyberabad Police to better coordinate their resources in the event of any emergency or developing law and order situation within the Cyberabad Commissionerate region surrounding Hyderabad."

"The new TETRA network will provide the Cyberabad Police with a reliable, flexible, and much more efficient means of communication. The network will provide secure communication and features which are not available in any existing alternative technology," said Dr. V. Gunasekhar Reddy, Deputy Inspector General (DIG), Communication. SP

DRS and Thales JV acquires Advanced Acoustic Concepts

DRS Sonar Systems, LLC, a DRS/Thales joint venture, announced that it has acquired Advanced Acoustic Concepts Inc. (AAC), a privately-held US company. AAC is a technical leader in the fields of sonar systems, sonar signal processing, acoustic training systems, and open architecture system and software integration.

"We are creating an entity with proven experience in the field of undersea warfare," said Richard Danforth, President and CEO of DRS Defense Solutions. "Advanced Acoustic Concepts benefits from the innovative and proven Thales product portfolio and the world class system integration and manufacturing capabilities of DRS. AAC has deep domestic acoustic signal processing, system development and system integration expertise and a demonstrated track record of providing superior value open architecture solutions to the US Navy."

"Bringing Advanced Acoustic Concepts into the joint venture will enable us to focus on emerging areas in the undersea warfare domain where the customer has identified mission-critical needs," said Allan Cameron, President and CEO of Thales USA. SP

Rolta unlocks value in JV sells stake to Shaw

Rolta recently announced that it had sold its 50 per cent share in Shaw Rolta Limited (SWRL) to its joint venture partner, Stone & Webster Inc. – a subsidiary of The Shaw Group Inc.

Rolta has been able to unlock substantial value in SWRL to its best advantage. For its 50 per cent shares that have a face value of approximately $1,00,000 (₹45 lakh), the sale agreement provides for an immediate receipt by Rolta of a sum of $27.5 million (₹124 crore), and in addition, about $8 million (₹36 crore) over the next two years, for defined services, aggregating to about $35.5 million (₹160 crore) as total consideration as per the agreement. SWRL paid a dividend of ₹1 crore each to Rolta and Shaw for the last financial year ending on June 30, 2010.

SWRL was established as a 50:50 joint venture in 2004 to serve as an off-shore engineering centre for Shaw's global projects. Rolta is already working with various Indian Government organisations like NPCIL and other leading agencies on sophisticated projects in the nuclear power sector, such as the prestigious engineering design project for a significant nuclear reactor system of international importance involving a high level of specialised expertise in conceptual design, system development, finite element analysis, and safety analysis, besides multi-disciplinary engineering competence and domain expertise. SP

Lockheed Martin declares dividend

Lockheed Martin Corporation has authorized a first quarter 2011 dividend of $0.75 per share. The dividend is payable on March 25, 2011 to holders of record as of the close of business on March 1, 2011.

Lockheed Martin is engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. Its 2010 sales from continuing operations were $45.8 billion. SP

BFW plans new manufacturing unit

Bharat Fritz Werner (BFW), a machine tool major in India, has announced its expansion plans, which include setting up of a facility in Hosur, restructuring its aerospace business and international mergers and acquisitions.

The company plans to pump in ₹350 crore in the next five years towards vertical and horizontal growth. It is eying a turnover of ₹330 crore in the financial year ending March 31, 2011, a 65 per cent jump over the previous year. SP

SECURITY EVENTS

International Armoured Vehicles 2011
7–10 February
ExCeL Centre, London, UK
www.internationalarmouredvehicles.com

Aero India 2011
9–13 February
Air Force Station Yelahanka, Bengaluru, India
www.aeroindia.in

IDEX 2011
20–24 February
ADNEC, Abu Dhabi, UAE
www.idexuae.ae

Seaport Security India 2011
21–22 February
Hilton Mumbai International Airport
www.seaportsecurityindia.com

Aviation Security 2011
22–23 February
America Square Conference Centre, London, UK
www.aviationsecurityconference.com

NAVDEX 2011
20–24 February
Abu Dhabi National Exhibition Centre, Abu Dhabi, UAE
www.navdex.ae

Border Security 2011
28 February – 1 March
Sheraton Hotel Balkan, Sofia, Bulgaria
www.smi-online.co.uk

Asian Aerospace
8–10 March
Asia World Expo, Hong Kong
www.asianaerospace.com

Soldier Modernisation Asia
14–17 March
Amara Sanctuary Resort Sentosa, Singapore
www.soldiermodasia.com

Global Security Asia 2011
15–17 March
Sands Expo and Convention Centre, Singapore
www.globalsecasia.com

Future Artillery
23–25 March
Olympic Conference Centre, London
www.future-artillery.com

Presidential dinner gatecrashers

Tareq and Michaela Salahi, a Virginia couple, slipped past security and were uninvited guests at a White House state dinner in November 2009. The event was to honour Prime Minister Dr. Manmohan Singh, but the well-dressed Salahis got all the headlines, mingling with guests and even getting a photograph with President Barack Obama.

Until that morning, Salahi's chief claim to fame was her past life as a cheerleader while her husband was known as a Virginia wine-lover. They now rank as the most successful gatecrashers in the history of the supposedly impregnable White House. The couple breezed through metal detectors and Secret Service checks and mingled with the high profile guests who included A.R. Rahman, *Slumdog Millionaire* composer, Adrian Fenty, the Mayor of Washington and the like.

Result: A criminal investigation is going on into the gatecrashing incident. White House security systems are under review. SP

Stowaway on Sheikh's Boeing 747

In June 2010, a stowaway survived a 100-minute flight from Vienna to London inside the wheel compartment of a Boeing 747, owned by Sheikh Mohammed bin Rashid Al Maktoum, ruler of Dubai and Prime Minister of the United Arab Emirates. The 20-year-old Romanian man, who has not been named, was unhurt despite being exposed to temperatures as low as -41 degree Celsius inside the jumbo jet's undercarriage.

Austrian police were baffled at how the man entered the runway at Vienna's Schwechat airport and reached for the nearest plane, parked near a building site. The stowaway is said to have told the police that he didn't want to stay in Vienna any longer without work and that he was looking for work anywhere.

Result: Heathrow airport arrested the man and Austrian police have tightened airport security. SP

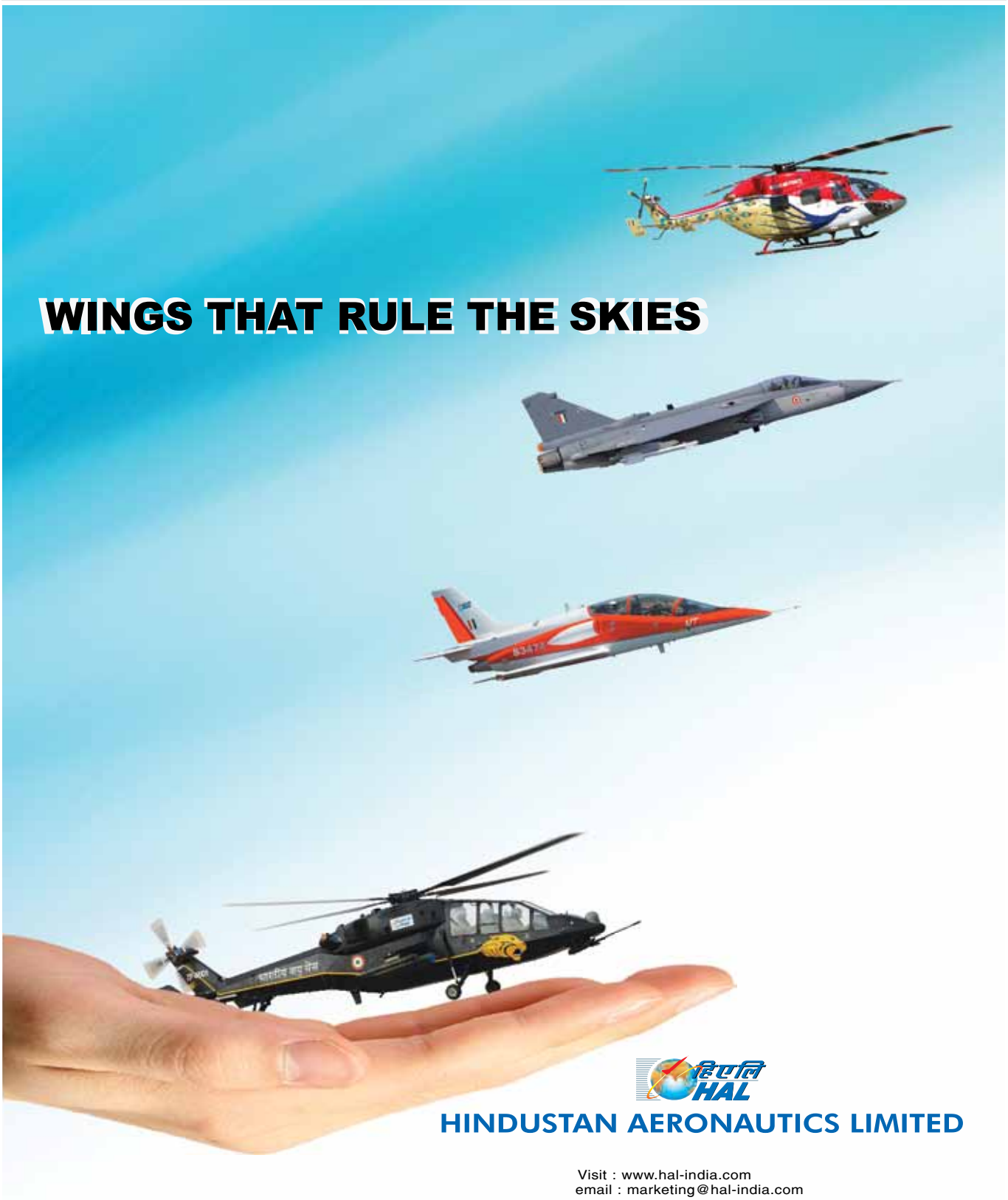
Wikileaks highlights insider security threat

The release of thousands of US diplomatic cables by whistle-blowing site Wikileaks has prompted swift action to seal off official IT systems, according to the *Scientific American*.

The US State Department cut off a military computer network's access to its database of embassy cables via the US Defense Department's Secret Internet Protocol Router Network (SIPRNet). SIPRNet is a system of dedicated and encrypted lines and servers set up by the Pentagon in the 1990s to transmit material up to and including the government's second-highest level of classified information.

The State Department said it is taking steps to correct weaknesses in the system that have become evident because of the information leaks. SP

PHOTOGRAPHS: The White House, SP Guide Pubns, Wikipedia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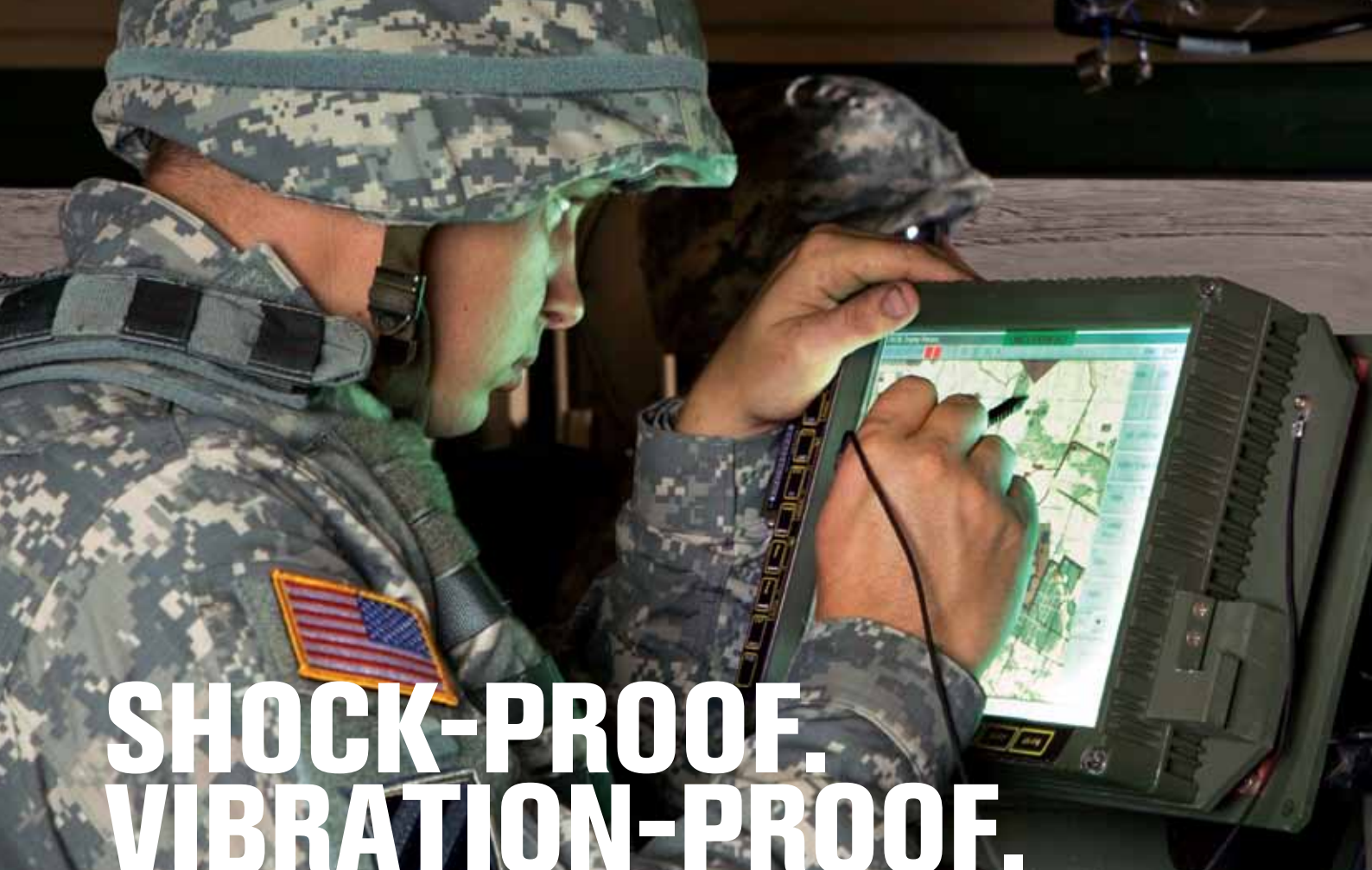

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