THE GREATER THREAT : A VIEWPOINT

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Fighting cyber terrorism

Battling cyber terrorist attacks against computer networks, technical infrastructure and telecommunications systems is one of the biggest challenges that nations face now. In the light of this, NATO has announced a cyber defence package, with a first tranche of €28 million. India too has to develop/share knowledge on dealing with cyber threats.

Lockheed Martin completes assembly of the first international F-35

The first international Lockheed Martin F-35 Lightning II rolled out of the factory recently. The United Kingdom Ministry of Defence will use the short takeoff/vertical landing (STOVL) jet, known as BK-1, for training and operational tests. The jet is scheduled to be delivered in 2012.

"This first F-35 for the first international programme partner is symbolic of the proud partnership we share with the United Kingdom," said F-35 Executive Vice President and General Manager of Programme Integration Tom Burbage. "Working together in a spirit of collaboration, we are providing the men and women of the Royal Air Force and Royal Navy with unmatched fifth generation capabilities, while delivering advanced technology sector jobs to the UK."

Group Captain Harv Smyth, the UK's Joint Strike Fighter (JSF) National Deputy, stated, "This is a major milestone in the JSF Programme for UK, and we look forward to starting to operate the first British F-35s next year. JSF is ideally suited for UK's future combat air capability needs, since it provides a world-class fifth generation air system, which is capable of operating from both the land and our new Queen Elizabeth class aircraft carrier."

The UK will play a vital role in the F-35's global production, follow-on development and sustainment over the next 40 years, bringing strong economic benefits to the country.

The F-35 Lightning II is a fifth generation fighter, combining advanced stealth with fighter speed and agility, fully fused sensor information, network-enabled operations and advanced sustainment. Lockheed Martin is developing the F-35 with its principal industrial partners, Northrop Grumman and BAE Systems. SP

PHOTOGRAPH: Lockheed Martin

Cover:
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AFSPA – To go or not to go

Three times Chief Minister of Jammu and Kashmir, Union Minister and National Conference President, Farooq Abdullah has emphatically said: "If the Chief Minister decides that it (Armed Forces Special Powers Act – AFSPA) has to go, it must go". His son Omar Abdullah, the present Chief Minister, has been unequivocal in the demand for scrapping AFSPA and both have termed it as 'draconian.'

Introduced in 1990 in the troubled state, AFSPA has been a bone of contention among the political leadership, while the Army which is deployed has come under fire for all the wrong reasons. Farooq Abdullah has said that the first thing that the Army needs to do is check cross-border infiltration and that the law and order would be taken care of by the local police. Agreed. But what about militancy which exists within the state, spurred by across the border activities. The Army indeed has to deal with this and it can operate effectively only when its hands are not tied behind its back.

Former Chief of Army Staff, General V.P. Malik in a comprehensive article exclusively for *SP's M.A.I.* has made it clear that no Indian wants to see the continuance of terrorism and violence in the Valley, particularly the armed forces who have lost over 6,000 personnel since 1988 fighting terrorism.

General Malik reiterates that while it is desirable to give more and more political space to the state leadership, the AFSPA is necessary till we are fully confident of checking infiltration from across the border and the overt and covert support to the militancy in the state is reduced considerably. The need for legal cover to soldiers conducting counter militancy operations is unquestionable.

Having said that, he has outlined the steps that need to be taken as confidence-building measures and *SP's M.A.I.* endorses such approaches.

Moving from the Valley to the ascending internal security issues, the urgency of a multi-pronged approach to Maoist problems cannot be overstated. Prime Minister Dr Manmohan Singh has gone on record that it (Naxalism) was the 'biggest threat.' When such being the case, why is the government lax, questions Lt General (Retd) P.C. Katoch in his fortnightly column. Candid in his views, he asks why we are not able to strike at terrorist/militant/naxalite camps? Is it because it is considered a 'State subject' and that too predominantly as a 'law and order' problem? Baffled at how the media gets access to these 'camps' and not the intelligence agencies, the former General advocates radical changes in the government's thinking when tackling such threats.

Post-26/11, the governments have shown much more intent than in the past and has been investing in people and equipment to secure the cities. Delhi which has been a constant target of attack by fissiparous elements will come under electronic surveillance, so would many other cities. Homeland security has to be beefed up considerably and the move by the government to set up 'community policing' is timely and welcome. Unless, we as a community take interest in securing ourselves, any government effort would remain incomplete. SP

Jayant Baranwal
Publisher and Editor-in-Chief

Lockheed Martin demonstrates advanced airborne surveillance

During a recent European exercise, Lockheed Martin demonstrated advanced border surveillance capabilities from an optionally piloted vehicle. Lockheed Martin and its team showcased how traditional defence focused integrated airborne intelligence, surveillance and reconnaissance (ISR) capabilities can be quickly adapted to address dynamic border protection as well as maritime search and rescue needs.

Frontex, tasked to strengthen the security of the European Union external borders, hosted the exercise to view existing capabilities in a live environment. The primary goal of the exercise was to evaluate how optionally piloted vehicles or unmanned vehicles can further enhance border surveillance in the maritime domain. Lockheed Martin demonstrated how quickly optionally piloted vehicles could collect intelligence on suspicious activity or detect boats in distress, then immediately send imagery, streaming video and other gathered intelligence to a ground station.

"Lockheed Martin presented an affordable, integrated solution tailored to address specific European border management requirements," said Jim Quinn, Vice President of C4ISR Systems Lockheed Martin IS&GS-Defense. "We demonstrated how ISR tools can be rapidly deployed, while maintaining linkage to existing infrastructure."

Using a Diamond airborne sensing aircraft equipped with a FLIR electro-optical/infrared camera and a robust communications suite, the aircraft collected high definition video and imagery over several flights. Captured information was then transmitted to a ground system via both line of sight and beyond line of sight communications, providing users on the ground with better situational understanding and broader knowledge of the immediate environment. In near real-time, ground station analysts were able to view the data, then update situational awareness displays for all users in the enterprise. Lockheed Martin's team also demonstrated how to share situational awareness pictures with a wide range of display technologies, ranging from computers to hand-held devices. SP

DRS Defense Solutions introduces backpack version of MAGIC

DRS Defense Solutions announced that its Intelligence, Communications and Avionics Solutions (ICAS) business unit has successfully tested the man-portable backpack version of its MAGIC (mobile mapping of air and ground intelligence collection) enhanced situational awareness airborne mission networking suite.

BackPack MAGIC uses commercial hand-held display devices to process and display vital situational awareness information at the user's fingertips via a wireless link to the backpack. By using a proprietary government software suite, it is capable of receiving and transmitting in line-of-sight and beyond-line-of-sight modes of operation. Capabilities include providing RF e-mail, full motion video, IP data, voice networking and secure voice. Packs may be networked in hard-wired or wireless configurations, allowing maximum flexibility.

Weighing 10 kg and enclosed within a commercial soft-sided canvas backpack, this compact package gives the warfighter enhanced data, voice, intelligence, threat and blue force tracking capability while using popular display devices. All of the display options include night vision imaging system (NVIS) screen filters.

The pack is able to be shouldered and secured within one minute. The system can run for more than eight hours on its self-contained power source as well as draw power from other sources such as aircraft and ground vehicles.

BackPack MAGIC bridges the situational awareness gap of mounted and dismounted troops to collect and share critical voice, intelligence and data-link information during missions such as foreign internal defence (FID), personnel recovery, search and rescue, special operations, as well as operations requiring a low profile. MAGIC, which is expandable, is also available in ground station, vehicle and aircraft configurations. SP

Aerojet system development for SM-3 Block IIA missile

Aerojet has been competitively selected by Raytheon Missile Systems to complete the development of the throttling divert and attitude control system (TDACS) for the standard missile-3 (SM-3) Block IIA programme, an advanced version of the SM-3 now in development. The development contract will extend through 2016 and will be followed by a planned production programme.

"This is an important win for Aerojet," said Vice President of Missile Defense and Strategic Systems, Michael Bright. "It is the culmination of more than 18 years of company-sponsored research and development and government programme work at

PHOTOGRAPH: Lockheed Martin

Aerojet. We look forward to working with Raytheon on completing the development of this very important missile defence capability for use in the defence of the United States and Japan."

SM-3 is being developed as part of the US Missile Defense Agency's (MDA) sea-based Aegis Ballistic Missile Defense System. Block 1A interceptors are deployed on US Aegis cruisers and destroyers and Japanese destroyers to defend against short- to intermediate-range ballistic missile threats in the ascent and mid-course phases of flight. SP

General Dynamics to support naval sea systems command

General Dynamics Information Technology, a business unit of General Dynamics, has been awarded a contract for hull, mechanical and electrical (HM&E) machinery and systems support by the US Navy's Naval Surface Warfare Center, Carderock Division (NSWCCD). The five-year indefinite-delivery, indefinite quantity contract has a potential value of $73.3 million if all options are exercised.

Through the contract, General Dynamics will support HM&E machinery and systems on Navy vessels and select land-based sites, as well as other federal agency and federally contracted vessels. These services include prototype engineering, design, development, testing, performance specifications and data analysis, system fault tree and safety analysis, computer programming and software engineering. The company will also provide system training development and on-site technical support, alteration services, integrated logistics and staging. General Dynamics will perform the work primarily in Norfolk, Virginia, San Diego and Philadelphia, in addition to locations in Hawaii, Guam, Japan, Bahrain and Italy. SP

Sweden gets Rheinmetall's armoured engineering vehicle

Rheinmetall Defence has handed over the first "Kodiak" AEV 3 S armoured engineering vehicle to the Swedish armed forces procurement agency (FMV, Försvarets Materiel Verk).

Known in Rheinmetall parlance as "Kodiak", the AEV 3 S is a heavy-duty combat engineering system that falls into the military weight category MLC 70. Its mine-protected MBT (main battle tank) Leopard 2 chassis and 1,100 kW diesel engine ensure outstanding mobility and a high level of protection.

It is equipped with a powerful hinged-arm excavator with different excavator tools, a dozer system featuring cutting and tilt angle settings and a double-winch system consisting of two 9-tonne capstan winches. The vehicle is equipped with a remote control weapon station and a smoke grenade launcher system. Six cameras provide the two or three-man crew with a panoramic view of the vehicle's surroundings, enabling them to switch tools and carry out a full range of combat engineering tasks. SP

PHOTOGRAPHS: Rheinmetall, DGA

DGA delivers first landing catamaran

The French defence procurement agency, Direction Générale de l'Armement (DGA), took delivery, on November 24 in Toulon, of the first fast amphibious landing craft (EDA-R) which multiplies by five the landing capacity provided by conventional landing craft presently in service. The EDA-R will be operated by the French navy's Mistral class Bâtiments de Projection et de Commandement (BPC) amphibious warfare ships.

Based on the Landing Catamaran (L-CAT) concept developed and patented by the engineering company CNIM (Constructions industrielles de la Méditerranée), the EDA-R is a catamaran-hulled vessel during the fast transit phase, but turns into a flat-bottomed vessel for beaching and for entering the well-deck of its mother ships thanks to its central elevating platform. Each BPC ship can carry two EDA-Rs in its well deck.

Developed to land troops and heavy vehicles from ships remaining at beyond-the-horizon distances (over 30 nautical miles or 55 km) from shore, the EDA-Rs will also be suitable for humanitarian missions in areas that have no berthing facilities.

About 30 metres long and 12 metres wide, the EDA-R has a payload of 80 tonnes and top speeds of 18 knots at full load or 30 knots empty. Its forward and access ramps simplify loading and unloading of vehicles. Overall, the logistical throughput of a single EDA-R is five times greater than that of the conventional landing craft currently in service with the French navy.

The Socarenam shipyard, a subcontractor to prime contractor CNIM, builds the EDA-R hull in its Saint-Malo facility, and fits it out in another facility in Boulogne-sur-Mer.

The workload generated by the production of the four craft is estimated at about 4,00,000 man-hours, and supports over 100 jobs for three years. SP

IDF's future field intelligence vehicle

An Israeli invention will soon be changing the world of field intelligence technology—the IDF's field intelligence corps's "Granite" vehicle.

Developed by ELTA Systems Limited and based on the Ford 550 model, the vehicle is unlike the "Raccoon" observation vehicle, already in IDF possession, which scans back and forth in order to cover 360 degrees. Instead, the "Granite" combines synchronised radars and observation tools that scan the entire area at all times and focus automatically on every suspicious target. Additionally, the "Granite" has even better armour protection than the "Raccoon".

The introduction of the Granite is not only an advancement in technology, but will also

reduce the number of soldiers required to scout a restricted field from two to one, combining the roles of observing an area and focusing on suspicious activity.

Major Nir, head of the Mobile Observation Department of the IDF's Field Intelligence Corps, stated that the use of high-tech radars doesn't undermine the human element and the operating soldier: "It's true that the Granite system makes it easier for our soldiers to pay closer attention to the field surrounding them, but it doesn't change the fact that it's the soldiers that investigate each and every threat to its core."

Another important feature of the technology is the synchronisation among all the combat units deployed within the same mission. "Once the Granite gets a proper image of the threat, we can immediately send it to the tank and the aircraft that are also in the battlefield," added Major Nir. SP

PHOTOGRAPHS: IDF, US Army

MSFVs shipped to Afghan National Army

The US Army took another significant step forward in the strategic withdrawal of combat forces from Afghanistan last week with the shipment of the first 18 production mobile strike force vehicles (MSFVs) to theatre.

These 18 vehicles are the first of 281 MSFVs that will be provided to the Afghan National Army (ANA), to enable a quick reaction force (QRF) capability. This capability will be critical once US forces begin their drawdown.

"The MSFV provides each QRF Kandak [battalion] with a rapidly deployable, highly mobile armoured capability that can quickly manoeuvre in an all-terrain environment, while concurrently providing the ANA with sufficient firepower to conduct a wide variety of operational missions over an extended range and distance," said Captain Joseph Denning, Product Manager for Armored Security Vehicle.

The MSFV is a modified and updated version of a Textron marine and land systems vehicle platform design that has over four decades of proven performance. The modifications on the MSFV allow for additional protection while still utilising commercial off-the-shelf parts. SP

General Dynamics gets Egyptian Abrams tank-related work

The US TACOM Lifecycle Management Command has awarded General Dynamics Land Systems, a business unit of General Dynamics, a $395 million contract for work under the Egyptian tank co-production programme. The contract funds the production of 125 M1A1 Abrams tank kits for the eleventh increment of the Egyptian co-production programme.

Since 1992, General Dynamics has provided components for kits used in the co-production programme. The parts are shipped to a production facility near Cairo, Egypt, where the tanks are manufactured for the Egyptian land forces. This latest increment will increase the number of Egyptian co-production-built tanks to 1,130. Deliveries will begin in July 2013 and continue to January 2016. SP

Advanced hypersonic weapon concept tested

On November 17, the US Army Space and Missile Defense Command/Army Forces Strategic Command conducted the first test flight of the advanced hypersonic weapon (AHW) concept. A first-of-its-kind glide vehicle, designed to fly within the earth's atmosphere at hypersonic speed and long range, was launched from the Pacific Missile Range Facility, Kauai, Hawaii to the Reagan test site, US Army Kwajalein Atoll.

The objective of the test was to collect data on hypersonic boost-glide

technologies and test range performance for long-range atmospheric flight. Mission emphasis was aerodynamics; navigation, guidance, and control; and thermal protection technologies.

The Department of Defense is using AHW to develop and demonstrate technologies for conventional prompt global strike (CPGS). As part of the CPGS effort, the Defense Advanced Research Projects Agency conducted boost-glide flight tests in April 2010 and August 2011, results from which were used in planning the AHW flight test. SP

Terma introduces electronic warfare management system

To address new requirements in US and international markets, Terma is announcing introduction of a new version of the successful ALQ-213 countermeasures management system processor otherwise known as the electronic warfare management system (EWMS).

The new reliability, maintainability and performance (RMP) upgrade solution will be available in 2013. In addition to significant increases within processing and memory, highlights include physical form-fit compatibility with current installations, full qualification to F-16 and US Army rotorcraft environmental requirements, additional interfaces to include a third Mil-std-1553 interface and gigabit ethernet, high reliability and anti-tamper provisions.

The ALQ-213 EWMS is operational on more than 2.000 fighters, transporters, and helicopters worldwide including more than 1.000 US Air Force F-16s and A-10s. SP

MBDA contract for destruction of complex munitions

The NATO Maintenance and Supply Agency (NAMSA) awarded MBDA the contract for the destruction of 36,000 complex munitions. Under this contract MBDA, undertakes to establish within two years and within national territory a facility to process classified munitions in accordance with the very strict regulations that apply to defence safety; namely operational reliability and respect for the environment.

MBDA will be responsible for the disposal before 2017 of more than 1,000 missiles, 22,000 M26 rockets (the rockets formerly deployed in multi launch rocket systems or MLRSs), each containing 644 submunitions, and 13,000 155mm grenade shells, each containing 63 submunitions – hence more than 15 million submunitions.

The munition processing plant will be installed at MBDA's Bourges Subdray site in central France. This activity represents an investment of around €12 million. In order to win the contract and establish a high added value facility in France, MBDA has brought together the best skills available on the market - with Esplodenti Sabino and AID in Italy, and NAMMO in Norway. SP

PHOTOGRAPHS: US Army

New ammunition combines four artillery cartridges into one

The US Program Executive Office for Ammunition has started testing a new artillery round that will provide soldier's with superior performance as well as lighten the military logistics burden.

The 105mm M1130E1 high explosive preformed fragments, base bleed, or HE PFF BB round with the XM350 propelling charge, is a state-of-the-art cartridge that replaces four existing high-explosive projectiles and two propelling charges with a single round. The M1130E1 is fired from the M119 howitzer and will be used against light to medium targets, such as personnel and trucks.

It provides increased combat effectiveness for all 105mm howitzer units, but will specifically aid the mission of the light forces operating in rugged terrain, such as Afghanistan. A 105mm cartridge consists of a projectile, cartridge case, primer and propelling charge.

Currently, four different 105mm cartridges (the M1, M760, M927 and M1130), each containing one of two propelling charges (M67 and M200), are needed to engage the various targets at distances from 1.4 km out to 16 km, explained Jim Rutkowski, Chief of the Energetics Branch with PEO Ammunition's Project Manager for Combat Ammunition Systems.

All four rounds must be available at the firing position. For instance, the M760 cannot cover the closer ranges that the M1 covers. "Until we field sufficient quantities of M1130A1, the logistic chain and our troops will deal with the four cartridges – M1, M760, M927 and M1130," Rutkowski added. SP

Raging Debate on Armed Forces Special Powers Act in J&K

[By **General (Retd) V.P. Malik,** Former Chief of Army Staff]

A lot has been written about the Armed Forces Special Powers Act (AFSPA) in Jammu and Kashmir (J&K). Should we start its gradual revocation, or wait till overt and covert security threats in the State are further weakened or eliminated? The raging debate through social and regular media has not only politicised a sensitive security issue and made it more difficult to decide, it has also created an undesirable confrontation like situation between political leaders of the State (some outside also!) and the Army, and further demonised the AFSPA and maligned the Army in public perception. This would also make it difficult for the Central Government to promulgate AFSPA anywhere in future and thus restrict its ability to call for Army assistance for counter militancy operations.

Counter militancy operations are conducted in three stages. In the first stage, when secessionists' activities and militants' violence are at their peak-as was faced in Kashmir Valley in 1990 and the law and order situation does not permit adequate governance, the affected area is declared a 'Disturbed Area' by the State and the Centre. This legality paves the way for application of the AFSPA in the affected area to enable the Army to conduct effective anti militancy operations. In the second stage, military pressure on the violence perpetrators enables return of administration and resumption of constitutional processes. The third stage sees full-fledged functioning of governance and civil administration and return of the Army to barracks.

There are no clearly defined dividing lines in these stages due to frequent setbacks in counter militancy operations and the law and order situation. These stages, therefore, tend to merge into each other and require informed and perceptive decisionmaking at strategic and operational levels. During transition, particularly between the second and third stages, it is not uncommon to see a hot politico-military debate on the employment of the Army or the application of AFSPA in affected areas.

So, the first point I wish to make is that the current debate on the removal of the 'disturbed area' tag, and thus revocation of AFSPA from parts of J&K, should be viewed in that light and not as a confrontation between State political leadership and the Army. A public debate on such a sensitive security issue is best avoided.

In this context, let me narrate some personal experiences.

In early 1990, I was commanding a division that had troops deployed for counter-insurgency operations in Nagaland and Manipur. A political party leader, in order to garner students' support and votes, made the removal of the AFSPA a major electoral issue. After he won the elections and became the Chief Minister, I called on him and asked what he planned to do about the AFSPA. He said that in view of the popular demand, he would write to the Home Ministry and demand its revocation from the State. I told the Chief Minister that it was OK with me. I will pull out troops from the 60-odd posts, concentrate them outside Manipur and train them for their primary role of fighting a conventional war. "But you cannot do that! What will happen to the law and order situation?" he said. I told him politely but firmly that I couldn't help him to maintain that without a proper legal cover for my troops. Despite several elections in Manipur since then, the State, unfortunately, continues to have a 'disturbed area' tag on it and continues to have Army deployment on counter military missions.

In late 1993, when I was commanding a Corps in Punjab, we assessed that the law and order situation was adequately under control and we could pull out a brigade from an area for conventional training and redeployment. The Chief Minister and the Director General of Police expressed serious concern but went along with me when I told them that Army would be made available at short notice if required. Fortunately, there was no such requirement.

In late 1997, then Chief Minister of J&K asked 15 Corps to remove Army deployments within Anantnag, Badgam, Baramula and Sopore towns. We agreed and re-deployed troops outside these towns. There was near normalcy in Kashmir Valley in 1998. Next year, however, despite the Lahore Declaration, Pakistan Army intruded into Kargil sector and forced us to go to war. After a resounding defeat and loss of face in Kargil, Pakistan pushed foreign militants into the Valley and managed to intensify militancy. Sopore became a militants' stronghold. It took a division size operation to get rid of them from this town and three more years to bring back militancy in the Valley to the 1998 level.

AFSPA

The AFSPA has been much demonised by civil society groups and the media in recent years. Two aspects need to be noted. Firstly, the AFSPA can be applied only after an area is declared a 'disturbed area' by the State/Centre. Secondly, it provides a legal cover for Army personnel in carrying out 'effective' counter militancy operations. Under the AFSPA, in a 'disturbed area,' a commissioned officer, warrant officer, non-commissioned officer or any other person of equivalent rank in the armed forces can:

- Arrest without warrant any person who has committed a cognizable offence and may use suitable force, if necessary to do so. Enter any premises without a warrant to arrest a terrorist/suspect, or to recover a wrongfully confined person, stolen property, or arms/explosives wrongfully kept.
- Fire upon/use force, even causing death, against any person contravening law and order or carrying weapons, ammunition or explosives, if in his opinion it is necessary for maintenance of law and order and after giving due warning.
- Destroy an armed dump or fortified position or a shelter from which armed attacks can be made or can be used for training by hostiles, if necessary to do so.

PHOTOGRAPH: White House

The Act lays down that the arrested persons will be handed over to the nearest police station 'with the least possible delay', and no prosecution, suit or other legal proceeding can be instituted against any person in respect of anything done under this Act except with the previous sanction of the Central Government.

The AFSPA may have been described as a 'special power'. But those of us who have commanded troops in such situations have always looked upon it as a legal protection to conduct effective operations. On the flip side, whenever law and order situation improves in a 'disturbed area' and we have elected representatives governing the state, they find it difficult to continue with this Act. The reasons are:

- Democratic societies all over the world abhor large scale and extended deployment of troops in their midst.
- Human rightists and the media over the years have dubbed the AFSPA as a 'draconian' power given to the military against the civilians. It has become a convenient tool for the secessionist elements, and those in opposition, to embarrass the government and demand withdrawal of troops.
- Despite strict discipline and training, there are aberrations of human rights violations by troops. These aberrations can be reduced but seldom eliminated in the kind of operational duties which have to be performed.

AFSPA, Human Rights and the Army

Keeping in view the incidents of human rights (HR) violations by some personnel when AFSPA is applicable, the Army, over the years, has taken several preventive measures. These include setting up of human rights cells at Army, Command and Corps headquarters to monitor, seek factual details and take follow up action on all HR related cases (received from any source) and to maintain records. These Cells, after investigations, prepare a 'Detailed Investigation Reports' (investigation is conducted jointly with civil authorities sometimes) for submission to higher headquarters and preparation of affidavits to the National Human Rights Commission.

The AFSPA may have been described as a 'special power'. But those of us who have commanded troops in such situations have always looked upon it as a legal protection to conduct effective operations.

According to statistics made available to me in July 2011, 1,485 cases of human rights violations were reported in Kashmir Valley from 1990 to July 2011. Out of these, 1,439 cases (96.9 per cent) were proved false. In 43 cases proved true, 96 personnel were punished. As punishment, four officers were cashiered/awarded rigorous imprisonment (RI), 33 personnel dismissed from service, 17 personnel reduced in ranks/awarded imprisonment in military custody, one person forfeited seniority for promotion, and 14 personnel were awarded 'Severe Reprimand.' I doubt if any civil court would have acted faster or stricter on this issue.

There has also been a strong drive on continuous training and briefing of troops employed in such operations to respect human rights and avoid collateral damage. A 'Code of Conduct'

(appreciated by the Supreme Court) is issued to every individual. The 'Rules of Engagement' have been modified. Wherever possible, operations are conducted jointly with the civil police and made accessible to the media. In the last year and a half, beside preventing infiltration and conducting only intelligence based joint operations, the Army in Kashmir Valley under Lt Gen Ata Hasnain, has taken some extraordinary people-friendly initiatives. These include reducing visibility of personnel and convoys on roads during the day, 'Jee Janab' (cultural sensitivity) and 'Awam aur Jawan, Aman Hai Mukam' (the soldiers and populace want peace as their objective) and the Kashmir Premier League matches to engage the youth. These initiatives have made substantial contribution in improving civil military relations and ensuring peaceful summer.

Notwithstanding the above-mentioned civilised measures, there is still a need for the Army to become more transparent on human rights violation cases and where necessary, expedite sanction from the central government to prosecute personnel guilty of deliberate human rights violations. That would be in the interest of Army discipline as well as for creating confidence in public.

AFSPA in J & K

The Chief Minister of J&K, supported by his political heavyweight father, the Left Front and some other party leaders have made a strong pitch for revocation of AFSPA from selected districts in the State. The political view point is that these districts are no longer considered 'disturbed', our relations with Pakistan are improving, and the AFSPA-considered as 'an oppressive military regime' needs to be selectively revoked to provide the requisite atmospherics of bringing peace to the State. The Chief Minister is justified in considering the issue although it is apparent that under the cover of this demand, there is also an element of political expediency to hijack the AFSPA agenda from opposition parties and separatists.

Unfortunately, there is considerable confused thinking about the AFSPA. A member of the Centre appointed interlocutors on J&K has stated publically that "in a free India, which attained freedom by practising non-violence, laws like the AFSPA, which jeopardise democratic and human rights, have no relevance". One wonders if the Union Home Minister would agree with such an argument! The interlocutor stated further that "despite various suggestions made from time to time to the State government, there is no worthwhile monitoring mechanism to ensure effective implementation of recommendations for ameliorating the condition of the people." And yet, the same interlocutor opines that "programmes like Operation Sadbhavna, designed, managed and financed by the security forces for providing education and healthcare facilities, should be ideally left to the local bodies, as has been the practice in other states." In the current governance environment in J&K, it is difficult to see any linkage between implementation of State development programmes and the AFSPA.

The Army, opposed to selective revocation of the AFSPA, believes that Pakistan Army has not given up its efforts to support militancy and terrorism in the State. The current run of peace is, at best, fragile. The secessionist elements in the State have not been adequately neutralised. They continue to provide logistic support to anti-national elements and have used, or created, opportunities during many summers in the past—except last summer—to raise 'azadi' flags and slogans. Selective revocation of AFSPA will make its assets (including Srinagar Airfield) and convoys vulnerable. Selective revocation of AFSPA may also revive overt and covert militancy in these areas, as has been experienced in Imphal in the past. The Army feels that more time and effort is required to bring about normalcy in the State.

Political leaders in 'disturbed areas' need to assess the security situation and resolve such issues through a consensus in Unified Command instead of making sensitive security issues a public agenda

Pakistan Army and the ISI have always been a major factor in the militancy swings of J&K. They treat and nurture Jehadi terrorist groups as a strategic asset and a hedge on Pakistan's Eastern and Western borders. The ISI continues to support these groups, their training and communication networks in POK despite its pre-occupation on the Afghan border. The Army believes that there is no change in Pakistan Army's strategic agenda. Continuing military-terrorists nexus in Pakistan has been confirmed in the latest 'Memogate' exposure.

Conclusion

I have no doubt that every Indian would like to see the end of terrorism and militants' violence in J&K. More so the security forces, who have lost 6,013 personnel since 1988 due to such violence in the State. This is possible only through a synergetic effort of the political leadership, state administration and the security forces including the army, on the ground. The synergetic effort has to be focused on public; to restore its confidence in the polity and administration; to ensure that it denies support to militants and enables their isolation. The militants will then either fall in line or get eliminated.

While it is desirable to give more and more political space to the State leadership, the AFSPA is necessary till we are fully confident of checking infiltration from across the border and the overt and covert support to the militancy in the State is reduced considerably. The need for legal cover to soldiers conducting counter militancy operations is unquestionable. Due to changed circumstances, it is essential to review the conduct of operations in the areas suggested for revocation of the AFSPA. My suggestions would be to (a) further reduce army footprints in all civil areas. Let the civil police take over operations in the areas recommended by the State Chief Minister and call for military only when the operation is beyond its capability (b) military convoys passing through these areas should continue to be protected (c) the Army should be more transparent in its dealing with human rights aberrations, and (d) the Central Government should explain reasons whenever permission to prosecute a person accused in human rights violations is not given.

I believe that it is incorrect and unfair on the part of political authorities to put pressure on the Army through social and regular media. This is not in the interest of objective decision-making or cordial civil military relations. Political leaders in 'disturbed areas' need to assess the security situation and resolve such issues through a consensus in Unified Command instead of making sensitive security issues a public agenda. SP

India launches new-generation strategic missile Agni-IV

India successfully test-fired the most advanced long-range missile system Agni-IV recently. The missile was launched from a road mobile system from Wheelers' Island off the coast of Orissa. The missile followed its trajectory in a textbook fashion, attained a height of about 900 km and reached the pre-designated target in the international waters of the Bay of Bengal.

All mission objectives were fully met. All the systems functioned perfectly till the end encountering the re-entry temperatures of more than 3,000°C. The missile is lighter in weight and has two stages of solid propulsion and a payload with re-entry heat shield. The composite rocket motor which has been used for the first time has given excellent performance. The missile system is equipped with modern and compact avionics with redundancy to provide high level of reliability.

The indigenous ring laser gyros based high accuracy INS (RINS) and micro navigation system (MINGS) complementing each other in redundant mode have been successfully flown in guidance mode for the first time. The high performance onboard computer with distributed avionics architecture, high speed reliable communication bus and a full digital control system have controlled and guided the missile to the target.

Avinash Chander, Chief Controller (Missiles & Strategic Systems), DRDO and Programme Director, Agni called it as a new era in the modern long range navigation system in India. He said, "This test has paved the way ahead for the success of Agni-V mission, which will be launched shortly". Tessy Thomas, Project Director Agni-IV and her team prepared and integrated the missile system and launched the missile successfully. SP

PHOTOGRAPHS: PIB, Sukhoi

Third PAK FA jet flight test

The third advanced tactical frontline fighter (PAK FA) performed its first flight recently in Komsomolsk-on-Amur KnAAPO. The jet was piloted by test pilot Sergey Bogdan. The jet spent about an hour in the air and landed at KnAAPO runway after successful and complete fulfillment of the flight assignment. Aircraft stability and power plant performance were checked during flight, the pilot noting reliability of all systems and equipment.

PAK FA performed its maiden flight on January 29, 2010, in Komsomolsk-on-Amur. In the beginning of March 2011, the second fighter took into the skies. Both aircraft participated in ground and flight test trials. The aircraft was presented to the public for the first time on August 17, 2011 at MAKS-2011, International Aviation and Space Salon, in Zhukovsky. As of November 2011, PAK FA has performed more than 100 flights.

PAK FA programme includes creation of the fighter, setting up its serial production and introduction into service by the Russian Air Force. PAK FA will enhance the combat potential of the Russian Air Force, take the aviation industry to new technical levels and give momentum to scientific research development along with providing sufficient workload for all the defence industry enterprises.

PAK FA programme is a high-priority UAC military aviation programme developed by JSC "Sukhoi Company", UAC subsidiary. It will enhance new materials and technology development and implementation, their high innovative potential allowing new generation jet creation. SP

Lockheed Martin awarded US Navy sensor system contract

Lockheed Martin received a contract to complete the development of the infrared search and track (IRST) sensor system for the US Navy F/A-18E/F, marking the start of the engineering, manufacturing and development phase of the programme.

"IRST is a game-changer for air-to-air combat, providing a 'first to see, first to strike' capability," said Paul Hey, IRST Senior Program Manager in Lockheed Martin's Missiles and Fire Control business. "IRST works with the aircraft's radar to enhance the overall weapon system performance—even in a jamming environment—allowing the warfighter to engage threats with a high probability of success."

Lockheed Martin's IRST sensor system improves aircrews' situational awareness, lethality and survivability, even in threat-intensive environments. The IRST is a passive, long-range sensor that simultaneously tracks multiple targets over a large area and is unaffected by electronic attack or radar jamming. The F/A-18E/F IRST is scheduled to achieve initial operating capability in 2016. SP

H-1 helicopters with Northrop Grumman integrated cockpit avionics

Northrop Grumman Corporation's integrated avionics system (IAS) played a key role in pre paring the AH-1Z helicopter for its first operational deployment, marking the initial opportunity for the AH-1Z and UH-1Y helicopters to work together as a team.

The AH-1Z and its sister aircraft, the UH-1Y, are deployed aboard the USS Makin Island with the 11th Marine Expeditionary Unit (MEU). The helicopters function as a detachment of Marine Light Attack Helicopter Squadron 367 (HMLA-367). While this is the first AH-1Z deployment, the UH-1Y was first deployed in 2009 with the 13th MEU and has experienced four HMLA squadron deployments in support of Operation Enduring Freedom in Afghanistan.

The US Marine Corps is now able to merge the improved capabilities of these upgraded aircraft into a single light helicopter attack squadron or as a detachment of the larger group. The dual deployment takes advantage of the 84 per cent commonality of parts between the UH-1Y and AH-1Z helicopters in the H-1 upgrade programme, which reduces life cycle and training costs and decreases the logistics footprint for both aircraft. The upgraded helicopters also have 100 per cent software commonality through Northrop Grumman's IAS and the same operational flight programme.

"The integrated avionics system is dramatically improving the situational awareness abilities of these H-1 aircraft in challenging environments," said Ike Song, Vice President of situational awareness systems at Northrop Grumman's Navigation Systems Division. "These operational advantages will be even more apparent now, as the AH-1Z and UH-1Y work together as a team in their first joint deployment." SP

PHOTOGRAPHS: Northrop Grumman, US Air Force

US, Indonesia agree on F-16 transfer

The US and Indonesian Presidents issued a joint statement recently from Bali, Indonesia, reaffirming their deepening engagement and announcing the planned transfer and upgrade of 24 excess defence article F-16s to the Indonesian Air Force. US President Barack Obama was participating in the East Asia Summit.

Obama's joint statement with Indonesian President Susilo Bambang Yudhoyono noted the two leaders affirm the summit is the region's premier forum for leaders to discuss strategic political and security issues.

According to a White House fact sheet, Indonesia's addition of 24 F-16s will allow that nation's government to significantly bolster air defence capacity without compromising the defence budget and other national priorities.

Pentagon spokeswoman Navy Cmdr. Leslie Hull-Ryde said the transfer demonstrates the growing partnership between the two nations and their military forces. "Indonesia is an important US partner and a leader in Southeast Asia. The Department of Defense is working to support the Indonesian military in their efforts to modernise the force," Hull-Ryde said. "The refurbished F-16s support that end and contribute to interoperability with the United States." SP

Sikorsky wins bid to supply 12 Blackhawks

The Ministry of Defence of Brunei Darussalam announced the contract award for the Royal Brunei Armed Forces (RBAF) support helicopter project to Sikorsky International Operations, Inc, US.

The project is for the supply of 12 Blackhawk S-70i helicopters to replace the current fleet of Bell 212 and BO105 helicopters and to enhance the RBAF's rotary wing capacity to meet the requirement for a single wave tactical air lift. The delivery of these advanced new aircrafts will also allow the RBAF to further strengthen its troop deployment capabilities in military and humanitarian operations to fulfill its national and international obligation.

The helicopters are to be delivered in Brunei Darussalam between 2013 and 2015. SP

Ghana gets Airbus Military C295

The Ghana Air Force has taken delivery of the first of two C295 aircraft that it ordered from Airbus Military. The second aircraft will be delivered in the first quarter of 2012. This C295 is the first Airbus Military product that the Ghana Air Force will operate.

The aircraft is qualified for the transport of troops, paratroops, medical evacuation, and both palletised and bulk loads, for which it is equipped with a palletised loading system. SP

Researchers and responders to develop UAV visual common ground

Researchers and responders from the Texas A&M University System have received a grant from the National Science Foundation (NSF) to create a visual "common ground" between operators and responders who use micro and small unmanned aerial vehicles (UAVs) for search and rescue.

Following principles in how people know what other people are talking about in conversations, visual common ground will allow responders to easily express where they want the UAV to fly and what angle to examine collapsed structures using an iPad or other tablet. The responders would also be able to review imagery and video while the UAV continues its mission rather than wait for the UAV to land.

Response professionals from the Texas Engineering Extension Service (TEEX) Disaster Preparedness and Response Division (DPR) will fly weekly at Disaster City with researchers from the Texas Engineering Experiment Station's (TEES) Center for Robot-Assisted Search and Rescue (CRASAR), speeding the development and refinement of the natural user interface.

Disaster City is a 20 hectre facility designed featuring full-scale collapsible structures that replicate community infrastructure. The site includes simulations of a strip mall, office building, industrial complex, assembly hall/theatre, single-family dwelling, train derailments, three active rubble piles and a small lake.

The grant is the first direct partnering of emergency responders with university professors/researchers for UAV research. Bob McKee, DPR director and agency chief for Texas Task Force 1, serves as a principal investigator with Dr. Robin Murphy, Texas A&M University professor and CRASAR director. The partnership leverages the capabilities of top academic researchers and the preparedness and response expertise of TEEX, all existing within the A&M System.

"Being able to work directly and routinely with responders under conditions as near to a real disaster as one can get will allow the research to progress faster. This could only happen at Texas A&M," Murphy said. "Normally we'd have to try to condense a year of work into one week of trials, and if something went wrong we'd have to wait months for another opportunity for responders or a demolished building to become available."

McKee said, "TEEX has been actively involved in efforts to develop and adapt robots for search and rescue applications. Though working with the National Institute for Standards and Technology project to develop standard test methods for emergency response robots to collaborating with scientific researchers and commercial developers at our unique Disaster City® facility, we're hoping to someday use small UAVs and other unmanned systems to help save lives."

The grant will help enable emergency responders to take advantage of small "personal" UAVs being developed for the US Department of Defense. Urban search and rescue operations can be more challenging than military peacekeeping operations as they can require assessment and analysis of damaged structures, hazardous areas and other unique situations.

The idea for creating shared displays is a result of over a decade of research on rescue robotics by Murphy, who was recently named one of the most influential women in technology by *Fast Company* magazine. She has led UAV deployments at numerous disasters starting with Hurricane Katrina. Her work with Dr Jenny Burke (a former graduate student currently with Boeing), based on CRASAR experiences with ground robots at the World Trade Center, showed that search and rescue specialists were nine times more effective if two responders—not one—worked together using a shared visual display.

The team expects to have an open source tablet interface for AirRobot and Dragan UAVs within 24 months that leads to a significant, measurable improvement in team performance as well as high user acceptance. SP

PHOTOGRAPH: DOD

Kratos in $105 million UAV support contract

Kratos Defense & Security Solutions has announced that its weapon systems solutions division—Digital Fusion Solutions (DFSI) subsidiary was a critical team member of Aerodyne, which was awarded a contract with potential value over $105 million to provide technical and engineering support for the US Army Unmanned Aircraft Systems (UAS) Project Office. Kratos and the Aerodyne Team have been performing mission critical UAS-related work for this extremely important National Security customer for the past five years.

Under the Project Manager, Army UAS Technical Services contract, Kratos-DFSI will provide significant technical expertise to support the UAS Operations Center, as well as all UAS Platforms and functional divisions, in the areas of operational readiness, flight hour/sortie historical data, maintenance action records, and all standard army management information systems (STAMIS) data elements.

DFSI supports PM UAS-wide automation initiatives and system sustainment activities such as the UAS dashboard, the UAS portal/intranet, custom database applications, automated processes and workflows, and Lean Six Sigma business process improvement efforts.

The team's five-year contract has a base value of more than $9 million, with five additional options. If all options are exercised, the contract value will exceed $105 million. The work will be performed primarily at the Army's Redstone Arsenal in Huntsville, Alabama.

Indeed, over the longer term, payload manufacturers—particularly at the higher end—must continue to struggle to meet the key unique selling point of UAVs, that is to say their ultimate expendability, while meeting demand for more advanced technology and suppressing costs. Visiongain believes this will remain a determinant of the size of UAV payload market—and the UAV market itself—going forward. SP

Camcopter UAV trials on new French OPV

Schiebel's Camcopter S-100 unmanned air system (UAS) has once again successfully proven its highly efficient maritime capability, this time onboard the new Gowind class OPV (offshore patrol vessel), L'Adroit, built by DCNS and handed over to the French Navy in October 2011.

Operating at the cutting edge of technology, the S-100 successfully completed a series of flights and trials onboard the L'Adroit OPV at the beginning of November, under the command and control of the French Navy. L'Adroit is believed to be the first ship ever to be specifically designed to operate unmanned vehicles and has been fitted out to operate the maritime proven Camcopter S-100.

"With the unmanned airborne system it is possible to gather information without tiring the crew and without exposing the crew towards an enemy and/or bacteriological and/or chemical hazards or also to act as communication relay." said DCNS OPV Manager Denis Menage.

During the four days of operation in the Bay of Biscay, the Camcopter carried out eleven flights and 89 deck landings using a harpoon developed by Schiebel. As part of the trials, the S-100 used its electro-optical and infrared sensors to identify exercise potential threats such as small boats. It was shown that the UAS significantly increases the capability of the ship and the missions conducted during the trials demonstrated its high potential for surveillance, harbour and costal patrol, environmental protection, intelligence gathering, drug interdiction, anti-piracy tasks, as well as supporting search & rescue operations. SP

PHOTOGRAPHS: Schiebel, Northrop Grumman

Pratt & Whitney engine powers UCAS-D flight

Pratt & Whitney's F100-PW-220U engine and exhaust system have successfully powered the first flight of the second Northrop Grumman X-47B flight test aircraft for the US Navy's unmanned combat air system carrier demonstration (UCAS-D) programme.

The flight of the tailless, autonomous aircraft known as Air Vehicle 2 (AV-2) took place at Edwards Air Force Base on November 22 and lasted for about 30 minutes.

"The successful flight of the second UCAS aircraft is a testament to a strong partnership between Pratt & Whitney and our teammates from Northrop Grumman and the United States Navy," said Jimmy Reed, Director of Advanced Engine Programs for Pratt & Whitney. "We have worked diligently to get ready for these tests and Pratt & Whitney's propulsion system performed well, allowing the aircraft to complete all planned activity during the flight."

Northrop Grumman awarded a contract to Pratt & Whitney in 2008 to develop and integrate the engine and exhaust system for the X-47B. The Pratt & Whitney F100-PW-220U engine, a derivative of the F100-PW-220 and -220E engine models that power the F-15 Eagle and F-16 Falcon, enjoys the maturity gained from more than 12 million hours of operational experience. The engine and unique exhaust system have successfully completed ground accelerated mission testing. The accelerated mission test simulated the planned usage of the propulsion system during the X-47B flight test program. This endurance test demonstrated the durability and performance of the F100-PW-220U unique engine hardware and the exhaust system.

The F100-PW-220U engine is capable of providing up to 16,000 pounds of thrust and is intended for operation in a maritime environment, including carrier deck operations. The successful addition of AV-2 to the demonstration programme provides a critical inflection point for the UCAS-D flight test programme. Carrier demonstrations for the unmanned combat air system are scheduled in 2013. SP

Argus One UAV demo soon

World Surveillance Group Inc. (WSGI) announced that free flight testing and customer demonstrations of the Argus One UAV will take place at the US Department of Energy Nevada test site in early December 2011.

At the N2S2 flight exercises, WSGI intends to test and also demonstrate the Argus One UAV and its capabilities to the DoD sponsors, who will be providing both capabilities such as pre-flight, frequency, and free flight coordination testing, and access to N2S2 facilities including hangar space and airport operations.

WSGI designs, develops and markets autonomous, lighter-than-air UAVs capable of carrying payloads that provide persistent security and/or wireless communications solutions at low, mid, and high altitudes. SP

Rheinmetall shoots down UAV with laser

Having recently used a high-energy laser weapon to down an unmanned aircraft at a proving ground in Switzerland, Rheinmetall has demonstrated the operational potential of combining a powerful laser weapon with an advanced air defence system.

The event provided compelling proof of the Group's 360° competence in relevant technologies ranging from military lasers and target recognition and identification to target tracking and fire control units—and its unrivalled ability to weld them into a single, forward-looking, fully functional full scale demonstrator.

A 10-kW laser was integrated into an air defence system consisting of an Oerlikon Skyguard 3 fire control unit and a Skyshield gun turret. Modular and scalable, the laser weapon consisted of two 5-kW laser weapon modules. Besides, a 1-kW laser weapon module was specially mounted on a TM 170-type vehicle. Both laser weapon demonstrators were deployed in different scenarios: as a means of providing protection from asymmetric, terrorist-type threats; in a C-RAM context to counter the threat from incoming rockets, artillery and mortar rounds; and in an air defence scenario with an unmanned air vehicle serving as the target. SP

GA-ASI demonstrates Lynx maritime mode on aerostat

General Atomics Aeronautical Systems (GA-ASI), a leading manufacturer of unmanned aircraft systems (UAS), tactical reconnaissance radars, and electro-optic surveillance systems, has announced its successful participation in a US Air Force exercise designed to demonstrate the capability of an aerostat equipped with maritime radar and an electro-optical/infrared (EO/IR) sensor to provide situational awareness for littoral environments.

"Successful integration and operation of the Lynx multi-mode radar on an aerostat, which presented many navigation system challenges, is a testament to the radar's versatility," said Linden Blue, President, Reconnaissance Systems Group, GA-ASI. "The exercise validated the robustness of the Lynx maritime wide area search [MWAS] mode and demonstrated that this capability is ready to transition to the military and border patrol users on various types of manned and unmanned aircraft."

Capable of a 30-degree per second scan rate with algorithms optimised for detecting small vessels, including self-propelled semi-submersible (SPSS) vessels, the Lynx radar's MWAS mode has also been demonstrated successfully on a King Air aircraft and a surrogate Predator B UAS. The MWAS mode, along with a three-fold increase in the ground moving target indicator (GMTI) area coverage rate and a new SAR-aided alignment mode, has been incorporated into Lynx radars deployed by US customers over the past year and is available now for airship/aerostat applications. SP

Israel's giant Eitan becomes operational

Israel Air Force's largest unmanned aircraft is scheduled to begin operations within several months after eight years in development. In the past it was reported that the Eitan UAV was developed to reach Iran and Sudan. Several Eitan UAVs are scheduled to begin operations in the various combat sectors including Gaza and Lebanon.

Eitan is 14 metres long and has 26-metre-long wings. It is able to fly for 20 hours straight at a maximum speed of 143 Knots and reach a maximum altitude of 41,000 feet. It weighs five tons and can carry up to one ton. Eitan is meant to be utilised in complex intelligence gathering missions. It has already been dubbed "the most advanced UAV in the world."

The "heavy UAV," as it has been called, will also attempt to distinguish between terrorists and civilians in sensitive combat regions. "For the first time in military history we have a combatant who takes part in intercepting military targets with no direct threat to his life," Lieutenant Colonel Ido Frumer said. SP

PHOTOGRAPHS: Rheinmetall, Lockheed Martin, Wikipedia

US Border Patrol deploying sixth predator drone

The US Customs and Border Protection agency added a second Predator B aircraft in Texas and will soon deploy another based in Arizona, bring total active drones on the Mexico border up to six by the end of the year.

Since they were first deployed six years ago, the unmanned aircraft are credited with apprehending more than 7,500 people. Although drones can remain airborne for 30 hours, missions typically run eight or nine hours with ground crews rotating in control trailers. With infrared viewing capability, they are especially valuable in night operations. Smugglers of humans, drugs and guns are the primary target.

"It's like any other law enforcement platform," said Lothar Eckardt, who directs the Office of Air and Marine's Predator operation out of Corpus Christi Naval Air Station. "It's no different than a helicopter." SP

PHOTOGRAPH: Customs and Boarder Protection

Electronic surveillance in Delhi

Delhi has taken up the process of electronic surveillance at 63 markets/public places, 27 border checkposts and 6 District Courts as well as the High Court.

According to the Minister of State for Home Affairs, Jitendra Singh, Delhi also plans to have city surveillance system covering nine intersections with 26 static cameras and 10 pan-tilt zoom cameras. During the Commonwealth Games 2010, a C4I solution was implemented in which a state-of-the art control room was established. States have taken up the process in important cities out of their own funds or through the modernisation of police forces grants given to them.

The Delhi Police has already implemented Phase-I of the market surveillance project and for the Phase-II of the Project it has projected a requirement of 1,694 fixed cameras and 312 pan-tilt zoom cameras. SP

India to set up 'community policing'

The Indian Government will consider setting up a separate wing for community policing with entirely different uniform. This was stated by the Union Home Minister P. Chidambaram, while replying to suggestions of Members of the Consultative Committee for the Ministry of Home Affairs here recently.

The Union Home Minister said that some of programmes of community policing in different states have been successful and have continued to work even after the individuals who have initiated these programmes have moved on to other responsibilities. He said that the Kerala model was one of the best, while Delhi and Tamil Nadu models have also met with some success.

Members emphasised that none of the community policing schemes were really institutionalised. Adhocism is another characteristic of the community policing efforts in India. Some of the reasons outlined by members were that the experiments and programmes are not always tailored to community's needs. They work well in times of crisis. Once the emergency passes, they lose momentum. The police-community relationships have mostly remained an urban phenomena. Suspicion and misunderstanding creep in after some time.

The members were unanimous in their opinion that more beat constables are required all over the country. They expressed concern over vacancies in law enforcement agencies, poor infrastructure and low morale. Chidambaram agreed that there are serious difficulties in implementing the community policing programme as many blocks existed without a police station due to severe shortage of constables. SP

US-EU collaboration on counterterrorism

The US Secretary of Homeland Security Janet Napolitano joined Attorney General Eric Holder for the biannual US-European Union (EU) Justice and Home Affairs Ministerial recently to discuss international collaboration on counterterrorism and homeland security issues with EU Vice President and Commissioner for Justice Viviane Reding, EU Commissioner for Home Affairs Cecilia Malmström, Polish Deputy Minister of Justice Igor Dzialuk, Polish Deputy Minister of Interior Piotr Stachańczyk, and Danish Minister of Justice Morten Bødskov.

"The United States is strongly committed to working with our European partners to combat threats to our mutual security and economic stability," said Secretary Napolitano. "Together, we will continue joint efforts to enhance information sharing, strengthen cybersecurity and ensure the security and resilience of our global supply chain systems against terrorism and transnational crime."

"The European Union and the United States have been proud to stand and to work together in the face of common threats," Attorney General Holder said. "We will continue to strengthen

our joint efforts to combat transnational organised crime and explore strategies for preventing and disrupting terrorist activity at home as well as abroad. We have also reaffirmed our commitment to increasing information sharing between and among law enforcement officials at every level—all while protecting the privacy of personal information."

Napolitano underscored the significant progress made in negotiations on the US-EU passenger name record (PNR) agreement—reiterating the important role that information sharing plays in securing travel while protecting the privacy of passengers. Recently, Deputy Secretary Jane Holl Lute initialed an agreement between the United States and the European Union on the transfer and sharing of PNRs. SP

Cassidian's technology successfully secured the G20 summit in France

Cassidian's high-security communication technology helped the on-site forces to maintain security arrangements at the recent G20 summit held in Cannes, France. Tailored Tetrapol secure radio network technology by Cassidian was installed in the fixed or mobile networks of police, gendarmerie, armed and civil security forces.

Besides the nationwide shared transmission infrastructure Infrastructure Nationale Partageable des Transmissions (INPT) used by the French police and firefighters and the RUBIS network of the French gendarmerie, a tactical network called Topaze (PNT), based on a Milicor system by Cassidian, was also deployed at the summit. Together, these technologies formed a cornerstone of the extremely demanding system, whose primary

objective was to ensure the protection of 20 Heads of State and government as well as representatives from five guest countries and 12 international institutions, totalling more than 6,000 invited people, plus about 3,000 accredited journalists.

A large number of police, gendarmerie, armed and civil security forces were involved in the event. In total, some 12,000 users were able to benefit from the powerful secure radio communication system at the summit. To this end, Cassidian adapted the networks to the specificities of this kind of summit and improved their ability to perform in the event of a crisis. SP

Rotundus spherical GroundBot UGV broadcasts live 3D surveillance

Remote-controlled unmanned ground vehicles (UGVs) have proven exceptionally useful in military applications, but according to Swedish company Rotundus, they can be equally well applied to civil security. Rolling through mud, sand, snow, or even floating in the water, the Rotundus GroundBot spherically-shaped robot is equipped with a pair of cameras, providing its remote operator with a live video feed in 3D.

Featuring a polycarbonate housing with high friction coating, GroundBot is slightly larger than an automobile tire, measuring 60 cm in diameter.

Controlled remotely or via a programmed autonomous GPS-based system, GroundBot can be equipped with wide-angled cameras (for 360-degree vision), night vision cameras, microphone and loudspeakers, as well as sensors for radioactivity, gas, humidity, fire, heat, smoke, biological material, explosives, or narcotics. GroundBot has all its sensors and cameras well-protected inside the hermetically sealed sphere, which means no sand, mud, water, or even gas can get inside. This makes it well-suited for uses such as investigating suspected gas leaks. It also withstands overturns, drops and knocks.

With a top speed of 10 kmph, GroundBot is reportedly virtually inaudible and comes with knobby tire treads for all-terrain operation, or without them for use on paved surfaces. It operates for 8-16 hours depending on mission profile, while it takes 3-4 hours to recharge its battery. Featuring a polycarbonate housing with high friction coating, Groundbot's size is comparable to an automobile tire, measuring 60 cm in diameter, while weighing in at 25 kg.

According to Rotundus, GroundBot is suitable for security at places such as airports, train stations, power plants, borders and warehouses, and for applications such as perimeter protection and stadium/event surveillance. American Unmanned Systems has acquired an exclusive licence for production, marketing and sales of the unit in the US, Canada and Mexico. SP

PHOTOGRAPHS: Wikipedia, iRobot

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The greater threat

In the recent past, the Home Minister's statement appeared in the media that the Maoist threat is far greater than the terrorist threat. Apparently, this was in response to a question from the media. The question by itself is absurd. How do you classify which is a bigger threat? Is it based on number of casualties inflicted on security forces and civilians? Can you predict how many casualties will be inflicted next? For example, the Sarin Gas attack on Tokyo Subway in March 1995 by members of the Aum Shinrikyo cult released gas on several lines of the Tokyo Metro, killing 13, severely injuring 50 and causing temporary loss of vision to some 1,000 people. The cult actually had two remote controlled helicopters and had even smuggled in a Russian Mi-8 helicopter part by part. Had they used aerial spraying, they had enough Sarin to kill 'one million people.'

There is little meaning in wasting time on questions like this especially when the Prime Minister has been stating for the past six years that the Maoists threat is the biggest threat to our security. The vital question we should be asking is what we are doing to combat these threats.

As per media hundreds of Police and Central Armed Police Force (CAPF) battalions are being raised but what of their equipping, arming and most importantly, training? These issues are more troublesome when you see the state of the existing battalions, particularly in terms of modernisation, training, intelligence and the will to strike. Note the media coverage including video clips of the training and training camps of the Maoists, reports of they being trained now by ULFA even as the latter holds talks with the Centre. Why can we not strike these camps? Or is it a 'state subject' in which the Centre has no role. When will we realise that the Maoist problem has been permitted to flourish because it continued to be viewed as a 'state subject' and that too predominantly as a 'law and order' problem even when the Prime Minister was labeling it the biggest threat? On the other hand, if the Centre has indeed taken charge, then why the insurgent training camps can't be tracked and struck? If the media can time and again go and do filming in the Maoist heartland, why can the CAPF not infiltrate the Maoists rank and file, operate alongside and provide time intelligence? If the CAPF do not have the confidence, then why not employ detachments of the National Security Guard (NSG)? While 52 Special Action Group (SAG) of the NSG specialises in anti-hijack operations, 51 SAG is equipped and trained for precisely such tasks. So is the Special Groups (SG) of the Special Frontier Force (SFF).

The Centre should have taken charge of anti-Maoist operations long back. There is little sense in the States boasting of Special Police Units like Grey Hounds, Force One and the like, and the Centre toasting 'highly trained elite units' (that is how the media describe them) if the right force cannot be organised for meaningful intelligence-cum-psychological operations.

We could learn from Bhutan routing the ULFA and Bodos, striking their very training camps and infrastructure to rout them out of Bhutanese territory. Incidentally, the Home Ministry's official list of some 29 odd terrorist organisations operating in India does not even mention the Garo National Army of Meghalaya that the security forces have been battling for past few years now. Additionally, what a terrible shame that India is unable to lift the siege on its hapless population in Manipur! SP

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

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Working with the private sector to deter cyber attacks

In today's world, life without computers is unimaginable. From personal gadgets to state infrastructure, the prevalence of computers has changed almost everything about the world we live in. It has also generated new threats to international security through the multiplication of often sophisticated cyber attacks. To help resist and deter these threats, NATO has been working with some of the world's biggest private cyber security companies to share knowledge and experience.

As stated in the NATO Strategic Concept cyber attacks are one of the top three threats facing the Alliance. A new cyber defence package, with a first tranche of €28 million, will enhance NATO's capabilities in 2012 to monitor and react to cyber incidents with its networks; equipment will be modernised and reaction teams upgraded. This will represent an important increase in NATO's investment in protecting its networks. The Alliance is also working with private cyber security companies to strengthen its ability to support Allies in case of cyber attacks

"As more people, computers and devices come online (there are approximately two billion people using the Internet today), cyber threats have grown more sophisticated and cyber criminals have successfully gathered sensitive data, disrupted critical operations or engage in other illegal activity such as fraud," explains Dave De Bie, a Technology Strategist at Microsoft.

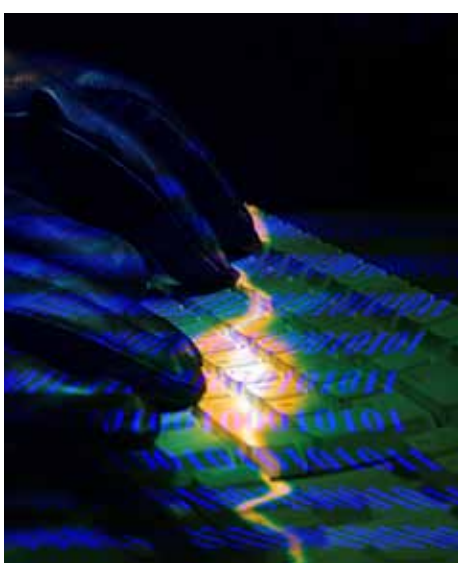

ILLUSTRATION: Vimlesh Yadav

Facing up to the Challenge

"The main challenge to combating cyber crime and cyber attacks is a lack of visibility," adds Martin Borrett, Director of IBM's Institute for Advanced Security Europe. "For a variety of reasons, nations, businesses and individuals are reluctant to admit that they have been attacked or that they may have vulnerabilities." Not acknowledging attacks can leave states at risk and cedes the advantage to the attacker. Borett explains that"If organisations and individuals share their experiences, defences can be updated and adapted much more rapidly and shared much more widely to reduce the impact of these attacks."

A mid-year trend report from IBM named 2011 as the year of the 'security breach.' According to the report, an explosion of security breaches, incidents of 'presumed state sponsored attacks and daily reports of viruses continue to show how much cyber attacks are on the increase.

"IBM participates in cyber defence projects at NATO through the provision of several software tools for intrusion protection/detection," says Borrett. "We share information freely through workshops, conferences, site visits and publications with the community at large."

Improving Capabilities

In response to these challenges many countries have sought to improve critical infrastructure, build effective information sharing and collaboration capabilities and coordinate responses to complex cyber incidents. NATO has been working with its members in the same way.

"Since 2006, NATO has been running operational cyber defence capabilities and has established a good model in deployment and operating of cyber defence technologies and capabilities," says Suleyman Anil, Head of Cyber Defence at NATO. "Governments alone would not be able to respond to cyber threats. New and innovative cyber technologies are developed by the private sector. Sharing information and knowledge can (and should) be improved in this area, and NATO is doing its part."

Agreeing Partnerships

In 2010 Allied Command Transformation set up the Framework for Collaborative Interaction (FFCI) which enables NATO and private industry to work together in a non-procurement manner. Private cyber security companies have also been invited to participate in NATO cyber security events and industry days such as 2011's Information Assurance Symposium, where speakers shared their expertise with over 800 delegates from different NATO countries.

"Industry, government and critical infrastructure operators need to find ways to cooperate better, and exchange information better in order to better understand what the threat is and how they can collectively defend themselves," says Ilias Chantzos, Senior Director EMEA Government Relations, Symantec.

De Bie agrees, adding that "Microsoft proposes and continues to evangelise the need for global public-private partnership to ensure a healthy IT environment for Internet citizens around the world. Without international collaboration, the efforts around the world run the risk of developing solutions that are inefficient, inconsistent or, even worse, conflicting."

Without cooperation with industry, the Alliance's networks would almost certainly be compromised. SP

RFI/RFP/TENDERS

Indian Army

Tender: **Unit Load 155 Charge M4A2**
Army Ordnance Corps
Publication date: October 18
Last date: 13 January, 2012

Indian Air Force

Tender: **Skydiving parachutes and accessories**
Air Hqrs
Publication date: September 6
Last date: December 4

Tender: **Spares for R-29 Aeroengines**
Air Hqrs
Publication date: September 6
Last date: December 8

Indian Navy

Tender: **3D CD Band Air Surveillance Radar**
Directorate of Staff Requirements
Publication date: November 3
Last date: December 1

RFI: **Vibration measurement equipment for aircraft and engines**
Southern Naval Command, Kochi
Publication date: November 4
Last date: December 16

Ministry of Home Affairs

Tender: **Night vision device**
CISF
Publication date: November 9
Last date: December 5

Tender: **X-ray baggage scanning simulator**
CISF
Publication date: October 28
Last date: December 7

Tender: **X-ray baggage system (small)**
CISF
Publication date: October 28
Last date: December 8

Tender: **VHF scanner**
CISF
Publication date: November 24
Last date: December 29

Flight control software to help pilots land aboard carrier decks

Select pilots in early 2012 will commence testing new flight control software, funded in part by the Office of Naval Research (ONR), intended to facilitate aircraft landings on navy carrier decks with unprecedented accuracy.

"The precision that we can bring to carrier landings in the future will be substantial," said Michael Deitchman, Deputy Chief of Naval Research for Naval Air Warfare and Weapons. "The flight control algorithm has the potential to alter the next 50 years of how pilots land on carrier decks."

Navy and Marine Corps aviators conducting carrier landings today line up with a moving flight deck in a complicated process. They must constantly adjust their speed and manipulate the aircraft's flight control surfaces-ailerons, rudders and elevators-to maintain the proper glide path and alignment to the flight deck for an arrested landing. Throughout their approach, pilots eye a set of lights—known as the Fresnel lens—located on the left side of the ship. It signals whether they are coming in too high or too low.

The new algorithm embedded in the flight control software augments the landing approach. Coupled with an experimental shipboard light system called a Bedford Array and accompanying cockpit heads-up display symbols, the software ties the movement of the pilot's control stick directly to the aircraft's flight path. Instead of constantly adjusting the plane's trajectory indirectly through attitude changes, the pilot maneuvers the aircraft to project a dotted green line in the heads-up display over a target light shining in the landing area.

"It is almost like a video game," said James "Buddy" Denham, the senior engineer who has been leading the research and development efforts at Naval Air Systems Command. "You're tracking a shipboard stabilised visual target with a flight path reference, and the airplane knows what it needs to do to stay there."

ONR funded the project as part of its focus on sea-based aviation, one of five Navy and Marine Corps research areas designated as a national naval responsibility.

The software has been incorporated into an F/A-18 E/F Super Hornet flight simulator. Researchers plan to conduct a study with US Navy pilots and British Royal Navy pilots who will fly the simulator to obtain data on workload reduction and touchdown performance. Once the results are tabulated, the engineers plan to integrate the refined algorithm onto an actual aircraft for flight tests and demonstrations.

If the tests are successful, the software could be integrated aboard current and future aircraft to change the way carrier-based aviators have landed aboard ships for more than half a century-controlled crash landings. Increasing the precision of landings will boost pilot safety and reduce training requirements necessary to perfect carrier-landing skills. It could lower aircraft life cycle costs by reducing maintenance and avoiding repairs caused by hard landings.

ONR provides the science and technology necessary to maintain the Navy and Marine Corps' technological advantage. Through its affiliates, ONR is a leader in science and technology with engagement in 50 states, 70 countries, 1,035 institutions of higher learning and 914 industry partners. ONR employs approximately 1,400 people, comprising uniformed, civilian and contract personnel, with additional employees at the Naval Research Lab in Washington, D.C. SP

Thales names new country head for India

Eric Lenseigne has taken over as the Country Director and Managing Director of Thales India Pvt Ltd. He will be based in New Delhi. Eric holds a Master's Degree in Electronic & Signal Processing and in Business Administration as well.

Eric has over 23 years' experience in International Business and Market Development in Northern Europe, Russia, Middle East and Asia. He started his career with the Alcatel Group and rose to become Vice President, Public and Regulatory Affairs at Alcatel-Lucent prior to joining the Thales Group in 2008.

Before moving to India, Eric was the Thales Group Country Director, Nordic and Baltic States and Managing Director of Thales Sverige based out of Stockholm, Sweden. His responsibilities included leading the business development activities for the Thales Group. SP

Pipavav Defence sells 5 per cent stake

Pipavav Defence and Offshore Engineering Co. Ltd will sell a 5 per cent stake to an international strategic investor for nearly ₹900 crore, the company has said. The board has decided to issue 81.8 million equity shares to the investor, who wasn't named. The investor will initially subscribe to 5 per cent of the company's paid-up capital and double that within a specified timeframe.

Pipavav Defence said in a release that the investor was "a leading and extremely reputed global conglomerate with strong interest in the defence sector". The investor will bring in critical technology needed to manufacture complex equipment and systems for the armed forces. It will have the right to nominate a director on the board of Pipavav, the statement added. SP

Curtiss-Wright chairman and CEO Martin R. Benante receives Leroy R. Grumman award

Curtiss-Wright Corporation announced that Martin R. Benante, its Chairman and CEO, was honored with the Leroy R. Grumman award presented by the Cradle of Aviation Museum. The event was in celebration of 100 years of naval aviation.

Benante was presented the award in recognition of his outstanding leadership, technical achievement and personal integrity. The Cradle of Aviation established the Leroy R. Grumman Award to honour the legacy of the founder of Grumman Aerospace Corporation.

Benante said, "I am truly honoured to accept the Leroy R. Grumman award on behalf of all Curtiss-Wright employees. At Curtiss-Wright, we are proud of our rich legacy, which stretches from the historic Wright Flyer, to the first landing and take-off of an airplane from an aircraft carrier deck, to the Global Hawk unmanned aerial vehicle. As a company, we have come a long way from the first flights of yesterday to developing today's innovative concepts and advanced technology. It has been my pleasure to be involved in the latest chapters of the continuing Curtiss-Wright legacy." SP

Raytheon declares cash dividend

Raytheon Company has announced that its Board of Directors has declared a quarterly cash dividend of $0.43 per outstanding share of common stock. The cash dividend is payable on February 9, 2012, to shareholders of record as of the close of business on January 4, 2012. SP

SECURITY EVENTS

Military Airlift: Rapid Reaction and Tanker Operations
5–6 December
Amsterdam, Netherlands
http://www.smi-online.co.uk/militaryairlift8.asp

Vehicle Protection and Survivability
6–8 December
Washington, D.C., United States
http://www.marcusevansdefense.com/CACHC313

Langkawi International Maritime & Aerospace Exhibition
6–10 December
Langkawi, Malaysia
http://www.lima.com.my/

Homeland Security India
8–10 December
Pragati Maidan
New Delhi
http://www.homelandsecurityindia.in/index1.asp

Joint Forces Simulation & Training
24–25 January, 2012
Grange City Hotel, London
www.jointforcestraining.com

Border Security Asia Pacific
30–31 January, 2012
Singapore
www.bordersecurityasiapacific.com

Defence Exports Asia-Pacific
1–2 February, 2012
Grand Copthorne Waterfront Hotel, Singapore
www.defence-exportsasia.com

International Armoured Vehicles 2012
20–23 February, 2012
FIVE, Farnborough
UK
www.iqpc.com/Event.aspx?id=518778

Russia's glamorous bodyguard carjacked and killed

Anna Loginova, Russia's most famous female bodyguard, was killed after failing to prevent her own Porsche being carjacked. The glamorous 29-year-old died from head injuries after clinging on to the door handle of the Cayenne and being dragged along the street at high speed as the car screeched away.

Police said that the killing must have been 'random carjacking' and was not the victim of an attack based on her work for wealthy high-profile Russian clients. She ran an agency of female bodyguards, some trained by the ex-KGB. The glamorous bodyguard had tried hard to stop the carjacker, but failed. SP

Prince escapes 'sophisticated' attack

On August 27, 2009 in Jeddah, Saudi Arabia, a suicide bomber tried to assassinate the Assistant Interior Minister of Saudi Arabia, Prince Muhammad bin Nayef.

The suicide bomber, it is reported, had hidden the improvised explosive device (IED) in his rectum and activated it once close to the Prince.

The suicide bomber was a well-known Saudi terrorist belonging to the terrorist organisation Al-Qaeda in the Arabian Peninsula (AQAP), operating in Yemen; the perpetrator had claimed that he had renounced terrorism and wanted to be reintegrated in Saudi Arabia. According to reports, the attacker Abdullah Hassan Talea' Asiri, wanted to surrender on Ramadan to Prince Muhammad bin Naif.

PHOTOGRAPHS: Wikipedia

Asiri, escorted by security, was transported to Jeddah, where he met with the Prince at his palace. During the meeting with the Prince, Asiri activated the explosive charge and blew himself up;. The terrorist died and the Prince was the only person injured in the terrorist attack.

Reports also indicated that prior to meeting the Prince, the terrorist spent over 30 hours with the Saudi security services and was cleared to greet the prince. The operation was 'sophisticated' as this was the first time authorities had come across someone carrying IED in the rectum. SP

French journalists expose airport security

Two journalists undercover successfully boarded planes with a gun in their cabin baggage at two of France's busiest airports.

In 2010, the security at Charles de Gaulle airport in Paris and Marseille failed to detect the semi-automatic pistol which the reporters had dismantled into two pieces, with each carrying half in their cabin baggage.

The journalists boarded a morning flight from Charles de Gaulle to Nice on November 8. They then took an evening flight from Marseille back to Paris, without being stopped by x-ray checks. SP

Escape from Davao

On April 4, 1943, 10 American prisoners of war and two Filipino convicts executed a daring escape from one of Japan's most notorious prison camps. The prisoners were survivors of the infamous Bataan Death March and the fall of Corregidor, and the prison from which they escaped was surrounded by an impenetrable swamp and reputedly escape-proof.

Theirs was the only successful group escape from a Japanese POW camp during the Pacific war. Escape from Davao is the story of one of the most remarkable incidents in the Second World War. This historic escape forms part of John D. Lukacs book by the same name. SP

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