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Defence budget hiked by 10 per cent

The Union Finance Minister P. Chidambaram has announced that the defence budget for 2014-15 had been hiked from ₹2,03,672 crore to ₹2,24,000 crore, a 10 per cent increase over last fiscal's outlay. The capital outlay has been increased from ₹86,740 crore to ₹89,587 crore in the interim budget for 2014-15, a hike of barely 3.2 per cent.

The meagre increase in capital expenditure, experts state, could hit the modernisation plans of the armed forces. In the last fiscal, over ₹7,200 crore had to be diverted to revenue expenditure which resulted in delays in equipment acquisitions.

The low hike in capital expenditure could derail some key modernisation plans, at a time when the military is planning to scale up its capabilities with new fighter planes, submarines, artillery guns and land-based strike formations. China's official, but

underreported, defence budget for 2013-14 stands at ₹5,94,000 crore.

India is years behind the Chinese military with the neighbour currently outnumbering the country's combat power by a 3:1 ratio. India's hopes to bridge the gap in the next 15 years hinge on availability of funds.

One rank, one pension

The Central Government also announced that it has accepted the 'one rank, one pension' policy, for which "₹500 crore will be transferred in 2014-15 for implementing the one rank one pension decision."

Under the 'one rank, one pension' rule, retired soldiers of the same rank and length of service will receive the same pension, regardless of when they retire. Currently, pensioners who retired before 2006 receive less pension than their counterparts, even their juniors. SP

PHOTOGRAPH: PIB

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Defexpo India 2014, the eighth in the series of biennial land, naval and internal homeland security systems exhibition, was held at Pragati Maidan, New Delhi, from February 6 to 9, 2014.

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Increase capital expenditure, if the armed forces are to be truly modernised

At the recently concluded Defexpo 2014, the Defence Minister A.K. Antony conceded that the government was left with no alternative but to divert nearly ₹7,900 crore from the capital expenditure to revenue expenditure to meet the inevitable requirements of salaries and maintenance costs and that this had added to the delay in acquisitions of defence equipment. Antony also had thrown the ball in the court of the armed forces stating that they needed to prioritise on acquisitions. Similar exhortation had come earlier from the Prime Minister Dr Manmohan Singh.

The Finance Minister P. Chidambaram in the interim budget announced a meagre hike of 3.2 per cent in the capital outlay, from ₹86,740 crore to ₹89,587 crore, and this, experts believe, will not be of much help in speeding up the pace of modernisation of the armed forces. There is a backlog of orders, including the mother of all deals – the medium multi-role combat aircraft (MMRCA), which need to be fulfilled. And if the government is keen on pushing through some of the key defence acquisition programmes, whether it is from domestic or overseas sales, it has to make enough financial provisions and it cannot be on an ad hoc basis.

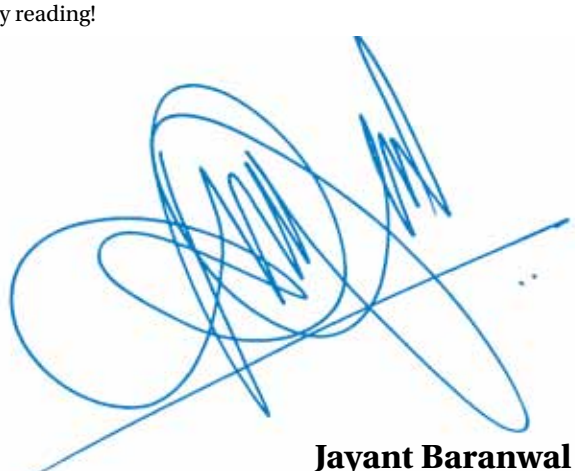
This point was loud and clear at Defexpo 2014 where not just Indian manufacturers, but also overseas, were keen that the government facilitated partnerships, collaborations etc as to help India achieve its goals of modernisation of the armed forces and indigenisation of defence equipment, which presently relies heavily on imports (over 70 per cent). Interestingly, there were more number of foreign exhibitors at Defexpo this year which is indicative of their keen participation not just as 'sellers' but also as 'partners' and all of them profess that they are here for the long haul.

It was indeed heart-warming to notice the dominating presence of Indian companies at the show. For instance, the Tata Group was omnipresent, while other major players such as L&T, Mahindras, Kalyani Group, BEL, DRDO, HAL, the various public sector shipyards and many others were in full strength. With the opening up of the defence industrial base to private sector, there is frenetic activity. However, the government has to provide the necessary policy push and we see that happening in spurts. It is understandable, considering that we are gradually coming out of a closed regime in defence production/acquisition.

In his fortnightly viewpoint, Lt General (Retd) P.C. Katoch has opined that no country can be militarily strong when 77 per cent of defence requirements are met through imports. The way forward is collaborations, partnerships, joint ventures, etc.

We at SP Guide Publications are on a similar course. We have been partnering with various industry bodies such as the Federation of Indian Chambers of Commerce and Industry; the Confederation of Indian Industry and others to help promote business opportunities in defence and aviation. As we celebrate our Golden Jubilee and pay tribute to our founder late Shri Sukhdeo Prasad Baranwal, we assure our esteemed readers that we will continually improve and expand our reach.

Happy reading!



Jayant Baranwal
Publisher & Editor-in-Chief

Corrigendum:
MBDA has been mentioned as 'French Missile House' in issue No. 3/2014 on page 4. This is an inadvertent error. MBDA is a 'fully integrated European company.' We sincerely regret the error.

India chooses Litening G4 for combat aircraft fleet

Israel's Rafael Advanced Systems entered Defexpo 2014 in New Delhi on a high, after reportedly bagging a massive contract for over 150 Litening targeting pods for the Indian Air Force's (IAF) combat aircraft fleet. A spokesperson for Rafael wouldn't confirm details but indicated to ***SP's*** that the Litening pod had been chosen by the IAF for its frontline fighter aircraft, including the Su-30MKI, MiG-29 and others. The Litening G4, which began to be delivered to the US forces in 2008, is, according Rafael partner Northrop Grumman, a combat proven, self-contained, multi-sensor targeting and surveillance system, enabling aircrews to detect, acquire, auto-track and identify targets at extremely long ranges for weapon delivery or non-traditional intelligence, surveillance and reconnaissance missions. Litening's 1K FLIR, 1K charged-coupled device (CCD), laser imaging sensors, advanced image processing and digital video output provide superior imagery, allowing aircrews to identify and engage targets under a wide range of battlefield conditions. Integrated on a wide variety of aircraft including the AV-8B, A-10A/C, B-52H, EA-6Bs, F-15E, F-16 and F/A-18, Litening is in operation with the US Air Force, Air National Guard, Air Force Reserve Command, US Marine Corps and several other nations. SP

Navy MRH programme in 27-month limbo, and counting

NH Industries and Sikorsky have extended the validity of their commercial bids in the Indian Navy's multi-role helicopter (MRH) competition till March 2014 at the request of the Ministry of Defence (MoD). The Sikorsky S-70B Sea Hawk faces off against the NH Industries NH90. The competition has been floating in uncertainty for over two years now (27 months to be precise) since the field evaluation trials ended in late 2011. A senior executive at Airbus Helicopters (formerly Eurocopter), which owns a controlling stake at NH Industries, told ***SP's***, "We are waiting for the commercial bids to be opened. The only activity we have seen for the last two years is repeated requests to extend the validity of our commercial bids. We await clarity and guidance on forward movement in the deal." A senior executive at Sikorsky said, "It is understandable that the time is not optimal for a decision, but it is unclear why the due process should not continue. The bids could be opened and an evaluation can begin. We have received no information on what the hold-up is about." The Indian Navy waits anxiously on the sidelines, as it desperately needs the new generation multi-role helicopters for operations at sea. MoD sources indicate that bids may only be opened in the new financial year, which means, another request for bid validity to be extended till December 31, 2014, is likely. SP

PHOTOGRAPHS: Anoop Kamath, NH Industries

L&T pioneers torpedo-tube AUV, Navy interested

The Indian Navy is now keenly tracking an advanced programme unveiled at the recently concluded Defexpo event: the Adamya autonomous underwater vehicle (AUV) developed and built in-house by L&T Heavy Engineering. While the Navy has a stated requirement for AUVs, the Adamya has caught its attention for a reason. According to L&T, "Adamya is the next step into the world of unmanned naval warfare and coastal defence. Its unique design allows it to be launched from the torpedo tube of a submarine – a pioneering feat globally." L&T has highlighted several features on the Adamya to the Navy, including the fact that the vehicle's modular design and depth-rated shells enable mission customisation as per the Navy's needs without having to resort to pressure-proofing of the internal electronic systems. Other qualities include short turnaround time and ability to be air-shipped conveniently. The Adamya is being pitched for naval applications that include hydrographic survey (the Hydrography Department incidentally is also looking for AUVs), mine countermeasures, intelligence-surveillance-reconnaissance (ISR), offshore survey, clandestine monitoring, environmental monitoring and optional anti-submarine warfare. The 18.7 feet, 850 kg platform sports an endurance of 8 hours at 4 knots (with maximum forward speed of 6 knots) with a customisable depth rating of 500 metres. SP

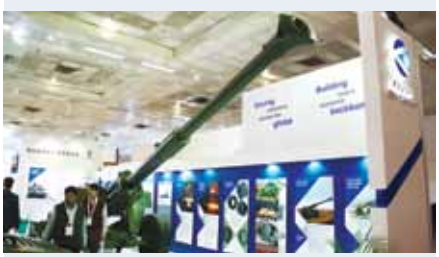
Black Shark sinks, advantage Atlas?

With a deal for 98 Black Shark heavyweight torpedoes built by Finmeccanica subsidiary WASS virtually dead in the water in the aftermath of the AgustaWestland episode, the Indian Navy is weighing other options. Alternative suppliers are also moving quickly to position themselves for an advantage. The recently concluded Defexpo show in New Delhi saw Germany's Atlas Elektronik formalise its partnership with private Indian shipbuilder Pipavav, announcing the intention to hammer out a joint venture that will upgrade the Indian Navy Class 209's existing torpedoes and offer licence-built SeaHake Mod4 torpedoes for the heavyweight torpedo requirement. Atlas (a joint venture of ThyssenKrupp and Airbus Group). The naval weapon is being pitched as having extreme unmatched endurance and guided range far beyond the firing platform's sensor range, very high speed, including continuous speed control to encounter present and future scenarios, multiple homing modes, including active, passive, combined, acoustic homing and wake homing. Atlas has also conveyed that the SeaHake can be integrated on any modern submarine platform and combat management system, including the Class 214 and S-80 that will compete in the prospective Project 75-I competition for six new generation conventional attack submarines. SP

PHOTOGRAPHS: SPSC

Kalyani Group's 'big gun' plans forge ahead

The Baba N. Kalyani-promoted Kalyani Group has managed to grab the attention of the Indian Army in a big way following its showing at the recent Defexpo in New Delhi. ***SP's*** can confirm that the company has a series of follow-on meetings with the Army over the next two-three weeks to fine-tune possible cooperation, as well as to discuss certain new unspecified requirements. The Indian Army will be doing this with other companies too, including L&T and Tata. Interest in the private sector's capability in the field of artillery weapons is at an all-time high. Most prominent among the Kalyani Group's offerings this year was Bharat-52 155mm/52cal towed gun, that will be among the contenders for long-delayed Army requirements. Apart from the 'Project Karan' of the 130mm M46 guns to a 155mm/45cal standard, the other products being discussed included the Ultra-light Long-range howitzer (155mm/39cal) that the Kalyani Group proposes to develop and build in collaboration with US firm Mandus. The future programme, based on soft recoil technology envisages a 4,500-kg gun with an assisted/unassisted range of 22.4/30 km, with an intense rate of fire of 4 rounds per minute for 3 minutes. Finally, the Army has also expressed interest in the Garuda 105 ultra-light field gun, which the Kalyani Group has called a 'paradigm shift in close support.' Once again in collaboration with Mandus, the platform is based on the 105mm Indian field gun (IFG), incorporates soft recoil technology, digital fire control, based on an all-terrain vehicle with mountainous terrain manoeuvrability, and adaptable for fitment on any current in-service vehicle. SP



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Defexpo: Charting the path for indigenisation

[By **R. Chandrakanth**]

The eighth edition of Defexpo 2014, India's biennial land, naval and internal homeland security exhibition, which was held from February 6 to 9, had several key takeaways, though business was reportedly sluggish. The refrain at the mega event was that Indian indigenisation is inevitable and for high-end technologies the answer is foreign collaborations.

SP Guide Publications, which is celebrating its Golden Jubilee, yet again collaborated with the show organisers as the key official media partner. Collaborations, within and without, are the way forward.

This point was reiterated by the Minister of Defence A.K. Antony at the inaugural event and also in the press conference, that the pace of indigenisation in the defence industry would be accelerated and that there would be constant revisits to the various policies as to give that push. The original equipment manufacturers (OEMs) are aware of it and this is becoming increasingly noticeable as they are striking partnerships, joint ventures, agreements, memorandum of understanding, etc, with Indian companies. The base is being created and the results of which are expected to be borne in the near future and as the Minister mentioned the dependence on foreign equipment would come down to below 50 per cent from the present over 70 per cent in the next 5 to 10 years.

India's defence market is huge and according to some estimates it is over $150 billion by 2020 and this huge market is attracting players from all over. This year Defexpo attracted 624 companies from 30 countries participated in the four-day event. Of the 624 companies, 256 were Indian and 368 foreign. The number of Indian companies has gone down from 335 in 2012 as this time companies which are only based in India have been allowed to seek financial concessions of nearly 57 per cent under the category. As many as 30 countries are displaying their equipment and 12 of them have their own "country pavilions".

Indian companies to the fore

The Defence Research and Development Organisation (DRDO) was the largest domestic exhibitor which displayed its full range unmanned aerial vehicles and tanks. The largest overseas participation was from Russia, the largest arms supplier to India, with 37 companies followed by France at 24 and Israel at 21.

The Defence Minister said the exhibition provided foreign companies an opportunity to tie up with Indian companies to meet their targets under the defence offset policy, which is being modified to allow participation of more firms. The companies have ₹20,000 crore worth of commitments to fulfil up to 2022. The 26 per cent FDI cap which exists on defence purchases, he stated would be relaxed by the Government in case a vendor brings in state-of-the-art technology. Indian companies had contributed ₹40,000 crore worth of equipment to the defence sector in 2012-13.

PHOTOGRAPH: PIB

Defence Minister A.K. Antony inaugurating Defexpo 2014 at Pragati Maidan, New Delhi on February 6, 2014

High points of Defexpo

Japan's ShinMaywa continued to be in focus as India has expressed keen interest in its US-2 amphibian aircraft. There has been considerable movement as regards the process of acquisition and the second meeting of the joint working group is expected to meet in March. At the show, ShinMaywa showcased the different capabilities, including search and rescue on high seas, of the US-2.

Boeing displayed the Apache AH-64E attack helicopter, CH-47F Chinook heavy-lift transport helicopter, V-22 Osprey tilt-rotor aircraft and UAVs such as the ScanEagle. Rockwell Collins displayed its next-generation Talon RT-8400 international software-defined radio, a patrol persistent surveillance system and its HeliSure family of products.

Lockheed Martin was participating in the show for the first time and was gung-ho about the government's ordering of second tranche of C-130J Super Hercules. Lockheed Martin presented its other capabilities including Javelin missile (in association with Raytheon), UAV platforms, etc.

Indian guns and others

The artillery gun segment also caught attention as India has embarked upon modernisation of the same and the market is said to be the size of $6 billion. Artillery guns from several Indian companies, Tatas, Kalyani Group, the Ordnance Factory Board (OFB), DRDO etc were presented. The OFB highlighted 'Dhanush' a 155mm 45-calibre gun with a range of over 38 km. The DRDO showcased, among other things, the Advanced Towed Artillery Gun (ATAG) project, to build a more powerful 155mm, 52-calibre gun. This gun will range out to 60 km, with a weight of just 12 tonnes. The Kalyani Group's Bharat Forge has built its own gun, the Bharat-2. The group, which has tied up with Elbit Systems of Israel, showcased its 130-155mm fully upgraded gun system. BAE systems had a full team to explain the features of its M777 howitzer and other products.

DRDO also unveiled a 130mm self-propelled gun

On the occasion of SP Guide's 50th anniversary, many top officials from MoD, Armed Forces and senior excutives from the defence industry came to wish and congratulate the company. Amongst them was Ratan N Tata. (Left) SP Guide Publications CMD and Editor-in-Chief Jayant Baranwal welcoming former Chairman of Tata Group Ratan Tata to SP's Booth. (Right) Ratan Tata congratulated and offered his best wishes on SP's 50 years celebration message board.

system, built based on the Arjun tank's Mark 1 chassis. DRDO also highlighted its network-centric warfare system developed for the Navy.

Bharat Electronics displayed subsystems developed for use in various C4I systems catering to the Indian Army, Navy and Air Force. These included computing elements in various forms, including wrist-wearable computers, hand-held computers, tablets and rugged laptops. The systems also included communications equipment, such as software-defined radios with different variants and advanced interoperability communication systems.

Tata Group ominpresent

Tata companies were present in full strength. Tatas have been associated with the Indian defence sector for over 60 years. With a strategic focus of increasing indigenous production through development and transfer of technology, they have achieved global quality and cost benchmarks for exports. The group has partnered with the defence forces in the areas of weapon systems, command and control, and network-centric warfare including naval combat, air defence tactical communication, battlefield management systems and trusted computer platforms.

The key Tata companies which have programmes related to defence include TAL Manufacturing Solutions; Tata Advanced Systems; Tata Consultancy Services; Tata Elxsi; Tata Industrial Services; Tata Motors; Tata Power – Strategic Engineering Division; and Titan Company. Tata Motors displayed a new wheeled armoured amphibious platform and light armoured multi-purpose vehicles. The wheeled armoured vehicle, developed with DRDO, has interchangeable snap-in modules. The vehicle is integrated with the Raytheon-Lockheed Martin Javelin anti-tank guided missile system.

Larsen & Toubro, which has tied up with Nexter of France, unveiled a new version of its Caesar 155mm mounted gun system. The French company teamed up with the Indian companies L&T and Ashok Leyland Defence to offer a system fitted to Ashok Leyland's six-wheel Super Stallion chassis.

Continued support from Russia

The largest contingent was from Russia with 37 companies at the show. The highlight included the Tor M2KM air defence missile system, which can detect and process up to 48 targets. The Russian ADS assault rifle, claimed to be the most modern in Russia, also was on display.

Expanding joint development and production efforts on weaponry and military equipment were among the key topics during talks between Rosoboronexport (part of the Rostec State Corporation) and Indian partners at Defexpo.

France extending its reach

With over 70 per cent of India's defence and security equipment being imported and an expenditure budget for these acquisitions of 11.6 billion euros for 2013-14, India is currently one of the most attractive markets for the major arms exporting countries, including France, ranked fifth.

Since 1998 with the signature of a strategic partnership between France and India and confirmed by the 2006 bilateral agreement, defence and arms relations between the two countries have been extremely close. During the last decade, several French businesses have been awarded important contracts in India, including the modernisation of 51 units of the Mirage 2000, acquisition of 6 Scorpène submarines accompanied by the sale of 36 Exocet SM-39 anti-ship missiles for an announced amount of 2.4 billion euros. France looks forward to new developments in this privileged Franco-Indian relationship and hopes for intended and ongoing calls for tender for a supplementary set of high-sea submarines, projection and command ships, helicopters, artillery material as well as the 126 Rafale aircraft for which discussions are underway.

Israel displays wide range of capabilities

Israel was represented by 21 companies, the third largest contingent after Russia and France. Israel Aerospace Industries presented a wide range of strategic systems, including mission aircraft, a variety of UAVs, advanced radar systems, air defence systems and command and control gear for various theatres, including cyber.

Rafael displayed the Spike anti-tank guided munition, which is being considered for purchase by the Indian Army. The Iron Dome short-range artillery system was also on display. In addition, the company displayed the Python-5, Derby and MiC4AD air defence missiles.

All in all, the show is assuming importance as it is becoming a platform to strike partnerships. That is the mantra. SP

PHOTOGRAPHS: SP Guide Pubns

Airbus pitch for C295 aircraft

The Vice President, Defence Capability Marketing, Airbus Defence and Space, Ian Elliott told ***SP's*** that the company always participated in full force at Defexpo as it provides the company a platform to meet a wide range of Indian interests who play a part in the nation's defence.

At Defexpo, Airbus Defence and Space focused on pushing the case of finalising the negotiations of the A330 MRTT and also on pitching the C295 to the Indian Air Force for its Avro replacement programme. Elliott explained the features of the C295: "It is an outstanding surveillance aircraft which is proven in service as a maritime patrol aircraft (MPA) and anti-submarine warfare (ASW) aircraft, so naturally we are emphasising its suitability for certain Indian naval requirements. Of course if the aircraft is acquired for other roles in addition to being the replacement for the Avro fleet then there are excellent opportunities for financial savings due to fleet commonality, and it could ease some of the challenges of the industrial offset arrangements."

On the A330 MRTT, he said, it is literally transforming air-to-air refuelling. "It is not just a superb tanker with completely new capabilities, but also an outstanding transport which can carry up to 291 passengers in exactly the same configuration as when it is tanking. A huge benefit to India is going to be the aircraft´s reliability – the UK Royal Air Force, for example, has three A330 MRTTs in service now and is experiencing an availability rate around 99 per cent, which is remarkable for a military aircraft." SP

IAI offers a wide range of strategic systems to India

Israel Aerospace Industries (IAI) presented a wide range of strategic systems, including a range of mission aircraft, various UAVs (unmanned aerial vehicles), advanced radar systems, L/MRSAM air defence systems, command and control systems for different levels of warfare including cyber and communication systems.

In the field of homeland security (HLS) and protection of maritime economic exclusion zones (EEZ), IAI showcased its integrated maritime systems including UAVs, sensors, radars, and command and control systems. In addition, IAI presented an unmanned surface vessel (USV), which supports a wide range of applications for HLS and EEZ protection, including harbour security, patrol of coastal and territorial waters, surface security, electronic warfare, coastal and offshore platform and infrastructure protection (including oil rigs and pipelines). IAI also displayed its advanced BMS (battle management system) for ground forces.

IAI is Israel's largest industrial exporter and a globally recognised leader for the defence and commercial markets. IAI provides unique and cost-effective technological solutions for a broad spectrum of needs in space, air, land, sea and homeland defence, including: maintenance and conversion of commercial aircraft, unmanned air and ground vehicles, radars, secure communications, AEW, EW, ELINT/ESM, SIGINT and COMINT/COMJAM, air-to-air refuelling, upgrading of military aircraft and helicopters, anti-tactical ballistic missiles (ATBM), optronic payloads, navigation, smart weapons, missiles, commercial satellites and launchers, mine detection, clearing and breaching systems and many other core technologies, products and services. SP

Harop UCAV developed by the MBT division of Israel Aerospace Industries

PHOTOGRAPHS: Airbus, Anoop Kamath

MBDA offers India a range of capabilities

MBDA, fully integrated European company, had a strong presence at Defexpo and had several meetings with a few Indian companies and officials on taking the partnership further. MBDA displayed its Mistral MANPAD system awaiting a decision on the Indian Army's very short-range air defence system (VSHORADS) programme.

MBDA also showcased the entire family of Exocet missiles, which included the surface, submarine and air-launched variants. The Exocet SM39 has been ordered for India's Scorpene submarines. The company also had discussions with the Indian Army to offer its Missile Moyenne Portée (MMP) anti-tank guided weapon (ATGW). The company has developed the MMP missile to meet French Army requirements, receiving a contract for 2,850 missiles in December 2013 and it believes that it will be a good fit for the Indian requirement.

With discussions having been concluded and a decision expected shortly to proceed with a short-range surface to air weapon to fill a recognised capability gap within the Indian Air Force and Navy, a full scale model of the SR-SAM missile took pride of place on the company's stand. Often referred to as MAITRI, this programme sees MBDA supporting the DRDO and represents the cornerstone of MBDA's long-term partnership and cooperation strategy in India. Displayed for the first time in India, the weapon system represents a major advance for the battlefield. This weapon, MMP is being developed as a highly advanced successor to the successful MILAN with a range of important features placing it well beyond the capabilities of the competition.

MBDA was clearly focused on its presentation at Defexpo having divided into four distinct areas: ground-based air defence, combat aircraft weapons, maritime superiority and battlefield systems. Each area featured the latest advances in their respective domains and together demonstrated MBDA's unique status as the only company in the sector with a product catalogue capable of meeting the guided weapons requirements of all three armed services. SP

Loïc Piedevache, MBDA Country Head, India with Mistral MANPAD system

Rafael technologies for India

According to media reports, Rafael's Litening G4 had been selected following an Indian Air Force (IAF) call for tenders for 164 pods to equip its entire fleet of fighter-bombers. Deliveries are slated for end of 2014 and when completed, the IAF will have about 220 Litening pods. The Rafael stand also featured the Reccelite reconnaissance pod, which retains the outer casing of the Litening but replaces certain components (including the laser designator) with higher-performance sensor and optics.

The IAF plans to fit the new Litening G4 to its Jaguars, MiG-27s, Su-30MKIs and Mirage 2000s, the latter having been equipped several years ago with the earlier-generation Litening. Rafael also stated that it was in discussions with Dassault on the possible integration of Litening on the Rafale, which India is acquiring 126 aircraft for the IAF.

Rafael also indicates that integration of the Derby and Python 5 missiles on India's LCA Tejas combat aircraft should be complete by the year-end. Rafael team at Defexpo explained that its Spike missiles and the Spike Team Trainer were being used by the NATO forces, indicating its combat capabilities.

Rafael specialises in current and future land systems. In addition to the traditional battlefield, Rafael's combat-proven land systems are optimal for the ever-growing arena of urban warfare. These include Rafael's Spike missiles, remote controlled weapon stations, trophy active protection system for armoured vehicles, air defence systems (Iron Dome, David's Sling, Spyder) etc. SP

PHOTOGRAPHS: Anoop Kamath

Lockheed Martin focused on three programmes now

US-based defence and aerospace behemoth Lockheed Martin which recently got the Government of India's approval for the second tranche of C-130J Super Hercules heavy-lift aircraft, is presently focused on three programme—the C-130J; the maritime helicopter offering and the Javelin missile (along with Raytheon). The Chief Executive of Lockheed Martin India Phil Shaw underscored this focus at Defexpo and added the dialogue with private and public companies continued at the show.

Lockheed Martin has several programmes and capabilities on offer to India such as the guided multiple launch rocket system (GMLRS); Hellfire II modular missile system; unmanned aerial vehicles ranging from micro-UAVs such as the Stalker or the Desert Hawk III to larger platforms like the Reaper; the Aegis combat system, etc. The company is clear in its strategy—to keep the Indian market aware of these programmes and to work in partnership with Indian companies to expand its presence here.

At Defexpo, the company highlighted these capabilities. Phil Shaw said that "the MH-60R 'Romeo' manufactured by Sikorsky Aircraft Corp and equipped with advanced mission systems and sensors by Lockheed Martin is the most capable and mature anti-submarine/anti-surface warfare helicopter. It packs a lot of punch. We have transferred technology and know-how of similar capabilities before in the United Kingdom, for the Royal Navy Merlin Helicopter programme and would love to do something similar in India with a partner to develop an indigenous systems integration capability. We are talking to both public and private sector companies. The partnership with the Tatas was established in record time and the joint venture last year delivered the C-130J Empennage." SP

Javelin missile

Elbit introduces UGS system for border protection

Elbit Systems has introduced for the first time, in India, its UGS system for continuous force or border protection using a variety of advanced sensors—The "Treasures". The system was presented at the Defexpo while the company subsequently officially launched it at the Singapore Airshow.

Elbit Systems introduced the system components and explained that it is based on a combination of four main sensors – A sand sensor sensitive to vibrations, an acoustic sensor (both of these are set in the ground), a miniature tactical radar which can "cover" an area at up to an angle of 60 and a still camera that launches photographs according to a predetermined rate. The sensors are connected to command and control and communication systems, which process the information and transmit it to the back post.

The new system enables to 'cover' a wide area, such as the Israel-Egypt border, without having to station troops along the long border. The variety of sensors can alert on any suspicious event, and if necessary a force is summoned to the area. SP

PHOTOGRAPHS: Elbit Systems, US Army

Photonis offers latest night vision technology for armed forces

Photonis presented its latest night vision sensor innovations at Defexpo. With deep knowledge of night vision, Photonis offered to upgrade the Indian Army and Special Forces with modern night vision technology such as night sights for rifles, night vision equipment for armoured and mechanised formations. Photonis displayed its combat proven, ITAR free XR5 and XD-4 image intensifier tubes, with auto-gating. It also featured the black & white ONYX variant that is used in many night vision applications.

Photonis also showcased its digital night vision solutions Nocturn, a digital extreme low-light CMOS camera, especially designed for high performance under both daylight and low-light level conditions (up to light level 3). Its small size, weight and power (SWaP) also make this camera module ideal for integration into aerial, mobile and hand-held surveillance systems.

Providing to customers a XS as well as a XL version, these configurations perform both equally, but differ in housing. The XS version is the standard core and very suitable for integration in various imaging applications, such as CCTV security and surveillance, long-range target identification, 860 & 1064 nm laser line detection, machine vision, UAV and other reconnaissance applications for instance. The XL version of the Nocturn camera has a CS mount which supports a wide range of standard lens options, including long-range and wide angle, to optimise surveillance field of view. It also comes equipped with a multiple industry-standard interfaces (CameraLink, NTSC, PAL, USB), and a choice of connectivity options including wireless and USB for a versatile plug-and-play solution. Besides the XS and XL version, characterised with a monochrome output, Photonis also patented a colour variant and one with a high resolution monochrome OLED Micro display as well as one with a GigE Interface (GV) for transmission over IP, that is soon to be released. SP

Saab and Kalyani Group in strategic partnership

Defence and security company Saab and the Kalyani Group, one of India's leading high-technology multinationals, entered into a strategic alliance to partner and address key Indian Army air defence projects, including the VSHORAD and SRSAM requirements.

The teaming combines Saab's many decades as a leading developer and supplier of proven high-technology radar and missile systems, with the rich engineering and manufacturing capabilities of Kalyani. The agreement was signed by Saab's CEO and President Håkan Buskhe and Baba Kalyani, Chairman of the Kalyani Group, during Defexpo in New Delhi.

Baba Kalyani stated: "This coming together of the Kalyani Group and Saab is a very important step in our journey to address the indigenisation efforts of the Indian defence sector. The partnership between the Kalyani Group and Saab will leverage our strong innovation-based manufacturing capability, coupled with Saab's technical expertise and leadership in air defence systems, to deliver state-of-the-art, world leading solutions to the Indian Army's air defence programmes."

Håkan Bushke again expressed his continuing support for India's ambitions noting that "Saab has made a long-term commitment to India and is keen to support India's efforts to create an indigenous defence industry. This tie-up with Kalyani Group marks a significant step in that direction, where the two parties will serve India's air defence missile system requirements through indigenous production and transfer of technology."

The agreement will initially focus on the VSHORAD and SRSAM programmes for India. Saab is offering a system based on the RBS 70 NG missile system for VSHORAD, delivering a highly accurate, man-portable system with 24 x 7 all-target capability that is immune to countermeasures. For the SRSAM requirement Saab is offering a unique combination of its Giraffe AMB 3-D radar and the BAMSE advanced ground-based air defence missile system. SP

PHOTOGRAPHS: Photonis, SP Guide Pubns

ShinMaywa presents different capabilities of US-2 amphibian

The second meeting of the joint working group of India and Japan is expected to meet in March this year to take forward the proposal of the former acquiring ShinMaywa's US-2 (Utility Seaplane Mark 2) amphibious aircraft. The first meeting was held in India and, according to sources in ShinMaywa, the proposal is moving on the right track and it is hoped that it would be cleared at the earliest.

While at the official level talks are going on, the ShinMaywa team was in full force at Defexpo explaining the many features of the amphibian aircraft. The mammoth 47-tonne aircraft, carrying 18 tonnes of load, can take off from, or land on, a 300-metre stretch of water or land, its four giant engines needing just seven seconds to get airborne. With a range of over 4,500 km, it can patrol areas 1,800 km away, and react to an emergency by landing 30 armed troops, even in 10-foot waves.

There are seven US-2 in service worldwide, all in a "search and rescue" role with the Japanese Maritime Self-Defense Force (JMSDS) and there is growing demand from countries for the amphibian.

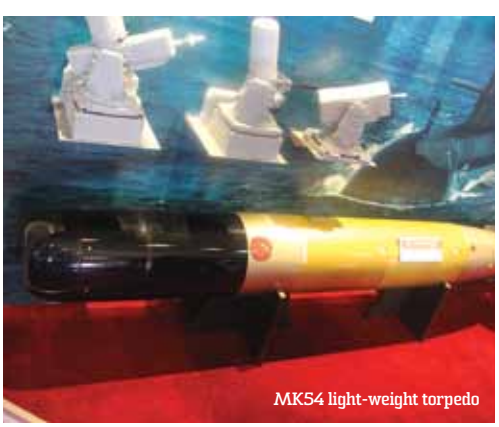
Kanji Ishimaru, Managing Director of ShinMaywa India, said that the US-2 is a tried and tested amphibious aircraft which has served the JMSDF extremely well for over five years. Important characteristics of this aircraft include its capability of landing and take-off in high seas in rough sea state condition (up to sea state 5). In addition, to the central role of long-range search and rescue (SAR) and exclusive economic zone (EEZ) surveillance, this aircraft can be highly useful in conducting anti-piracy missions, long-range fleet support, remote island support and constabulary operations like fishery protection, prevention of toxic dumping at sea, illegal human migration and smuggling of weapons and drugs. For most of the stated missions, the

Indian Navy is currently deploying its sophisticated and high-technology warships, incurring heavy costs on prolonged deployments. Additionally, we also believe that the unique capabilities of the US-2 amphibian aircraft can be gainfully utilised by the Indian Army as also the Indian Air Force in high-altitude areas, river/lake operations and for transportation and medical evacuation of people and stores from remote areas and forward locations. SP

Raytheon's next-gen solutions for India

Raytheon delivers next-generation solutions to its partners in India in various areas such as integrated air and missile defence; sonar, navigation, integrated bridge and shipboard combat systems; land and warfare systems; strategic intelligence, surveillance and reconnaissance; air traffic management; and maritime, border, cyber and civil security.

At Defexpo, Raytheon showcased these solutions and each of these solutions help support critical systems, promote economic growth and strengthen a relationship that is based on more than six decades of innovation. Raytheon officials mentioned that the way forward in India was continued partnership and it was here for the long haul.



MK54 light-weight torpedo

The company made an announcement of its testing of Excalibur lb precision-guided artillery shells during an extensive test event in Arizona. The first article test validates performance and reliability and moves the 155mm projectile closer to full-rate production, the company said.

"Excalibur gives the warfighter a pinpoint precision tool to eliminate enemy threats and is the only combat-proven, 155mm precision-guided projectile in the world today," said Lt Col Josh Walsh, US Army Excalibur Program Manager. "This weapon continues to prove itself in testing but, more importantly, it continues to prove itself on the battlefield."

Another highlight at the show was the presentation of Raytheon on GAGAN, the GPS-aided geo augmented navigation system jointly developed by the Airports Authority of India, the Indian Space Research Organisation and Raytheon. The system has achieved certification level required navigation performance (RNP) 0.1. The GAGAN system is a satellite-based augmentation system (SBAS) equipped with the most advanced air navigation technology available. SP

PHOTOGRAPHS: SP Guide Pubns, Anoop Kamath

Exercise Tropex 2014 underway on Eastern Coast

PHOTOGRAPHS: Indian Navy, IAI

Admiral D.K. Joshi, Chief of the Naval Staff, and Vice Admiral Anil Chopra, Flag Officer Commanding-in-Chief, Eastern Naval Command, embarked the combined fleets at sea off the East Coast on February 13, 2014. The combined Eastern and Western Fleets are currently engaged in a month-long major exercise. Amongst the large number of participating units are included the aircraft carrier Viraat and the nuclear submarine Chakra.

The exercise will be conducted against the backdrop of two completely networked fleets, widely dispersed across the Indian Ocean region, operating in a dense maritime environment. Missile, torpedo and gunfiring will be undertaken. This year's exercise will witness the maiden participation of the recently acquired P8I maritime reconnaissance aircraft, as also the Hawk fighter trainer aircraft. Besides unmanned aerial vehicles and airborne early warning helicopter of the Indian Navy, air-to-air Refuellers, Jaguars and SU-30 aircraft of the Indian Air Force will also be deployed during the exercise. SP

Israel Aerospace Industries unveils unmanned combat marine system

Israel Aerospace Industries (IAI) has unveiled an unmanned surface vessel (USV) combat marine system "Katana" for homeland security (HLS) applications.

The Katana USV supports a wide range of applications for HLS and the protection of exclusive economic zones, including harbour security, patrol of shallow coastal and territorial waters, surface and electronic warfare and offshore platform protection (plus oil rigs, pipelines, and more).

A multifunction vessel, the Katana is compatible with IAI's various systems and supports a totally integrated solution. This features unmanned capabilities which provide a response for the entire range of naval applications and revolutionises maritime operations.

Katana's features include autonomous navigation, collision avoidance, advanced control system and more. The vessel is equipped with various payloads (including electro-optical), communication systems, radio (Line of Site, LOS, or NLOS), radar and weapon systems. The modular design of the systems allows for configurational and operational flexibility as well as for adaption to a variety of missions, customer requirements and needs. SP

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Pakistani Army sincerity the big question

The Directors General of Military Operations (DGMOs) of India and Pakistan met at Wagah border on December 24, 2013. This was 14 years after such a meeting was held between the DGMOs of both countries, the earlier meeting having been held in 1999 after the Kargil conflict. There are some striking similarities between these two meetings. During the 1999 meeting, Pakistan continued to portray that the massive intrusions in Kargil area were done by non-state actors and so-called freedom fighters despite clear evidence that Pakistan had employed a number of Northern Light Infantry battalions supported by her Special Service Group personnel.

Despite the heinous torture and killing of Captain Saurabh Kalia and his patrol as also Squadron Leader Ajay Ahuja, Pakistan was feigning innocence. When the mutilated bodies of Captain Saurabh Kalia and his patrol were handed back by Pakistan, the post-mortem revealed that the Pakistan Army had indulged in the most heinous acts of burning them with cigarettes, piercing eardrums with hot rods, puncturing eyes before removing them, breaking most of the teeth and bones, chopping off various limbs and private organs of these soldiers besides inflicting all sorts of physical and mental tortures before shooting them dead, as evidenced by the bullet wound to the temple.

Squadron Leader Ajay Ahuja, whose MiG was shot down over the Indian soil on May 27, 1999, was used for target practice by Pakistani soldiers after he bailed out and opened his parachute across the LoC. President Pervez Musharraf would have perhaps decorated his personnel (unfit to be called soldiers) for these barbaric acts. All this, despite the Indian Army giving proper burials with full religious rights to dead Pakistani soldiers, whose bodies were refused by Musharraf because he wanted to continue the façade these were freedom fighters and not soldiers of Pakistan. During the recent meeting of the DGMOs, the Indian side reportedly took a forceful stand against the killing and beheading of our soldiers and repeated border violations that had soured relations. Both DGMOs are said to have displayed commitment to maintain the sanctity and ceasefire on the LoC and agreed to re-energise the existing mechanisms; making the hotline between the two Directors General more effective and result oriented, informing each other if any innocent civilian inadvertently crosses the LoC ensuring his/her early return, etc.

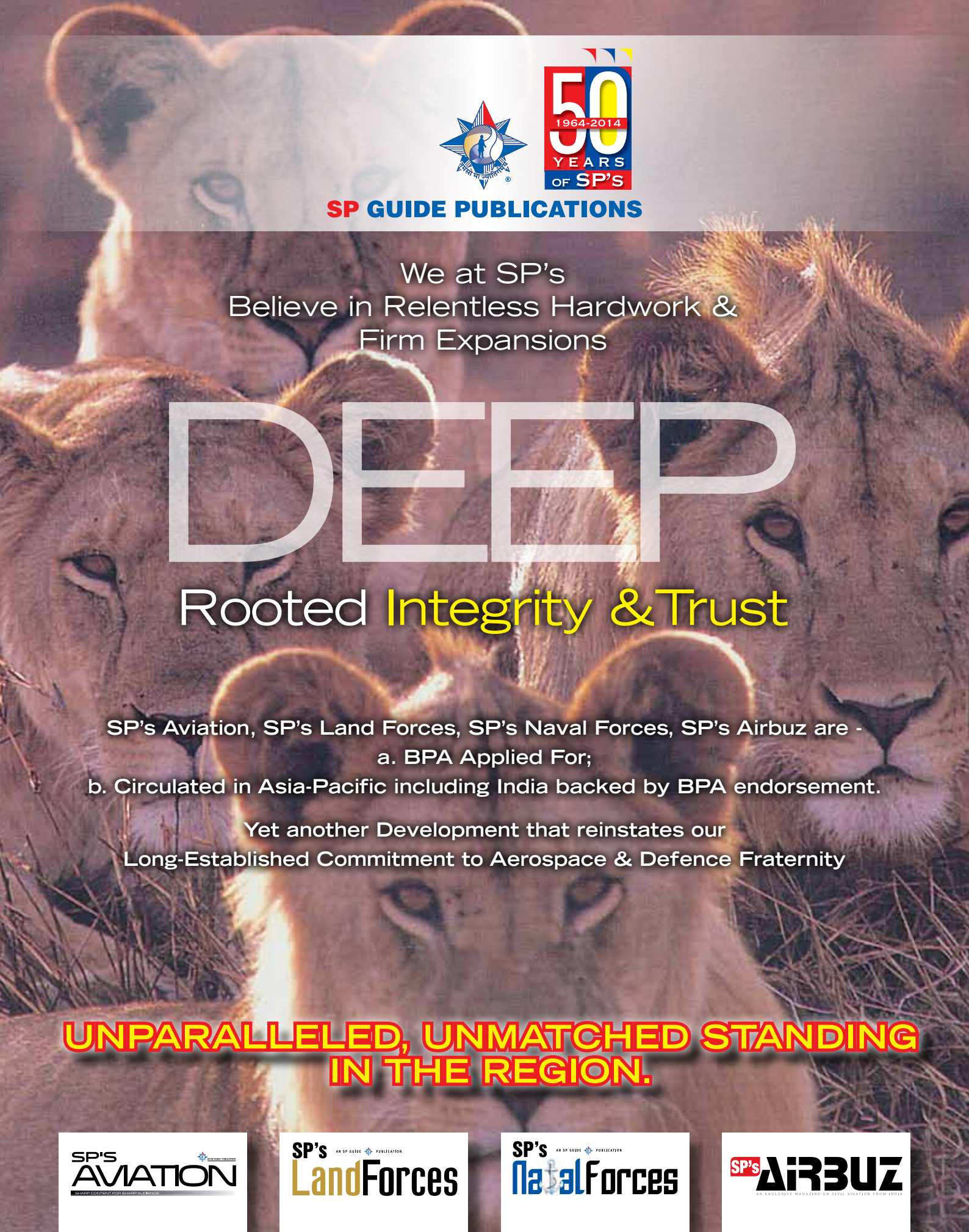
Pakistan had already violated the year 2003 ceasefire hundreds of times, mostly to assist infiltration and cross-border raids. During the calendar year 2013 alone, Pakistan had violated the ceasefire more than 250 times.

The bit about making the hotline between them "more effective" was somewhat intriguing because the periodicity of the two DGMOs to talk is fixed and more importantly, the provision of additional contact over and above the fixed periodicity on any occurrence(s) warranting activation of this hotline too exists – with complete conversation recorded on both ends. It is not known what the Pakistani response was to the Indian protests about the killing and beheading of our soldiers and repeated border violations. But it can be assumed that the usual game of denying all knowledge about the incident and passing the blame to non-state actors or so-called freedom fighters would have been resorted to.

What is well known is that Hafiz Saeed had openly announced a reward of ₹5,00,000 to the person bringing the head of an Indian soldier. It is also well known that in February 2000, Ilyas Kashmiri backed by Pakistani Army undertook a cross-border raid, carrying back the head of an Indian soldier which was later paraded before senior officials of Pakistan Army – much to the glee of Musharraf who rewarded Ilyas Kashmiri with ₹1,00,000 – all reported in Pakistani media. It is a different issue that Musharraf denied this when questioned by Indian media but the twerps penchant of lying is well known, including his famous squeak as President of Pakistan that "there is not a single terrorist on Pakistani soil."

So what is different from the last DGMOs meeting in 1999 and the one held in 2013? In the latter case, Pakistan had already violated the year 2003 ceasefire hundreds of times, mostly to assist infiltration and cross-border raids. During the calendar year 2013 alone, Pakistan had violated the ceasefire more than 250 times. Despite the assurances of Aamer Riaz, Pakistani DGMO during the above meeting, Pakistan continues to violate the ceasefire. Two such violations took place on January 26 and 29 this year in Uri and Poonch sectors of Jammu and Kashmir using small arms and RPG rockets. So how can one believe in the sincerity of Pakistani Army while they assist some 40 anti-India terrorist camps in Pakistan occupied Kashmir, integrate Hafiz Saeed and his LeT in formulating the policy for India, permit open rallies calling for balkanising India, support collection of funds and recruitment for jihad against India and have not even shut down the ill-famed Karachi project? SP

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



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Defence budget (2014-15) What it implies

PHOTOGRAPH: PIB

No country can be militarily strong when 77 per cent defence requirements are met through imports. It is obvious that a priority of the new government would be to review the country's budget including the defence budget, latter in relation to threats posed to the nation's security.

Post the statement by the Prime Minister during the Unified Commanders Conference last October that the military should be prepared for a cut in the next defence budget, the announcement by the Finance Minister in the Parliament on February 17, 2013, of a 10 per cent hike in defence budget over the previous year caused much jubilation and thumping of tables in Parliament. A 10 per cent hike brings the figure to ₹2,24,000 crore which appears substantial at first look even it includes ₹500 crore of OROP (against some over ₹2,600 crore that was required to sanction OROP fully).

However, a closer examination reveals that the situation is not what it outwardly appears especially considering that the existing shortages of ammunition and equipment alone, discounting modernisation, is to the tune of ₹1,41,000 crore. During the current fiscal (2013-14), the defence budget allotted was 1.7 per cent of GDP – ₹2,03,672.12 crore. Of this, a major part was revenue budget with only ₹86,740.71 crore allotted for capital acquisitions. Most significantly, the Long-term Integrated Perspective Plan (LTIPP) for period 2012-27 that is already approved by the Defence Acquisition Council headed by the Defence Minister, as also the Twelfth Five Year Plan, was based on a defence budget allocation at three per cent of the GDP.

Therefore, the defence budgets in the last and current fiscals at 1.6 per cent and 1.7 per cent of GDP by themselves were inadequate.

Despite austerity measures imposed by the military, worsening of the economy, particularly depreciation of the rupee has affected defence modernisation. Desperate measures to increase foreign direct investment (FDI) in defence has not paid out either because of acquisition and defence procurement policy that is not found attractive by foreign firms due to uncertainties and the time factor. In the current fiscal, the increased running expenditure of the military (due to depreciation of the rupee) forced transfer of ₹7,870 crore from capital budget. This had to be resorted to despite austerity measures like even cutting down the fuel for warming at the frozen frontiers in the thick of winter.

Presently, large orders are pending for modernisation (with 90 to 95 per cent committed liabilities) that require huge capital expenditure even though the Defence Minister has hinted that there is no money likely to be available for the acquisition process of Rafale aircraft to commence to meet the medium multi-role combat aircraft (MMRCA). So, forget cushion for new schemes, costs of approved acquisitions too will likely go up sharply with time overruns. Raising of the Mountain Strike Corps itself will entail an yearly expenditure of ₹7,000-₹10,000 crore for next seven years, in addition to about an overall ₹25,000 crore required for infrastructure to support the Mountain Strike Corps.

Even though the Rafale acquisition is delayed, major acquisitions like attack and heavy-lift helicopters, light artillery helicopters and technology agreement for the fifth-generation fighter aircraft, and other approved procurements will need to be progressed. Though the Defence Minister has said that we are not modernising our military in relation to any other country but that is more in line with political etiquette. However, China-Pakistan collusion and the two-and-a-half front threat can hardly be ignored. It goes without saying that the 10 per cent hike in defence budget does not match the LTIPP and the military will be forced to exercise more austerity and prioritise what acquisitions are possible with the money in hand.

Kanwal Sibal, former Foreign Secretary, wrote in his article, 'Adrift Without a Strategic Culture', published March 12, 2013, "Our failure to build an indigenous defence manufacturing base shows the fragility of our strategic thinking. We have reduced our defence expenditure to 1.7 per cent of GDP in the last budget....That we produced Chanakya almost 2,400 years ago is not sufficient ground to claim that today's India possesses a strategic culture." The new government, therefore, must work overtime to give a boost to the indigenous defence industrial.

No country can be militarily strong when 77 per cent defence requirements are met through imports. It is obvious that a priority of the new government would be to review the country's budget including the defence budget, latter in relation to threats posed to the nation's security. There is definite need to make more money available for modernisation of the military. In Pakistan, pensions of military veterans are paid through respective State Governments and not through the defence budget. Such measures need to be adopted by us considering some 60,000 personnel retire annually from the army alone and the snowballing effect adds to reduction of meager allotments of the defence budget. SP

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

First Indian MiG-29 lands on Vikramaditya

An Indian MiG-29 naval jet recently landed INS Vikramaditya, a refitted former Soviet aircraft carrier, marking the first such operation since the ship was delivered by Russia to India earlier this year.

"An exciting event took place – the first landing of an [Indian] MiG-29 piloted by an Indian pilot on the Vikramaditya," Russia's United Shipbuilding Corporation Vice President Igor Ponomarev informed at Defexpo which concluded in Delhi recently.

The Vikramaditya, formerly known as the Admiral Gorshkov, was handed over to the Indian Navy on November 16 at the Semvash shipbuilder and arrived at a naval base in Kanwar in the beginning of January.

The process of the ship's official commissioning will take between three and four months, according to the Indian Navy. A team of Russian specialists arrived onboard the ship and will stay in India for a year to fix any possible glitches if needed.

The Indian Navy commissioned its first squadron of MiG-29K/KUB carrier-based fighters in 2013. The squadron, dubbed the "Black Panthers," comprises 12 single-seat MiG-29Ks and four two-seat MiG-29KUBs, which Russia supplied under a 2004 contract with the Indian Defence Ministry. The Vikramaditya is expected to carry up to 24 MiG-29K/KUB fighter jets. SP

Afghanistan to receive new batch of Mi-17

Russia began to deliver Mi-17V-5, the military transport helicopters, to Afghanistan. A total 30 helicopters of this type must be transferred to Afghanistan under this contract between Rosoboronexport and the US Government.

To date, three vehicles have been already supplied to the Afghan side. According to ITAR-TASS, the remaining helicopters will be delivered during the year in several batches.

Russian helicopters are used in Afghanistan to counter-terrorism, drug trafficking, and to carry out special operations. Currently, 36 Mi-17V-5 Russian helicopters in all have been delivered to Afghanistan via the US Army.

The main contract for the supply of 21 vehicles was signed by Rosoboronexport and the US Government on May 26, 2011, and executed by the middle of 2012. In the same year, an additional agreement was concluded under the option of the main contract. Based on this agreement, Russia had completed the delivery of 12 Mi-17V-5 in 2013.

Last year, Rosoboronexport and the US Government negotiated and signed a new major agreement for delivering an additional batch of 30 helicopters in 2014. According to the agreements between the two countries, 63 Mi-17V-5 helicopters will be entered Afghan army service. It is referred to a number of contracts concluded at different times. Reportedly, the deal will exceed one billion dollars. SP

PHOTOGRAPHS: Indian Navy, Russian Helicopters

Rolls-Royce and Lockheed Martin to power future C-130J aircraft

Rolls-Royce has completed a long-term agreement with Lockheed Martin worth up to $1 billion to deliver approximately 600 engines to power future C-130J Super Hercules aircraft.

The agreement secures the Rolls-Royce AE 2100 as the engine of choice for all variants of the C-130J to 2025. The engine agreement will service US Government and international contract requirements between 2014 and 2018.

The AE 2100 powers all C-130Js, while the Rolls-Royce T56 engines power the legacy C-130 fleet. The global C-130J fleet has surpassed one million flight hours, and Lockheed Martin recently announced its intent to obtain certification from the US Federal Aviation Administration for a new civil variant – the LM-100J.

Tom Bell, Rolls-Royce, President Defence, said, "Lockheed Martin and Rolls-Royce have partnered for decades to produce thousands of the world's leading medium transport aircraft. Our new engine agreement secures that relationship for years to come, enabling operators to continue to enjoy the versatile, powerful and fuel-efficient aircraft they have come to appreciate through one million flight hours and counting."

George Shultz, Lockheed Martin, Vice President and General Manager, C-130 Programs, said, "This agreement is a very important step in providing our customers the most affordable airlifter in the world. The C-130J Super Hercules has proven the 'value of the power' as the Rolls-Royce AE 2100 propulsion system allows the Super Hercules to perform any mission, anywhere, any time."

The agreement will ensure the continued success of the versatile and proven C-130J military transport aircraft and its powerful, reliable and fuel-efficient turboprop engines. More than 300 of the four-engine transports have been delivered to customers in 16 countries, across 16 different mission types.

Rolls-Royce has already delivered more than 1,500 AE 2100 engines to Lockheed Martin's Marietta, Georgia, facility. AE 2100 engines are manufactured, assembled and tested in Indianapolis. SP

Phantom Eye is now "Experimental"

Boeing's Phantom Eye was promoted to experimental status by the US Air Force 412th Operations Group based on the recommendation of officials at NASA's Dryden Flight Research Center.

The liquid hydrogen-fuelled, high altitude long endurance (HALE) unmanned aircraft system (UAS) is a prodigy of sorts, having earned experimental status after completing just six successful test flights.

As an experimental aircraft operating within the US Air Force Test Center, it can now depart protected air space over Edwards Air Force Base, California, for a test range several kilometres away to complete its endurance and altitude testing.

"Graduating from unproven to experimental status is crucial to Phantom Eye successfully reaching its testing goals this year, so we can bring this capability to the market," said Phantom Eye Programme Manager Brad Shaw. "Meeting NASA's stringent safety criteria in six flights is reflective of their confidence in the Phantom Eye team's hard work and dedication in maturing our system to this point."

Phantom Works' Advanced Boeing Military Aircraft team is preparing for more Phantom Eye test flights in the coming months designed to achieve the programme's intended goal of more than 60,000 feet (18,288 metres) in altitude, while also increasing endurance with each flight.

The Phantom Eye demonstrator is designed stay airborne longer than any other unmanned HALE aircraft currently in production. Following testing of the demonstrator aircraft, a full-size operational version of Phantom Eye could be built, which is expected to stay airborne for seven to 10 days.

No other system holds the promise of offering on-demand, persistent intelligence, surveillance and reconnaissance (ISR), communications and earth-sensing technology to any region in the world, at a very affordable cost. SP

Italian Navy selects Schiebel's Camcopter S-100 UAV

The Italian Navy is set to become the first European navy to operate the Camcopter S-100 UAV following the signing of a contract with Schiebel. The UAV will be used in support of Italian Navy ships employed in anti-piracy missions. Under the contract, Schiebel will supply one Camcopter S-100 system, training, integration and spare parts.

The Camcopter S-100 was flown from the ITS Bersagliere of the Italian Navy in April 2012, when it demonstrated a number of missions for Italian Navy observers.

Hans Georg Schiebel, Chairman, Schiebel Group, said: "The Camcopter S-100 continues to be a proven and highly sought after asset in maritime operations. Its ability to extend a ship commander's visible and electronic horizon to beyond what is conventionally possible is a powerful instrument that helps to counter possible threats, secure routes and control recourses at less operational cost. This quality has already garnered the interest of several global navies where the S-100's robust nature has proven effective, particularly in the unforgiving maritime environment."

Mounted with a Wescam MX-10 and a shine micro automatic identification system, the S-100 has the capability to collect time-critical data for up to 6 hours, providing decisionmakers with a flexible unique means of collecting and disseminating information. The S-100 will be mounted with a Schiebel-designed harpoon system, which supports take-off and landing in conditions up to Sea State 5. SP

Second MQ-8C Fire Scout takes flight

The second MQ-8C Fire Scout unmanned helicopter conducts its first test flight on February 12 from Naval Base Ventura County at Point Mugu, California. The first aircraft completed its initial flight in October 2013 and has flown 66 hours to date.

The MQ-8C air vehicle upgrade will provide longer endurance, range and greater payload capability than the MQ-8B, which is currently deployed aboard USS Elrod (FFG 55) in the Mediterranean. SP

IAI reveals Super Heron heavy fuel UAS

Israel Aerospace Industries' (IAI) revealed its new Super Heron heavy fuel unmanned aerial system (UAS) during a special ceremony held at the IAI chalet at the Singapore Air Show.

Joseph Weiss, IAI's President and CEO, said: "We are proud to introduce the new generation of IAI's leading UAS. Based on IAI's world-renowned Heron UAS, the Super Heron introduces the latest technology and re-defines medium-altitude long-endurance (MALE) UAS."

Developed by IAI to meet growing interest among leading customers, the Super Heron features a heavy fuel 200 horsepower engine and an advanced propulsion system, which significantly enhances the UAS' capacity, rate of climb, and performance. Super Heron's air speed exceeds 150 KTAS (knots true airspeed). SP

PHOTOGRAPHS: Boeing, Schiebel

Communication channels enhanced between armed forces and other agencies in Jammu and Kashmir

The Government of India in coordination with the Jammu & Kashmir (J&K) government has initiated several measures to enhance the communication channel between the Army and other security forces of Central Government and the State Government for transmitting terrorist alerts in real time.

This is to meet any such future exigencies like the one that happened on September 26, 2013, at Army Camp in Samba and Police Station in Hiranagar in the district Kathua. The measures include strengthening of security apparatus and further fine-tuning them, preparation of standard operating procedures to meet such contingencies, strengthening and institutionalising the communication system, sharing the contact details with different forces at operational level, measures to further plug the possible infiltration routes, dissemination of exchange of information and intelligence at state, district and subdivisional level, according to R.P.N. Singh, Minister of State in the Ministry of Home Affairs. SP

Emergency response system for women and other vulnerable groups

The Cabinet Committee on Economic Affairs has approved the proposal of the Ministry of Home Affairs to establish an Integrated Computer Aided Dispatch (CAD) platform. This is an emergency response system for women and other vulnerable groups who may face violence.

The geographical information system (GIS) based call taking and geographical positioning system (GPS) based police vehicle dispatch system will be able to respond to distress calls and ensure speedy assistance to women. Distress/emergency alarms generated by panic buttons/landlines/mobiles through individual devices pioneered by the Department of Information Technology (DIT) or mobile phone applications would be tracked and emergency response (ER) units will be dispatched to attend the call.

This project would obtain funding from the Nirbhaya Fund. The project involves a total expenditure of ₹321.69 crore which includes an implementation cost (one time) of ₹204.25 crore, recurring expenditure (operational cost for 5 years) of ₹102.12 crore and expenses for the central monitoring and evaluation project management unit of approx ₹15.32 crore.

The key objectives and features of the initiative are:

- Providing 24 hours and 7 days (24 x 7) helpline service to women in distress and an efficient and effective response system to attend to their calls as well as for alarms related to other emergency services such as medical and disaster (fire, etc.) by other responders in an integrated manner.
- Handling of emergency situations of children and other vulnerable sections of society.
- Speedy assistance for helpless women/children of a defined area, who face any form of violence, such as eve teasing, dowry demands, sexual assault, molestation or any other abuse either in public or at home.
- Integration with existing Dial 100 system for seamless operation and coordination between both systems.
- The proposed system would also be integrated with Crime and Criminal Tracking and Networking System (CCTNS), State Service Delivery Gateway (SSDG), etc. and follow the DIT guidelines for scalability, interoperability, etc.
- The project would demonstrate the capabilities of the NG911 network standards for dynamically identifying caller location, exchanging data between emergency call and dispatching centres and Police Dial 100 system, fire, health and disaster management command centres.

The project involves setting up of city-wise high-tech Control Rooms to cover 114 cities and districts in different States and Union Territories of India, as identified by the Ministry of Women and Child Development, which includes 71 cities having a population of more than a million or which are headquarters of the State/UT as well as headquarters of 41 highly crime-prone districts. The 71 cities would cover a population of over 231.23 million and the 43 districts would cover a population of 160.27 million, that is a total coverage of 32.6 per cent of the country.

The project will be implemented in stages over a period of nine months followed by an operations and maintenance period of five years. This system can subsequently be migrated to a single central Emergency Response number in the future. SP

Technologies helping in internal security

PHOTOGRAPH: Wikipedia

Law enforcement officers across the US are adapting to new technologies which aim to improve efficiency and accuracy on the job. The average police car is now equipped with a laptop which provides access to national criminal databases, portable fingerprint scanners, Breathalyzer units, automatic licence-plate-readers, and even printers that can print out a citation ticket.

NBC News reports that law enforcement officers are relying more on data carry out daily tasks more effectively. Before leaving the station for patrol, many officers are provided with comprehensive real-time data on wanted suspects, crime hotspots, and trends. "They have specific directions on where to go and what and who to look for," says Los Angeles Police Department Commander Andrew Smith.

Communication methods — e-mail, chat, texting, and social media — have provided law enforcement officers more resources for evidence gathering. The crimes officers are responding to have also evolved due to technology. The public exposure to personal data and the Internet has widened the criminal methods of street gangs, organised crime, and terror groups. Identify theft and credit card fraud are followed by sophisticated methods of committing traditional crimes like prostitution and sex trafficking via social media and Internet sites. Comprehensive and detailed data in the hands of law enforcement have allowed for the development of predictive policing, an approached based on the idea that data fuelled software will predict crimes based on trends and statistics. SP

Saab and Ashok Leyland team up for SRSAM

Defence and security company Saab and India's transport specialist Ashok Leyland have joined forces to compete for the Indian Army's short-range surface-to-air missile (SRSAM) air defence programme.

The Saab BAMSE SRSAM is an all-weather, all-target, air defence missile system that can be deployed to protect fixed and mobile assets. The BAMSE SRSAM is a purpose-built ground-based air defence missile and is the latest in a long line of successfully developed and deployed Saab missile systems.

Ashok Leyland will deliver high-mobility vehicles to transport the BAMSE SRSAM solution. All subunits within the BAMSE SRSAM are being integrated with the Ashok Leyland Super Stallion 8x8, a high-mobility vehicle capable of operating in all types of terrain under all weather conditions.

Saab's Head of Market Area India Lars-Olof Lindgren says, "The tie-up brings together two great engineering companies with front-end technologies that together could serve the Indian Army well. The BAMSE is a proven air defence missile system and the Ashok Leyland platform is a very suitable all-terrain vehicle. The need for mobility for air defence units is essential for flexible and optimal deployment. We are very happy to find a robust vehicle in Ashok Leyland's product range that meets the requirements. We look forward to working closely with the company to deliver to the needs of the Indian Army."

Dr V. Sumantran, Vice Chairman of Ashok Leyland, says: "We are pleased to announce this cooperation with Saab and together we are able to offer the Indian defence forces, state-of-the-art air defence systems based on proven technologies. Saab is a recognised technology leader and in the BAMSE Saab has a very advanced and capable system. Ashok Leyland has a proven track record of serving the mobility needs of the Indian armed forces for over three decades. Our Super-Stallion 8x8 platform will offer the best combination of performance and reliability".

The complete SRSAM system includes the GIRAFFE AMB, a powerful 3D surveillance radar and command and control system intended for short and medium-range ground based air defence and the BAMSE MCC missile launcher with six ready-to-fire missiles. SP

PHOTOGRAPH: Saab

BEL inks MoU with Sagem

Navratna defence public sector undertaking Bharat Electronics Limited (BEL) has signed a memorandum of understanding (MoU) with Sagem (Safran), France, to explore cooperation in the production and supply of navigational sensors, inertial navigational system and optronic masts to the Indian Navy for its various platforms under consideration for future induction.

The MoU was signed by P.C. Jain, Director (Marketing), BEL, and Bruno Even, CEO Sagem, France. S.K. Sharma, Chairman & Managing Director, BEL; Joel Berkoukchi COO, Avionics Division of Sagem, and Chandrasekhar S., General Manager (Naval Systems), BEL, were also present during the MoU signing at Defexpo 2014.

The Indian Navy has ambitious plans of inducting ships and submarines into the service in the near future. Accordingly, the ship and submarine construction programme has been approved by the Government. Naval platforms have large-scale requirement of sensors such as SIGMA–40, ring laser gyro, optronic mast, attack periscope and radar mast for submarines.

Sagem has the technology and expertise in the manufacture of these sensors. BEL is the leader in the manufacture and supply of defence electronics for the Indian armed forces. BEL and Sagem coming together to co-operate in the field of navigational sensors for ships and submarines will help in meeting the needs of the Indian Navy. The MoU will help in understanding and absorbing the critical technology adopted in these sensors for use in future induction platforms of the Navy.

The MoU will facilitate BEL and Sagem to work together for 24 months and if considered necessary, the same can be extended to a further period agreeable to both the companies. SP

Proposals for future ship building facilities unveiled

BAE Systems has unveiled further details of investment proposals for its manufacturing facilities in Glasgow, which will play a key role in helping to ensure the long-term future of its ship building business. The First option, a single site strategy, involves building a new state-of-the-art manufacturing facility at Scotstoun while the second option, a two site strategy, involves expanding and improving existing facilities at Govan and Scotstoun.

Charlie Blakemore, Business and Transformation Director at BAE Systems Maritime – Naval Ships, said: "Our vision is to create 21st century complex warship capability that will deliver value for money for our customers and attract and retain the very best talent, helping to secure the long-term future of this highly skilled industry in the UK.

Under the second option, construction work at Govan would include extensions to the existing fabrication and main ship build halls. A new paint cell and outfit hall would also be constructed and the existing berth would levelled to create a new transfer quay. Construction work at Scotstoun would include upgrades to the dry docks and strengthening of the deep water berth to support mobile cranes. If selected, construction would be expected to begin at Govan from February 2015 until 2017, whilst work at Scotstoun would take place from 2017 to 2018. SP

ARES aims to provide frontline units with mission-tailored VTOL capabilities

Unmanned aerial logistics system would bypass ground-based threats and enable faster, more effective delivery of cargo and other essential services in hard-to-reach areas

PHOTOGRAPH: DARPA

US military experience has shown that rugged terrain and threats such as ambushes and improvised explosive devices (IEDs) can make ground-based transportation to and from the front lines a dangerous challenge. Combat outposts require on average 1,00,000 pounds of material a week, and high elevation and impassable mountain roads often restrict access. Helicopters are one solution, but the supply of available helicopters can't meet the demand for their services, which cover diverse operational needs including resupply, tactical insertion and extraction, and casualty evacuation.

To help overcome these challenges, the Defense Advanced Research Projects Agency (DARPA) unveiled the Transformer (TX) programme in 2009. Transformer aimed to develop and demonstrate a prototype system that would provide flexible, terrain-independent transportation for logistics, personnel transport and tactical support missions for small ground units. In 2013, DARPA selected the aerial reconfigurable embedded system (ARES) design concept to move forward.

"Many missions require dedicated vertical take-off and landing (VTOL) assets, but most ground units don't have their own helicopters," said Ashish Bagai, DARPA Program Manager. "ARES would make organic and versatile VTOL capability available to many more individual units. Our goal is to provide flexible, terrain-independent transportation that avoids ground-based threats, in turn supporting expedited, cost-effective operations and improving the likelihood of mission success."

ARES would centre on a VTOL flight module designed to operate as an unmanned aerial vehicle (UAV) capable of transporting a variety of payloads. The flight module would have its own power system, fuel, digital flight controls and remote command-and-control interfaces. Twin tilting ducted fans would provide efficient hovering and landing capabilities in a compact configuration, with rapid conversion to high-speed cruise flight similar to small aircraft. The system could use landing zones half the size typically needed by similarly sized helicopters, enabling it to land in rugged terrain and aboard ships.

It is envisioned that the flight module would travel between its home base and field operations to deliver and retrieve several different types of detachable mission modules, each designed for a specific purpose—cargo pickup and delivery, casualty extraction or airborne intelligence, surveillance, and reconnaissance (ISR) capabilities, for instance. The flight module would have a useful load capability of up to 3,000 pounds, more than 40 per cent the take-off gross weight of the aircraft.

Units could direct the flight modules using apps on their mobile phones or ruggedised tablets. Initially, the system would be unmanned, with a future path towards semi-autonomous flight systems and user interfaces for optionally manned/controlled flight.

ARES is currently in its third and final phase. Lockheed Martin Skunk Works is the lead vehicle design and system integration performer for Phase 3 of the programme. SP

PHOTOGRAPH: Wikipedia

Taylor Swift's fan bundled away

A Taylor Swift super-fan had to be bundled away by security after storming the stage during the singer's concert at the O2 Arena.

The 24-year-old singer kicked off her European leg of her RED tour in London, and had just performed her hit song, We Are Never Getting Back Together' when the man leapt onto the stage. He ran up a flight of steps towards the bemused singer, dressed as a circus ringmaster, and appeared to push something into her hand before running back toward the audience.

Security personnel realised what was happening on stage and rushed to evict him off the stage. SP

Lax standard operating procedures

Recently US Air Force personnel with responsibility for launching ground-based nuclear-tipped missiles twice in 2013 kept a blast door open in violation of security policy.

The blast doors at the subterranean installations – where intercontinental ballistic missiles are kept primed for firing – are not supposed to be kept ajar if any missileers inside are napping, in order to ensure an invader cannot seize the launch keys held by the Air Force officers.

The Air Force said in a statement that security of the ICBMs was not at risk following the April incident at Minot Air Force Base, North Dakota, and May incident at Malmstrom Air Force Base, Montana, "due to multiple safeguards and protections in place." SP

Buckingham Palace break-in sparks police security review

In September last, a man was arrested in a state room after he scaled the fence of Buckingham Palace. After which there is a full-scale security review.

Police said the unnamed 37-year-old was found at night (10.30 p.m.) "in an area currently open to the public during the day". He was arrested for burglary, trespass and criminal damage. A second man, 38, was arrested outside the palace for conspiracy to commit burglary. The two men have been bailed while the police investigation continues.

It is believed that the intruder entered one of the 19 state rooms after scaling a 12-foot fence and kicking down a poorly secured external door.

The palace's state rooms — those designed for monarchs to "receive, reward and entertain their subjects and visiting dignitaries" — have been open to the paying public during August and September for the last 10 years.

The ease with which the man gained access will concern officials, although no member of the royal family was in residence at the time of the break-in.

Royal officials insisted there would never be another security breach at the palace following the case of Michael Fagan on July 9, 1982. Fagan walked into the Queen's bedroom as she slept, and it was reported at the time that the 31-year-old unemployed father of four spent around 10 minutes talking to the Queen after he had climbed over the palace walls and up a drainpipe. SP

No security lapse in Samba terror attack, inquiry reveals

Five months after three terrorists attacked an Army establishment in Samba, Jammu and Kashmir, an internal inquiry has ruled out any kind of security lapse on part of the authority, Western Army commander Lt Gen Philip Campose has said.

"There was no security lapse and the attack was a surprise. No terror incident had occurred in that area after August 2008 and the militants, who came in Army fatigues, surprised us," said the Army Commander who was in Patiala to award distinguished soldiers and outstanding units of the Western Command during an investiture ceremony. He, however, said that there always remained a scope to learn from such incidents.

On September 26, 2013, at least 10 persons, including four Army men, were killed when three terrorists in Army fatigues attacked a police station in Kathua, and subsequently an Army camp in Samba. Six persons, including four policemen, were killed in the suicide strike on the police station at Hiranagar in Kathua.

Following the incident, the army ordered a probe to look whether all the standard operating procedures were observed by the officers and personnel of the 16 Cavalry unit. SP

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