PAKISTAN UPPING ANTE : A VIEWPOINT PAGE 8

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Skeldar UAS operationally deployed by the Spanish Navy

Defence and security company Saab's unmanned aerial system (UAS) Skeldar is now operationally deployed on-board the offshore patrol vessel BAM Meteoro. Skeldar is supporting the Spanish Navy with surveillance capabilities while taking part in the EU Atalanta operation in the Gulf of Aden.

Earlier this year Saab announced a contract to deploy the Skeldar UAS for maritime operations. Skeldar is now operationally deployed on-board the Spanish Navy's offshore patrol vessel BAM Meteoro.

Mikael Franzén, Director of Saab's Product Area Tactial UAS comments:

"The Skeldar UAS is operated together with a manned helicopter to enhance the vessel's surveillance capabilities during its mission to fight piracy as part of the EU Atalanta operation in the Gulf of Aden."

PHOTOGRAPH: Saab Group

Prior to the Atalanta deployment, successful integration trials were conducted on-board the BAM Relámpago in the waters outside the Canary Islands.

"Since signing the first contact we are seeing an increasing interest for Skeldar where more and more potential customers are discovering Skeldar's unique strengths and features, including airworthiness, heavy fuel engine, high performance and operational capability," concludes Mikael Franzén.

Skeldar is a rotary-wing, short- to medium-range UAV that can be controlled from a tailored control station. It can be equipped with a wide range of payloads, including surveillance, reconnaissance, target acquisition and 3D mapping. The system can be used for both civil and military purposes. SP

Cover:
Ambassador of Spain, Gustavo de Aristegui speaks to SP's M.A.I. about the rich historical tradition of Spain and how it is unique not having any hegemonic aspirations.

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INS Vikramaditya will be a game changer

After prolonged delays, finally the super aircraft carrier INS Vikramaditya (erstwhile Admiral Gorshkov) has set sail from Russia to be commissioned in the Indian Navy. Indeed, this is going to be a historic moment for Indian Navy which till now has only one aircraft carrier – INS Viraat – which is also reaching the end of its useful service. INS Vikramaditya, which weighs 40,000 tonnes to become the biggest and heaviest ship of the Indian Navy is expected to be a game changer.

The aircraft carrier is expected to patrol the Indian Ocean early next year and it has the capacity to carry 24 MiG-29 fighter jets and 10 helicopters at a time and can sail nearly 1,300 kilometres a day. India, thus, joins a select group of nations and the only one in the Indian Ocean region to operate two aircraft carriers at the same time. A third aircraft carrier INS Vikrant, an indigenous one, is under construction in Kochi and is expected to be commissioned in 2018-19.

With the Indian Ocean region becoming highly militarised zone, the presence of two aircraft carriers on both the eastern and western seaboards will certainly enhance safety and security for India. This point did come up in an exclusive interview we had with the Ambassador of Spain in India, Gustavo de Aristegui who pointed out how India and Spain were maritime nations. Pointing out how India had a complicated neighbourhood, he has reiterated Spain's interest in partnering with India in many spheres, particularly defence. Spain has thwarted terror threats, organised crime, illegal trafficking etc and according to the Ambassador the illegal intrusions from sea which at one point had peaked to 2,50,000 intrusions had now come down to a dozen, thanks to its coastal defence systems. India and Spain have a lot to gain from each other.

Away from the coastline, we come to a contentious point – the line of control and Pakistan continues to breach it. In his frank and forthright column, Lt General (Retd) P.C. Katoch has dwelt on how Pakistan has upped its ante against India and Afghanistan to divert attention from its terror-making factories. He has referred to the recent video clips which show terrorists waiting to infiltrate into India and disturb internal security.

Meanwhile, it is good news that finally the battle management system (BMS) is reaching some point with the issual of expression of interest. The General mentions how the overall requirement is going to be colossal, likely to jump from initial estimates of ₹23,000 crore to nearly ₹80,000 crore as it is going to be fielded pan Army at the battalion/regiment level. This would entail partnerships with foreign firms for advanced technologies.

Talking about partnerships, there is yet another one which is seeing fruition—the Indo-French missile Maitri—a short-range surface-to-air missile, all ready for launch and enhancing bilateral programme with India's DRDO and French MBDA. The way forward for India indeed is quick and solid indigenisation, and at the same time partnering nations with advanced technologies. We need to have a judicious mix.

Happy reading !

Jayant Baranwal
Publisher & Editor-in-Chief

Indo-French 'Maitri' missile programme to take off

Could there finally be some seriously good news for MBDA in the Indian market? It could go down as one of the longest, most protracted set of negotiations in the history of weapons partnerships, but after over five years in discussions and literally endless parleys over technology and workshare, missile friendship—Maitri—between India and France appears all set for launch. The Maitri short-range surface-to-air missile (SR-SAM) is ready to be become a formal bilateral programme, with India's Defence Research and Development Organisation (DRDO) as lead partner and MBDA as an equal partner and technology provider. Top DRDO sources indicate that the agreement will be signed this financial year, and has received all requisite approvals.

Top sources have told *SP's* that the Indian Ministry of Defence (MoD) has accorded final approval to the SR-SAM deal, which now awaits final clearance from the Finance Ministry and the Cabinet Committee on Security. The workshare is roughly 60 per cent French and 40 per cent Indian, with an overall cost of about $6 billion. Earlier this year, there had been hiccups with questions raised over the high cost of the programme, though this was finally sorted out by the Defence Ministry's intervention. Sources indicate that the former DRDO leadership had also prioritised the longer-range programmes like the MR-SAM and LR-SAM with Israel, and therefore didn't have resources to commit to the SR-SAM programme, though that has also been taken care of under the leadership of DRDO chief Dr Avinash Chander, who has decided to place all Twelfth Five Year Plan programmes on the fast track.

"The SR-SAM is a critical programme. It has taken longer than it should have to finalise the modalities of the cooperation partnership, but now that we have a draft agreement, it is important to sign it quickly and begin work in earnest. While development work has begun at MBDA as well as DRDO laboratories, it is only after formal government sanction that funds will flow and real work can begin, including crucial subsystem testing. It will be a complex partnership, and our first with the French for a weapon system. We have gained some experience in partnerships with the Russians and Israelis, but this will be a new paradigm which we are looking forward to," a senior DRDO official told *SP's*.

All three services are looking forward to the programme with great interest. With the collapse of the Trishul programme, and with the Barak-1 programme mired in controversy (though the Defence Ministry is likely to clear an order for over 200 more Barak-1 missiles shortly for frontline warships), there has been a marked dirth in short-range quick reaction missiles across the three services. In that sense, the Maitri will be the first 'joint' weapon system developed for the Indian services. From the drawing board, the system will be designed for different deployment regimes, including land and sea.

As reported earlier by *SP's*, during the visit of French President Francois Hollande earlier this year, it was revealed in a joint statement that negotiations on the $6-billion programme had been concluded and that an agreement was in the offing. Technical work has already begun on the weapon system, with MBDA already kick-starting development of the seeker, thrust-vectoring assemblies, endgame avionics, propulsion—all part of the draft workshare agreement that has now been made final.

The SR-SAM will be built for tri-service applications, including a naval version with a point defence capability, along with the Revathi radar. In 2011, MBDA revealed that the SR-SAM would be offered to the Indian Army for two prospective acquisitions for SR-SAMs and QR-SAMs. The SR-SAM is being developed with a range of 15 km, a max altitude of 3 km with a sea-skimming mode, with a vertical launch multiple target capability. It will sport a smokeless solid rocket motor, low aspect ratio wings and jet vane control for thrust vector control.

The Indian Government in 2011 cleared the way for a massive $2.2-billion procurement effort for quick-reaction surface-to-air missiles (QR-SAMs) to arm eight air defence regiments of the Indian Army. The missiles are intended to replace obsolete Soviet air defence systems. MBDA had decided at the time to pitch the in-development Maitri for the competition, in the hope that "enhanced synergies" will see a concept weapon get its big break even before it's fully operational. The Indian Army is also on the hunt for a QR-SAM system with a reaction time of six seconds or less, with an engagement range of 9-15 km at altitudes of not less than 6 km. It's looking for a weapon that delivers a single shot kill probability (SSKP) of at least 70 per cent for a single missile fired, and 85 per cent for a salvo shot involving two missiles. The missile also needs to be able to threats moving at speeds ranging from 0 kmph (a hovering helicopter) to 500 m/s on fast jets. The Army is hoping for systems that deploy missiles which have ECCM capabilities and compatibility with vehicles currently in use.

The Maitri programme will join a host of other missile partnerships currently ongoing in the DRDO stable—the others include the hypersonic BrahMos-II, LR-SAM and MR-SAM, none of which are anywhere close to operational service.

The ownership of the Maitri programme is to be fully Indian. With baseline technologies from the Trishul SAM programme, the Maitri programme basically envisages the sale of certain key technologies by MBDA to DRDO (seeker, endgame avionics, thrust vector control, propulsion modifications), though production will not be under a corporate joint venture on the lines of BrahMos, but would rather be carried out entirely by the Bharat Dynamics Ltd in the country. SP

PHOTOGRAPH: SPSC

Indian Coast Guard chopper competition moves forward

Woefully short of aviation assets, the Indian Coast Guard finally has reason to cheer, with the technical bids from three vendors to support a sale of 14 shore-based twin-engine multi-role helicopters is complete, paving the way for the field evaluation trials (FET) stage. The three companies competing are Eurocopter, Sikorsky and AgustaWestland.

The RFP for the acquisition—one of two, the other being for 16 shipborne multi-utility choppers—was issued on November 5, 2012. In April this year, Defence Minister A.K. Antony clarified on AgustaWestland's participation in ongoing Indian tenders in the light of the VVIP helicopter investigation.

He informed Parliament, "Since no decision to debar the said company from participation in the procurement process has so far been taken, the bids are under process." Ministry of Defence (MoD) sources suggest that even in a worst case scenario, the potential ejection of AgustaWestland from the competition in the event of a possible blacklist, would leave two contenders in the fray, thereby avoiding a single vendor situation, and therefore avoiding a re-tender. SP

Defence Minister to convey FGFA concerns this month

Concerns over disparities between India's investment in the fifth-generation fighter aircraft (FGFA) and its substantive workshare in the programme will be raised by Defence Minister A.K. Antony when he visits Moscow later this month en route to Severodvinsk for the commissioning of aircraft carrier INS Vikramaditya. While India is an equal partner in funding the ambitious programme, the Hindustan Aeronautics Limited (HAL), the Indian partner, currently only has 15 per cent of the responsibility.

Top Ministry of Defence (MoD) sources, however, have told *SP's* that while concerns will be conveyed, the Russian side has already mentioned that HAL is currently not technologically equipped to take on a greater share of the design and testing work, and that there will be a two/three- year gestation period before know-how is transmitted between the two partners. HAL has contested this. There are currently four prototypes of the Russian T-50 PAK FA flying. HAL unveiled a scale model of its version of the T-50, designated PMF at Aero India 2013 in February this year. The PMF is understood to contain approximately 46 modifications to the original. SP

Indo-Russian Military Exercise Indra 2013

Taking military-to-military relations to the next level, the first combat group level exercise between India and Russia, Indra-13, has been conducted successfully in the Thar Desert, with both sides satisfied with the level of interoperability and cooperation established in the joint military training drill.

A combat group strength of Russian Army personnel and an equal complement of Indian Army soldiers from the South Western Command took part in the two-week war game that witnessed integration of their tactical and technical skills in a UN peace enforcement scenario involving mechanised forces. State-of-the-art equipment for surveillance and target acquisition specialist weapons for close quarter battle, explosive and IED detectors, as well as the latest communications equipment was fielded.

Over several days, both sides jointly planned and executed a series of integrated tactical drills for neutralisation of visualised threats potentially encountered in UN peace operations. The exercise has also turned out to be a deep validation of the South Western Command—the Indian Army's youngest command, and its infrastructure to hold joint military exercises. SP

PHOTOGRAPHS: Eurocopter, Sukhoi, DPR Jodhpur

Indo-US naval exercise Malabar 2013

Crew on board US Navy destroyer USS McCampbell, currently off the coast of Chennai for the Malabar 2013 joint exercise, spent many hours in the Tamil Nadu capital conducting community service projects, and trying their hand at India's best loved sport cricket. Images obtained exclusively by *SP's* depict the side of warfare exercises rarely seen—the human to human camaraderie, the bonhomie and friendship at the most primary level, far more intimate and enduring than the meeting at sea of warships amidst the clatter of helicopters and gunfire. The Indian and US Navies have, over the years, been able to establish a formidable level of understanding, with both sides now sharpening the level of engagement to just one destroyer from the US, and a pair of frontline warships—the Ranvijay and Shivalik—from the Indian side. SP

PHOTOGRAPHS: Airbus Military, NSTL, US Navy by Mass Communication Specialist 3rd Class Paul Kelly

IAF prepares for A330 MRTT operations

The Indian Air Force (IAF) anticipates a contract award to Airbus Military for the A330 MRTT before the end of the financial year, top sources inform *SP's*. The contract for six A330 MRTT flight refuelling aircraft, fitted with Israeli hose and drogue refuelling systems (as is standard on the Il-78Ms of the IAF) will come as big relief to the IAF, which plans to deploy the new refuellers to the Eastern sector, in Panagarh, West Bengal. Airbus Military CEO Domingo Ureña Raso said at the time, "We are fully committed to the next stage of the negotiations, and ultimately to providing the IAF with what is unquestionably the most advanced tanker/transport aircraft flying and certified today." When the MoD signs on the dotted line, India will become the fifth nation to commit to the A330 MRTT following Australia, Saudi Arabia, the United Arab Emirates, and the United Kingdom which have ordered a total of 28 aircraft. The IAF is also opening channels with other operators of the platform, including UAE, Australia and the UK as it prepares to welcome the new platform into its fleet. SP

DRDO inaugurates torpedo integration centre

The DRDO has inaugurated Talvar, its brand new Electrical Heavyweight Torpedo Integration Centre at Visakhapatnam, to cater to the specific needs of the Varunastra heavyweight torpedo for the navy as well as future heavyweight torpedo programmes and collaborations. The advanced facility is fully equipped for subsystems level assembly, functional checks, systems checks, preparation, balancing, pressure tests and full torpedo evaluation. The 7,500-square-metre facility, built at a cost of ₹7.2 crore, is a state-of-the-art wing of the Naval Science & Technology Laboratory (NSTL). While the Navy is in the process of acquiring heavyweight torpedoes from Europe, it is also keenly watching progress on the Varunastra, which along with future variants will arm frontline submarines and ships. At 1.25-tonne, the Varunastra delivers a 250 kg explosive payload at a top speed of of 38 nautical miles per hour. Final trials, acceptance trials and tests of the Varunastra will be conducted at the Talvar facility. SP

Pipavav bags ₹920-crore Coast Guard order

After being declared lowest bidder last week, private shipbuilder Pipavav Defence and Offshore Engineering Co. Ltd is poised to win a ₹920-crore deal to supply design and build 14 new generation fast patrol vessels (FPVs) for the Indian Coast Guard.

The company had won a contract worth nearly ₹3,000 crore in 2011 to build new-generation offshore patrol vessels for the Indian Navy. The fresh win bolsters its position in the Indian market and positions the company as a formidable challenger to state-owned yards like Goa Shipyard Ltd and GRSE. In July this year, after almost two years in limbo, a joint venture between Pipavav and state-owned Mazagon Dock Ltd was cleared by the Ministry of Defence. SP

Russia open to arming Indian Rafale

While the Indian Air Force (IAF) sets its highest hopes on the medium multi-role combat aircraft (MMRCA) contract being signed this financial year amidst receding chances, Russia, one of the five bidders has said it would be willing to integrate Russian weapons on the Rafale if India so desires. Russia's largest guided weapons house, said Korporatsia Takticheskogo Raketnogo Vooruzheniya's (KTBP) Chief Boris Obnosov.

At the recent MAKS 2013 show in Zhukovsky, Obnosov is quoted by the Russian Embassy's Russia and India Report to have said, "These include long–, medium– and short-range air-to-air missiles, anti-ship missiles, guided aviation bombs and a large spectrum of submarine weapons. By their performance characteristics they are as good as if not better than best Western

analogues." While the 18 flyaway aircraft being contracted will come integrated with standard issue weapons build by MBDA and Sagem, the MMRCA tender makes it compulsory for the platform to be capable of taking on missiles specific by the Indian Air Force (IAF) as well. Sources inform *SP's* that the IAF hasn't finalised its weapons fit for the Rafale on this option in question. SP

PHOTOGRAPHS: US Army, Dassault Aviation, Indian Coast Guard

US Army lady officer qualifies

In a remarkable sign that interoperability is moving forward meaningfully in critical areas between the armies of the US and India, a young lady officer has passed the Indian Army's rigorous Heavy Drop Course in Agra with flying colours, graduating in second place. US Army 1st Lt. Laura Condyles, a rigger-qualified officer with the 725th Brigade Support Battalion, a 25-year-old quartermaster officer hailing from Virginia, was handpicked from a distinct group of rigger qualified officers to be part of the Heavy Drop Course at the Indian Army's famous Army Airborne Training School in Agra, similar to the establishment at Fort Benning. The 52-day course began in early August.

"When I first got there, we found out that the class wasn't in English. The whole class was in Hindi the entire time!" Condyles said in an interview to an official US

Army dispatch. "They had an old dictionary they used to translate the tests for me." Her saviour during the course was Indian officer Captain Ashish Jha, who translated and guided her through the course.

Lt Condyles was able to assist the Indian Army in training with the type V platforms and container delivery systems portion of the training, compatible with operations on the newly inducted C-130Js and C-17s. According to the US Army dispatch on her achievement, "Condyles excelled in the heavy drop course and earned the Indian army's Medal of Excellence for achieving the coveted "i" indicator on her completion certificate. The indicator means she performed at such a high level that she is qualified to be an instructor for the course." SP

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Pakistan upping ante

Video clips of surveillance cameras along the line of control showing scores of Pakistani terrorists waiting to infiltrate across is further indication that Pakistan has decided to up the ante. This has nothing to do with the general belief that Pakistan is doing this to internationalise the Kashmir issue. That has been attempted umpteen times in the past. The fact is that Pakistan is entering a very dangerous phase with withdrawal of US forces from Afghanistan by the end of next year.

On the one hand is the prospect of achieving her cherished depth with Taliban influence increasing in large parts of Afghanistan, aptly summarised by Robert D. Kaplan in his book *The Revenge of Geography* by saying, "An Afghanistan that falls to Taliban sway threatens to create a succession of radicalised Islamic societies from the Indian-Pakistani border to Central Asia. This would, in effect, a greater Pakistan, giving Pakistan's Inter-Services Intelligence (ISI) the ability to create a clandestine empire composed of the likes of Jalaluddin Haqqani, Gulbuddin Hek-metyar and the Lashkar-e-Toiba: able to confront India in the manner that Hezbollah and Hamas confront Israel".

But on the other hand is the terrible blowback that is expected to hit Pakistan. Pakistan has been openly supporting the Afghan Taliban which in turn is linked to the Pakistan Taliban. Mullah Omar, the Afghan Taliban leader, is housed in Pakistan like Osama bin Laden was. General John Allen, Commander of US and NATO forces in Afghanistan, said last year, "Mullah Omar lives in Pakistan, as do many of his commanders. From that safe vantage point, they've sent hundreds of young impressionable and helpless youth to their death and detention in Afghanistan. For this, they must forfeit their honour and any claim to Islamic virtues."

Then is the tiger of institutionalised radicalisation of the population that is a tinderbox, coupled with abundant youth, unemployment and endless availability of drugs and weapons. Pervez Hoodbhoy, Professor of Nuclear & High Energy Physics at Quaid-i-Azam University in Islamabad, lifted the veil of the problem by saying, "The common belief in Pakistan is that Islamic radicalism is a problem only in the Federally Administered Tribal Areas (FATA), and that madrasas are the only institutions serving as jihad factories. This is a serious misconception. Extremism is breeding at a ferocious rate in public and private schools within Pakistan's towns and cities. Left unchallenged, this education will produce a generation incapable of coexisting with anyone except strictly their own kind. The mindset it creates may eventually lead to Pakistan's demise as a nation state."

In 2011, the professor had prophesied, "An extremist takeover of Pakistan is probably no further than five to 10 years away". Two years have already passed since that prophecy. US intelligence had assessed earlier this year that Pakistan is likely be the top state to fall by year 2030. But this may get accelerated. For all the US blood spilled over the past decade in Afghanistan on account of Pakistan's double game, it is unlikely that the US will refrain from extracting its price from Pakistan once the land route through Pakistan is no more relevant to sustain the US-NATO troops in Afghanistan.

No doubt Pakistan has planned to take shelter behind China by opening the floodgates to them despite its repercussions on Pakistan's sovereignty, succinctly described by Agha H. Amin, defence analyst and former Pakistan Army officer, by writing, "There is no doubt that Pakistan will be a semi-autonomous Chinese province by 2030 or so... Pakistani Baluchistan by 2030 would be a completely Chinese-run show... This means that Pakistan's...ever growing reservoir of economically deprived youngsters who will fill ranks of extremists and suicide bombers will continue".

But proof is now emerging of Pakistan's double game against China as well. While Pakistan covertly shelters hundreds of East Turkestan Islamic Movement (ETIM) radicals on its own soil that are fighting in Xinjiang, Islamic radicals have already fired the first car bomb in Tiananmen Square in Beijing on October 28 this year. It is a matter of time before China suffers more terror attacks in its heartland, something that will make Beijing review its relations with Islamabad. So, Pakistan has decided to up the ante against both India and Afghanistan – in a bid to divert attention. This will hardly make a difference because when Pakistan implodes, outward reverberations will happen anyway. SP

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

It is a matter of time before China suffers more terror attacks in its heartland, something that will make Beijing review her relations with Islamabad. So, Pakistan has decided to up the ante against both India and Afghanistan – in a bid to divert attention.

PHOTOGRAPH: Wikipedia

Spain, which has a long maritime history, takes enormous pride in its ships. On the eve of the visit of the Spanish Armada ship Cantabria in Goa soon, the Spanish Embassy in India and also a substantial number of Spaniards here are 'emotional' and 'excited' about the docking here in India. Cantabria, the second largest naval ship currently operated by the Spanish behind the LHD Juan Carlos 1, is on its way back home after concluding a multinational exercise 'Triton Centenary 2013' in Australia.

On the eve of its visit, the Ambassador of Spain, ***Gustavo de Aristegui*** *spoke to* ***SP's M.A.I.*** *about the rich historical tradition of Spain and how it is unique not having any hegemonic aspirations. Here in an interview with the Editor-in-Chief of SP's M.A.I.,* ***Jayant Baranwal****, the Ambassador spoke at length on various issues concerning India-Spain relationship. Excerpts of the interview:*

Spain keen on expanding partnership with India: Ambassador

SP's M.A.I. **(SP's): Can you elaborate on the objectives and sentiments behind the arrival of the Spanish Armada Cantabria?**
Ambassador Gustavo de Aristegui (Ambassador): We are proud of this. It is the first time in the history of our bilateral relationship a ship is coming to an Indian port. The visit of Cantabria, the huge sailing school ship for naval officers is an emotional moment for us. We have a beautiful protocol as we have the oldest Marine Corps in the world and all the tradition is there. Our naval officers are the finest and they have been deployed with the Royal Australian Navy for almost a year.

It is an essential ship for modern naval warfare and it also has 25-bed hospital, ICU and dental clinic. It is one of those multi-purpose ships in concept. We have created newer version of long helicopter deck (LHD) and it is a Spanish invention of landing platform dock (LPD) and an aircraft carrier. The Royal Australian Navy has received two of these ships. In the Indian configuration of the ships it will be a long helicopter deck. It is effective in combat, submarine warfare, rescue etc. The ship is conceived as a projection of amphibious warfare. It has a dock in the stern of the ship that has capacity to launch six assault boats with capacity for dozens of troops in each of them. Once the ship nears a beach, the back of the ship opens and six fast attack boats can be launched. It is state-of-the-art and has many command and control systems wherein thousands of troops can be controlled on sea. It can also control air traffic hundreds of miles of the ship. It has the most advanced pod propeller system.

A 30,000-tonne ship actually manoeuvres like a small ferry. Everything that commands the ship is above the floatation line which is again a novelty. It can transport 5,000 people. It can be used in humanitarian relief work such as the earthquake in Haiti. The ship can go to the coast and be transformed as a relief centre... it can have war tanks, trucks with humanitarian aid. This is the most versatile warship in the world right now.

SP's: What all Spain can offer to have a strong base of partnership in India for the global market?
Ambassador: It is very complimentary. I see great opportunity in the emerging markets. When I see India it is not just great opportunity but great opportunity for meaningful and solid partnership. Why? Because India is known for intellectual property and like Spain it is devoted to high technology, engineering, avant-garde solutions, research and development, infrastructure, tourism, and defence.

In defence, we have sophisticated system of multidimensional electronic and radar multilinked systems. Our coastline is highly protected. We have the 13th largest coastline (7,800 km of coastline as peninsula) as we have so many islands. This makes us a maritime nation. So is India which is between two oceans and you are in a complicated neighbourhood. It is not an easy neighbourhood. Spain is good at thwarting terror threats, organised crime, illegal trafficking etc. Our systems are quite impressive and we are going to invite Indian officials to visit coastal defence systems. Our systems such as radars, motion detectors, infrared cameras, CCTV cameras and all combined gives us a picture of what is happening up to 16 kilometres into sea. It is extremely effective in search and rescue operations and response time is much faster.

PHOTOGRAPH: Anoop Kamath

In the early years of this century, we had peaked to 2,50,000 illegal penetrations from the sea borders, now it is down to dozens as the Spanish Navy picks them up much before they come near the border. We are doing extremely well as far as coastal protection. These systems have been developed by Indra and Amper. Indra is among the world's giants in high-tech with three out of every five air traffic control being built by Indra and nearly 90 per cent of ATC used in India is by Indra. There are certain contracts with the defence sector which is catered by Indra and we are extremely satisfied with the level of expertise that Indra has developed.

SP's: What is the proportion R&D investment in Spain?
Ambassador: It is not that much. However, the R&D budget has doubled from 600 million euros in 2012 and is expected to touch nearly 1.4 billion euros in 2014. Some of the most cutting-edge technology is made by the private sector. Telefonica is a full-fledged technological giant in the world and has huge R&D investment. We are only 49 million people and we take pride in our global companies such as Indra, Telefonica, Navantia, Airbus Military consortium of which we are a proud part.

As for Airbus Military, none of the other participants in the consortium had any kind experience in building military transport aircraft and it was CASA, the Spanish branch of EADS. This is how the A400M project was born which was an evolution of the capacities, the technologies and the design of many decades of brilliant work of Spanish aerospace engineers. That has given birth to an aircraft of the quality of C295 which is doubtlessly the best mid-sized military airplane in the world. This is used by the American Coast Guard. It has won dozens of tenders around the world. This is the plane we intend to replace Avro transport plane. It is used as a platform for anti-submarine war, rescue, surveillance, border control, transport troops, and also as a mid-size gunship...all of that technology is behind the world's most advanced military transport plane A400M. It is bigger than the Hercules. It is the only turboprop that can fly at a cruising speed of a commercial jetliner which is 0.74 Mach whereas others are flying 30 to 40 per cent slower than that. It cuts down transport time for deployment of troops and in military terms, it gives huge tactical advantage.

SP's: The A400M is a transcontinental project. What is the share of Spain in that?
Ambassador: The share of Spain in the consortium is relatively low at 5 per cent. Project-wise it differs and in the A330 MRTT the share is over 47 per cent. The aerial refuelling Boom system (ARBS) on it is the most advanced refuelling system in the world. The Boom is totally computerised and it is a Spanish design. The MRTT has substantial component from Spain, the tail, the belly, and parts of the cabin. This Boom is unbeatable. It consistently defeats Russian and American technology. Even in the US, when there is unbiased assessment of technology it has defeated Boeing.

SP's: What roles can this aircraft play other than as a fuelling tanker?
Ambassador: Technologically it is so advanced...we don't take any space from the passenger area. It still has a sizeable amount of cargo capacity. It can be used for troop transportation and can be transformed into a super VIP military plane. I think there is great need for such planes in India as it is a safe plane for a Head of State to fly as it can effectively thwart a missile attack. It is a multi-purpose aircraft and not just a refuelling jet. It can transport 300 troops and also high ranking officials in a business class environment. It is very versatile and the configuration of the plane can be changed rapidly for different purposes including a medical version.

SP's: Coming to the defence trade in India, does EU play an effective role?
Ambassador: It is getting there. I see it happen. There is an excellent EU Ambassador here. The EU is a project in the making. You cannot count the things it has not yet achieved as flaws, but it will be achieved. India has very cordial bilateral relations with individual countries of the EU but they don't see yet the usefulness of the EU. However, it is the responsibility of the EU with regard to foreign trade, regulation etc. Negotiations are going along a safe path and mutually beneficial result is due. I heard the Union Finance Minister P. Chidambaram stating that there was a window of opportunity from now to February if the negotiators made a breakthrough and signed the FTA, if not the negotiations will continue with new EU commission and with the new Indian Government next year.

SP's: Would you like to indicate the key milestones of Navantia?
Ambassador: The most advanced frigate in the world is the F100 which is of Spanish design. The F100 frigate is the basis for AF85 frigate Navantia built for the Norwegian Navy. It has some of the most advanced large...it would be like small frigates (BAMS–Maritime Action Boats). It is a boat of 4,000 tonnes and has a crew of less than 40. It is totally automated. We have an extremely efficient Navy because of the new concepts. No other nation has the BAM concept as they have corvettes which are a smaller version of a frigate. BAM is a Spanish invention. It has more firing capacity with 30 per cent less displacement and more speed, lot less manpower. It is a revolution in maritime warfare.

The submarine project is a little delayed but the S80 concept is absolutely amazing. It has the most advanced autonomous energy systems and definitely the safest. It is a multi-purpose firing system developed by several companies in the world. It has some of the most silent navigational capacities in the world and very interesting underwater speed and silent. It has command controls which can coordinate land, sea and air attacks at the same time and is considered as a NATO command post.

SP's: In India there is a lot of debate of having own aerospace complex in terms of self-reliance. Does Spain support the idea?
Ambassador: We want to be a partner with Indian companies and we are keen on participating. We are not going to withhold any kind of technology. We are going to be transparent. Offsets are going to be real and we are going to give you the latest and not first generation technology. There is a lot of potential for both private and public companies to go to world markets after developing synergies. Navantia is partnering L&T and they are going to participate in tenders of Indian Navy. Airbus Military is looking for an Indian partner for replacement of the Avro aircraft. Everybody has legitimate aspiration to indigenise their military; however, there will be joint ventures. For instance the weapon systems of our submarines are with US collaboration. We have taken hardware and systems from others and we built a totally Spanish product. Our LHD is a floating electronic war machine.

SP's: What is your perception about FDI in defence in India and what it should be?
Ambassador: It is a very delicate matter of sovereignty. It has to have some kind of special regulation. We cannot be fuzzy about our defence sector for investment and similarly we need to respect other country's reasoning. FDI should be open in other sectors, in defence you have to be careful. It needs regulation from government. There are delicate matters pertaining to security and stability and geopolitical interests have to be taken into account. We have to take necessary caution. SP

Deployment of the Cantabria in Australia

PHOTOGRAPH: Wikipedia

[By **Rear Admiral (Retd) Sushil Ramsay**]

The excellent relationship and mutual trust developed over recent years between the Royal Australian Navy (RAN) and the Spanish Armada has allowed developing new initiatives to span the scope of the cooperation between both Navies. Accordingly, a Statement of Intent (SoI) was signed on July 3, 2012, between Vice Admiral Ray Griggs, Chief of RAN and Admiral General Rebollo, Chief of Spanish Armada to develop a project arrangement to allow the mutual support of each other operational activities.

Under the instrument of SoI, Combat Supply Ship Cantabria left La Grana Naval Port on January 3, 2013, for a one-year deployment to Australia. The aim of the deployment was as follows: Increase the logistic capabilities by providing Afloat Support to RAN during domestic and international training and exercises involving RAN ships; Enhance interoperability between the Armada and RAN; Provide collective training opportunities for both the Armada and RAN; Provide instruction and training for the Australian Navy personnel in the systems on board Cantabria, which share commonalities with the new Australian ships (LHD and AWD) by Personnel Exchange Program (PEP); Provide individual training and experiential opportunities for Armada personnel through PEP arrangement between RAN units and Cantabria; Evaluate the capabilities of the ship in order to provide the RAN with the information that could help to make a decision about the future auxiliary support vessels for RAN and allow the Spanish Armada to test the capabilities of the ship in an extended deployment far away from Spain.

During her deployment Cantabria sailed more than 34,000 nautical miles during 167 days and has carried out more than 60 replenishments at sea. The ship has visited Australian ports of Melbourne, Adelaide, Darwin and Cairns. Cantabria participated in the important ANZAC Day celebrations and the multinational exercises 'Talisman Saber 2013' and 'Triton Centenary 2013'. Cantabria had the privilege of leading the 5th Division during the International Fleet Review with the RAN celebrating the Centenary of the arrival of the first Australian Fleet at Sydney.

The RAN bid farewell to Cantabria in gratitude for her collaboration with the RAN since the month of February 2013. On successful conclusion her deployment in Australia and she sails back to Spain, where she is scheduled to arrive on December 21, 2013.

The farewell ceremony was presided over by the Chief of the Australian Navy, Vice Admiral Ray Griggs in Garden Island, Sydney, home port of the Cantabria during her deployment in Australia. Other authorities included the Spanish Ambassador, Enrique Viguera, the Australian Fleet Commander, Rear Admiral Tim Barrett and the Consul of Spain in Sydney, Álvaro Iranzo.

Personnel on board

For this mission, the ship's crew consists of 146 men and women. There are 21 officers (including the Commanding Officer and a medical officer), 24 non-commissioned officers, 41 leading seamen and 60 ratings. During the deployment, two crew rotations are scheduled.

Apart from the Spanish crew, and during transit to Sydney, 12 RAN members have embarked to get acquainted with the platform and her systems.

Special personnel support measures were considered when drafting the Deployment Agreement. To this end, a logistic support and maintenance unit was established in Sydney. SP

INS Vikramaditya adds a new dimension to Navy's operational capabilities: A.K. Antony

(Left) The Indian Navy flag is hoisted on INS Vikramaditya as it is commissioned into Indian Navy, at Sevmash Shipyard in Russia on November 16, 2013; (Right) Defence Minister A.K. Antony walking on the flight deck of INS Vikramaditya at Sevmash Shipyard in Russia. The Chief of Naval Staff Admiral D.K. Joshi is also seen.

At a ceremony held at Sevmash Shipyard in city of Severodvinsk in Russia on November 16, Defence Minister A.K. Antony commissioned the Indian Naval Ship Vikramaditya. The commissioning of the long-delayed aircraft carrier is a boost to India's maritime capabilities. Speaking during the handing over ceremony, the Defence Minister called it a Red Letter Day in the history of India-Russia cooperation.

Antony said INS Vikramaditya would significantly enhance the reach and capability of the Indian Navy. "India's economic development is dependent on the seas and safeguarding the nation's maritime interests is central to our national policy. Aircraft carriers have been part of the Indian Navy's force structure since independence and have effectively served the country over the past five decades or so. The induction of Vikramaditya with its integral MiG-29K fighters and Kamov-31 helicopters, not only reinforces this central policy, but also adds a new dimension to our Navy's operational capabilities."

"The successful culmination of Project 11430 truly symbolises the time-tested Special and Privileged Strategic Partnership between our two great nations. The Project has propelled the strategic partnership between our nations to a new level. The relationship between our two countries based on mutual trust and belief has withstood the test of time and the result is for the entire world to see in the form of Vikramaditya. As the ship sails into its home waters in the Indian Ocean region, INS Vikramaditya will be a befitting tribute to our long-standing relationship," he said.

Describing the Project 11430 as a unique one, Antony said, it was a challenging task for both the Russian and the Indian sides and congratulated the entire team for converting the 'Dream Project' into a reality. "The transformation of INS Vikramaditya is an engineering marvel, which has tested the professionalism, capability and perseverance of the Indian Navy and the Russian industry, especially the Sevmash Shipyard," he said and expressed confidence that all possible support would be extended by Russia to ensure that the ship serves India effectively and efficiently for the duration of its expected operational life cycle."

The Chief of the Naval Staff Admiral D.K. Joshi said the INS Vikramaditya will bridge the time gap that may come up between the INS Viraat and the indigenously-built aircraft carrier Vikrant. "It will also help achieving our medium-term goal of operating two aircraft carriers."

The Deputy Prime Minister of Russia, Dmitry Rogozin and Defence Minister Shoigu, the Indian Ambassador to Russia Ajay Malhotra, the Defence Secretary R.K. Mathur, Director General (Acquisition) S.B. Agnihotri were also present on the occasion. Rogozin said INS Vikramaditya symbolises the close friendship between India and Russia and expressed confidence that it will grow in the coming years.

The refurbished 44,500-tonne carrier Admiral Gorshkov has an overall length of about 284 metres and a maximum beam of about 60 metres, stretching as much as three football fields put together. The ship has a total of 22 decks.

With over 1,600 personnel onboard, INS Vikramaditya has the ability to carry over 30 aircraft comprising an assortment of MiG-29K/ Sea Harrier, Kamov 31, Kamov 28, Sea King, ALH-Dhruv and Chetak helicopters. The MiG-29K swing role fighter is the main offensive platform and provides a quantum jump for the Indian Navy's maritime strike capability. These fourth-generation air superiority fighters provide a significant fillip for the Indian Navy with a range of over 700 nm and an array of weapons including anti-ship missiles, beyond visual range air-to-air missiles, guided bombs and rockets. SP

PHOTOGRAPHS: PIB

Seminar on Digitisation of Battlefield

Indigenisation is still a far cry and India has a long way to go in developing core battlefield technologies, opined experts at the seminar organised by SP Guide Publications in collaboration with CLAWS on October 31, 2013

Lt General Anil Bhalla giving the keynote address. Also seen are SP Guide Publications CMD Jayant Baranwal and Major General (Retd) D.C. Katoch; *SP's* Editor-in-Chief & CMD Jayant Baranwal offering vote of thanks; Delegates at the conference.

[By **Sucheta Das Mohapatra**]

For the second consecutive year, SP Guide Publications in collaboration with Centre for Land Warfare Studies (CLAWS) organised a seminar on 'Digitisation of Battlefield' which saw the user (Indian Army), CLAWS and the manufacturer (industry) deliberating on requirements of the modern digitised battlefield and the developments of core technologies to support it.

Inaugural Session

The inaugural session was opened by Major General (Retd) Dhruv C. Katoch, Director, CLAWS and was followed by keynote address by Lt General Anil Bhalla, Director General, Perspective Planning and President Executive Council, CLAWS. "Indian battle space is highly complex," said Lt General Anil Bhalla and added that on one hand we have high-end technology and on the other there are obsolete technologies. "A simple thing like the direction finder will help the soldier in the battlefield. We need a modern framework to provide high-end technology to the soldier on the ground, but to absorb the technology for the soldier at the grassroots level is a difficult task. Mindset is the biggest challenge and add to it is the issue of constant need for upgradation." Giving the vote of thanks, Jayant Baranwal, Chairman and Managing Director, SP Guide Publications, thanked CLAWS, Honeywell, DRS and Cisco for their support in organising the seminar, as the organisation gears up to celebrate its 50-year journey in 2014.

Session I

The first session began with the release of the book *Pakistan's Tactical Nuclear Weapons: Conflict Redux* written by Brigadier (Retd) Gurmeet Kanwal and Dr Monika Chansoria by the Chairperson Lt General (Retd) Davinder Kumar followed by a discussion on "Technology-Imperative for National Capability". The discussions began with the view that India has missed the industrial revolution, especially based on homegrown solutions and needs to catch up to achieve 70 per cent indigenisation by 2020. The Chair began by saying that possession of necessary technology is a national imperative and no nation will part with its critical technology and hence nations have to develop technological absorption capability and the enabling policy. Major General P.K. Srivasatava, Additional Director General, Artillery, gave a presentation on "Sensors: Utilisation and Trends." He highlighted on the realities and problems faced at the ground level and said that "every soldier is a sensor". He said, "What is required is a common operational picture (COP) which can be generated and flashed to all commanders simultaneously, so that SJE at all levels know all. There is the need for proper visualisation software. This is the requirement of digitisation in sensors and we are grossly lacking here."

Lt General K. Surendranath, Chief of Staff, Headquarters Southern Command, spoke on "Platforms: Make Technology the Driver". He said technology is the new game changer and all elements of warfighting system can be controlled remotely with net-centricity at its best. Space-based surveillance, advanced cruise missiles, precision-guided weapons, UAVs, new technology weapons are changing ground realities of conventional wars. Lt General Anil Bhalla gave a presentation on the "Core Technologies Impacting Modern Warfare" and opined technology today is driven primarily by the demands of the commercial sector. While science will drive technology, technology will drive warfare. Lt General (Retd) Devinder Kumar spoke on "Anti-technology: Shaping the Battlefield" and gave details of the anti-tank technologies ranging from night vision devices to anti-tank munitions, e-bombs, anti-satellite weapons, directed energy weapons.

K.P.M. Das, Vice President, Global Defence and National

PHOTOGRAPHS: SP Guide Pubns


(Top) Lt General (Retd) Devinder Kumar, former Signals Officer-in-Chief of Indian Army, addressing the seminar. Also seen is Lt General Anil Bhalla; Col (Retd) K.P.M. Das of Cisco, Lt General Anil Bhalla, Lt General (Retd) Davinder Kumar; Lt General K. Surendranath and Major General P.K. Srivastava; Lt General K. Surendranath, COS, Headquarters Southern Command, addressing. (Above) Lt General (Retd) S.P. Kochhar addressing during the second session; Air Vice Marshal (Retd) Dev Ganesh of Honeywell giving a presentation on Enablers for Space Sensors; Major General A.B. Shivane, ADG, PP, Jayant Baranwal, Lt General (Retd) S.P. Kochhar and Air Vice Marshal (Retd) Dev Ganesh (left to right)

Security Solutions, Cisco, gave a presentation on "Unified Battlespace". He defined a deployed environment as communication on the halt and mobile environment as communication on the move. He spoke of unifying the battlespace and the challenges he said include connecting the front with the rear. Procurement cycle around the world he said, is the same, it takes 10-20 years. The question and answer session which witnesses several queries from Jayant Baranwal. To his question on why does India get hardware and then software, Lt General K. Surendranath said it is because of the acquisition process. "Software is a different ball game and hence its acquisition takes time." Major General Srivastava fielded questions on the status of Artillery network Shakti. He said that Project Shakti,which is an Artillery Combat Command and Control System (ACCCS), is a fully digitised, integrated and networked system jointly developed by the Bharat Electronics Limited (BEL), Bengaluru, Centre for Artificial Intelligence and Robotics (CAIR), Armament Research and Development Establishment (ARDE) and Project Management Organisation (PMO) ACCCS of Directorate General of Information Systems (DGIS) which has high level of expectations at the ground level. He said that the project has certain software glitches which will soon be sorted out. Lt General (Retd) Davinder Singh concluded by saying that the basic thing is we need to think and plan as a system.

Session II

The post-lunch session began with the topic on "Cyber and Space" chaired by Lt General (Retd) S.P. Kochhar, former Signal Officer-in-Chief (SO-in-C), Indian Army. He spoke on "Cyber Warfare: Offensive and Defensive Aspects". Cyber security according to him, is security of everything that a man posses today. It is end-to-end defence of everything connected to an electronic device, which includes software, engulfs entire cycle of cyber all connected with a network. He said while the users point is to get security, the vendors aim at selling. Our endeavour should be indigenisation of components first and cyber tools to be effective, must be home-grown as all systems and tools imported would have malware and no country will give everything. Major General A.B. Shivane, Additional Director General (ADG), Perspective Planning, gave a presentation on "Space: Force Multiplier for Digital Battlefield" and said that the line dividing war and peace is blurred today and hence the requirement for war prevention strategies. Space, he said, is not a new domain in India and gave examples of the historical Pushpak and the Mysorean rocket used during the Tipu Sultan rule. However, space capabilities have escalated and their utilisation has grown manifold. From a force enhancer it has become a force enabler, a medium from where you support the terrestrial warfare and the ultimate high ground in a digitised battlefield. Major General Shivane said while space is essentially joined, it is also a different domain with different technologies and different ultilisation for a nation and hence it is important to have a Joint Space Command to optimise these capabilities which will translate into ground capability.

Air Vice Marshal (Retd) Dev Ganesh of Honeywell Aerpospace gave a presentation on "Enablers for Space Sensors in the Digital Battlefield" and spoke on military applications of space. Surveillance by panchromatic, infrared, search and rescue, multi- and hyper-spectral imaging sensors; electronic intelligence and analyses of voice and data transmissions; communications: data and voice; controlled transmissions through beam forming networks; air and land vehicle management by sky connect, osprey wings, through satellite networks. In the Q&A session that followed, the SP Guide

(Top) Lt General (Retd) Aditya Singh, former GO-in-C, Southern Command (right) and Michael O'Hara Kelley, Senior Program Manager, DRS Technologies; Michael O'Hara Kelley, Senior Program Manager, DRS Technologies addressing during the third session; Jayesh Shah, Sr Principal Engineer, DRS Technologies addressing. Also seen are Michael O'Hara; Lt General (Retd) Aditya Singh, Major General R.P. Bhadran, Additional DG IS, Col Sameer Chauhan, Senior Fellow at CLAWS
(Above) Major General R.P. Bhadran, Additional DG IS addressing during the third session; Jayant Baranwal posing a question; Lt General (Retd) Naresh Chand, Senior Technical Editor, SP's Publications, giving the vote of thanks

Publications CMD questioned Air Vice Marshal (Retd) Ganesh how would he respond to the concern that the equipment and solution coming to India from abroad is safe and secure. To this, the Honeywell official said that indigenisation is the key but we cannot lie behind. We cannot wait for the light combat aircraft (LCA) to happen. In order to manufacture our self, the safest way is to go through ToT and we must learn how to acquire the technology.

Session III

The last session was on "Operations and Training Aspects" and was chaired by Lt General (Retd) Aditya Singh, former GOC-in-C, Southern Command, Indian Army. Michael O'Hara Kelley, Senior Program Manager, DRS Technologies, gave a presentation on the users perspective of the "Battle Command Systems" along with Jayesh Shah, Senior Principal Engineer, DRS Technologies, who gave the technology perspective of the system. Kelley said the US Army has selected DRS Technologies as the sole source provider for the mounted family of computing system (MFOCS) to support the next-generation joint battle command platform (JBC-P). He said the DRS system enables right information reach the right person at the right time in the right format to make the right decision confidently. Jayesh Shah gave details of the continuous performance of the DRS Network & Imaging Systems (NIS) and the products and solutions. DRS, he said, has focused on providing the best integrated C4ISR solutions to the Indian Army which includes rugged computers and display systems; network and communications gateways; EO/IR sensors and thermal imaging systems; dismounted warfighter systems; mission command software suite; platform C4ISR systems integration; environmental testing; exportable hardware and software; full ToT, MToT and IPR options to the Indian Army and best life-cycle value in price, performance and support.

Major General R.P. Bhadran, Additional Director General, Information Systems, Indian Army, gave a presentation on "Expectations from Net-Centricity in the Battlefield". Networking improves efficiency both in market and management and gave details of how warfighting efficiency will increase with networking. Net-centricity in the battlefield gives real time operational picture which helps in better comprehension of battlefield; real time intelligence picture which lightens the fog of war; faster decision-making which reduces the friction in war. The last speaker, Colonel Sameer Chauhan, Senior Fellow, CLAWS, gave a presentation on "Making of a Digital Warfare". Future conventional conflicts will have high-tech content, combatants will require higher calibre, warfare will be more mental than physical and would require higher educational and technical skills amongst military personnel than what is present now. He highlighted on human resource management, awareness and training. During the Q&A session that followed, Major General Bhadran informed that while the Indian Army has digital maps, it does not have digital data. Michael O'Hara Kelley replying to a question asked by Jayant Baranwal said that the systems offered by DRS Technologies can be configured according to user demand. To yet another question by him, the panelists answered as to why the Indian Navy personnel seem more technically sound than Indian Army men. "The Indian Army is huge while Indian Navy is small and was compelled to go indigenous. When in a fighting ship, everyone has a technical space. The Indian Army has also caught up in the last ten years. Awareness is growing but due to sheer size it is slow."

Major General (Retd) D.C. Katoch in his concluding remarks said that we in India have a long way to go and there is the need for indigenisation of our systems. SP

Antony asks DRDO to focus on high-end research

Strongly urging the Defence Research and Development Organisation (DRDO) to complete all its projects within the prescribed time limits, the Defence Minister A.K. Antony has asked DRDO to concentrate on high-end research, particularly in critical and strategic areas.

Speaking at a meeting of the Consultative Committee attached to his Ministry, he said, DRDO should also invest more time and resources in fundamental research, lay more emphasis on major mission-mode programmes for armed forces and pool together resources and talent available in academic and other R&D institutions.

Antony also asked DRDO to ensure that the initial operational clearance and final operational clearance of the light combat aircraft (LCA) are completed on schedule. Presently, 532 projects pertaining to mission mode, technology demonstrator, infrastructure facilities, science and technology being carried out by DRDO, are in various stages of implementation. While some projects have been completed, others are in different stages of production and induction, as well as in stages of development and trial.

"The recent successful launch of Agni-V missile has catapulted our country into an elite group of technologically advanced countries having such a capability", he said. SP

Indian Navy fleet manoeuvres in littorals off Gujarat and Maharashtra

A large-scale annual operational exercise of the Western Naval Command of the Indian Navy concluded recently off the littorals of Gujarat and Maharashtra. The week-long exercise termed 'Defence of Gujarat Exercise' tested the operational readiness of the Western Naval Command in relation to littoral combat and the defence of vital offshore assets in the northern coastal states of Western seaboard of India.

In addition to large ship's like Delhi class destroyers, Teg and Godavari class frigates operating under the Flag Officer Commanding Western Fleet (FOCWF) the exercise also involved a large number of vessels of the local flotilla including potent missile vessels of the 22nd Killer Squadron, patrol vessels and minesweepers operating under the Flag Officer Commanding Maharashtra and Gujarat Naval Area (FOMAG). Coast Guard patrol vessels, integrated into the operations played a key part in providing multiple layers of defensive surveillance. In addition to ships, the exercise also witnessed intense flying activity by the TU 142Ms, IL-38SDs, Indian Navy and CG Dorniers and Searcher and Heron UAVs. SP

New warship handed over to Royal Navy of Oman

A new warship has been handed over to the Royal Navy of Oman amid colourful celebrations on HM Naval Base Portsmouth recently. AL Rahmani is the second of three 99-metre corvettes designed, built and delivered for the Royal Navy of Oman as part of Project Khareef.

Mick Ord, Managing Director of BAE Systems Maritime – Naval Ships, said: "This is a proud occasion for both the Royal Navy of Oman and our employees who have worked together to design, build and deliver this impressive ship. The delivery of these three corvettes now has a real momentum behind it, which is testament to the strong partnership we have built with the Royal Navy of Oman and the dedication of everyone on the project."

We will now support AL Rahmani's crew as they complete Flag Officer Sea Training with the Royal Navy before departing on a 4,800-kilometre delivery voyage to Oman. The ship will then complete final hot weather trials during which the ship will demonstrate her ability to perform in temperatures in excess of 45 degrees Celsius.

The first vessel in the class, AL Shamikh which was handed over in June, has now arrived in Oman, while the third ship, AL Rasikh, is scheduled for handover in the first half of 2014. SP

US Navy celebrates delivery of 3,000th Tactical Tomahawk missile

The US Navy marked a significant milestone on November 5, as the service joined defence contractor Raytheon Missile Systems in celebrating the delivery of the 3,000th Tactical Tomahawk (TACTOM) missile.

TACTOM, also known as Tomahawk Block IV, is a deep-strike, long-range cruise missile often used for land-attack warfare and employed from US Navy surface combatants and US Navy and United Kingdom Royal Navy submarines.

The TACTOM missile is capable of loitering over a target area in order to respond to emerging targets or, with its on-board camera, provide battle damage information to warfighting commanders. TACTOM can also provide an on-scene commander with the flexibility to attack long-range fixed targets or support special-operations forces with a lethal, responsive, precision weapon system. SP

PHOTOGRAPHS: PIB, BAE Systems, Indian Navy

BMS moves on

[By **Lt General (Retd) P.C. Katoch**]

With the issue of the expression of interest (EoI) for the BMS on November 11, 2013, the Battle Management System (BMS) has finally taken another step. It may be noted that after the BMS was cleared by the Defence Acquisition Council (DAC) as 'make India' project two years back and following the ordering of the Integrated Project Management Team (IPMT) Study by the DG Acquisition of Ministry of Defence (MoD), it was estimated that the EoI will be issued by October 2012. This year itself the EoI had been pending with the Department of Defence Production for several weeks and as per revised estimates was to be issued by August 2013. However, the deliberations have taken yet another few months.

The EoIs will be sent to the Bharat Electronics Limited, Electronics Corporation of India, Computer Maintenance Corporation, ITI, domestic private-sector major Tata Power SED, Rolta India, Wipro, Larsen & Toubro, HCL, Punj Lloyd, Bharat Forge, Tata Consultancy, Info Systems and Tech Mahindra. While only domestic defence companies will be allowed to compete for BMS, these companies will forge ties with overseas defence majors to acquire advanced technologies. It is now for the industry to take up the challenge.

The BMS will provide the Indian Army an integration tool supporting every level of military users ranging from individual soldier to battalion group/combat group commander in the tactical battle area (TBA) displaying in near real time an appropriate, common and comprehensive tactical picture by integrating inputs from all elements of the battle group. It will be possible to pick up the enemy much before he picks you up, see the target and fire direct in quick time using the best weaponry available, as also monitor the after effects. As such, fielding of the BMS will be an important facet of capability building in the Indian Army.

The mission capabilities being looked at are: provide a command and control system spanning the TBA spreading across individuals, detachments, combat platforms, sensors, sub-units, units to the battalion commander/regiment commander; achieve faster reaction capability and flexibility in command and control by providing information automatically at the right place in the right time, thereby compressing observe, orient, decide, and act (OODA) loop; provide a strong foundation for making decisions based on near real time, consistent and well-structured information, thereby enhancing the information handling capability of commanders at all levels; strengthen information exchange by having a strong messaging and replication mechanism; improve and modernise presentation of information in near real time, and; integrate with other command and control system.

The BMS will comprise a tactical hand held computer with individual soldiers and tactical computers at Battle Group Headquarters and combat vehicles. The computers will be integrated employing application and database servers connected on a data enabled communication network. The system will enable generation of common operational picture by integrating inputs from all relevant sources within a battle group by integrated use of geographic information system (GIS) and global positioning system (GPS). the BMS will be a highly mobile system which is able to network itself by integration of components and provide a high data rate.

The communications should not interfere with the legacy communication equipment and should easily be retrofitted into combat platform. The communications system should optimally utilise the bandwidth available for military communications involving voice and data including video streaming and imageries. It should be scalable to ensure its availability to all elements and range from being man-portable to being fitted in combat vehicles. With issue of the EoI, it should now be possible to shortlist two Developing Agencies (DA) by after 12 months or so; November 2014. Subsequently, design phase could commence by March 2015, limited prototype tested in laboratory by December 2015 and finally, prototypes developed and fielded for user evaluation by December 2016 (instead of earlier schedule of 2012). The cascading effect has already delayed completion of Phase 2 (Equipping) from initial plan of 2017 to 2021 and Phase 3 (Change Management and Upgradation of System) from 2022 to 2026 as per current status. This will schedule is possible only if there are no more hurdles.

The BMS is a finance intensive project and exact financial implication can only be holistically worked out at the end of Phase I. The approximate cost of Phase I of the system was earlier estimated to be around ₹350 crore, which may now double up. Considering the BMS will be fielded pan Army at the battalion/regiment level, the overall requirement will be colossal – likely to jump from the initial estimates of a modest ₹23,000 crore to the region of ₹80,000 crore or even more. More importantly, similar system will eventually be required other forces of the security sector (paramilitary units, central armed police units and special police units) tasked for anti-terrorist and counter-insurgency operations.

The prototype should be a suitable application on an intuitive operating system with customised GIS suitability. Voice and data communications must be always up. Computer hardware should be rugged and non-obtrusive with retrofitment maintaining platform integrity. System integration should include application software, data links with radio systems, integration of battalion/regiment level sensors BFSR, Thermal Imagers, UAV/ MAV data, satellite imagery etc. Considering that almost 90 per cent of required technology is already available in the market, emphasis should be on customisation to meet army requirements. SP

ILLUSTRATION: SP Guide Pubns

Navy commissions first advanced light helicopter squadron

The first ALH (Dhruv) Squadron was commissioned at Kochi recently by Vice Admiral Shekhar Sinha, Flag Officer Commanding-in-Chief Western Naval Command. Dhruv is the first indigenously designed and manufactured helicopter at the Hindustan Aeronautics Limited and with its multi role capabilities has proven her mettle in all the three services of the armed forces, Indian Coast Guard, BSF and in the inventory of foreign countries.

The squadron would have the name Indian Naval Air Squadron (INAS) 322.

Vice Admiral Sinha said that in the Navy, Dhruv helicopters has transformed into an advanced search and rescue (SAR) helicopter also used for missions like heliborne operations, and armed patrol with night vision devices. Such machines in the inventory have become imperative for the Navy given the scenario of low intensity maritime operations (LIMO) and coastal security construct said the Admiral.

Looking ahead, Vice Admiral Sinha said that with the commissioning of Vikramaditya, Navy's reach and ability to respond in real time to developing situations in our area of responsibility would see a quantum jump. Aerial assets like UAVs, MiG-29K fighters, P-8I and Dhruv have added punch to our quiver he added.

Vice Admiral Satish Soni, Flag Officer Commanding-in-Chief Southern Naval Command under whose administrative control INAS 322 would function, said that the versatile aircraft would soon be cleared for night SAR role, one of the few helicopters in the world to have that capability over sea. He also expressed satisfaction that the ALH would beef up the coast security architecture.

Earlier, Mrs. Mona Sinha named the squadron as INAS 322 and unveiled the commissioning plaque. SP

Air Marshal Arup Raha will be the next CAS

The Government has decided to appoint Air Marshal Arup Raha, at present the Vice Chief of Air Staff, as the next Chief of the Air Staff after the retirement of Air Chief Marshal N.A.K. Browne, on December 31, 2013.

Air Marshal Raha was commissioned into the IAF on December 14, 1974 in the Fighter Stream of the Flying Branch.

During a career spanning over nearly 39 years, he has held various command, staff and instructional appointments. He has served as Air Attaché at the Embassy of India in Ukraine. Besides various technical courses, Air Marshal Raha has done National Defence College, Staff College, Strategic Nuclear Orientation Course and Junior Commanders' Course. He has commanded Central Air Command and Western Air Command. He is one of the Honorary ADCs to the Supreme Commander. SP

PHOTOGRAPHS: Indian Navy, PIB

Indian Navy inducts HAL-produced Hawks

The Indian Navy inducted the Hawk 132, a fourth-generation Advanced Jet Trainer (AJT) aircraft, on November 6, 2013 at an impressive ceremony held at Naval Air Station INS Dega. Admiral D.K. Joshi, Chief of the Naval Staff, who was the chief guest at the event, inducted the aircraft in the presence of Vice Admiral Anil Chopra, Flag Officer Commanding-in-Chief, Eastern Naval Command. The ceremony was attended by various Flag Officers and senior officers of the Navy, as well as senior management from HAL and representatives of British Aerospace and Rolls-Royce. The aircraft is licensed to be built by HAL, Bengaluru with transfer of technology (ToT) from British Aerospace, UK. Four aircraft have been delivered to the Navy, marking the beginning of seventeen such fighter trainers to be acquired over the next few years.

The Hawk 132 is equipped with advanced and reliable navigation systems and the capability to deploy an impressive array of weaponry including air-to-air missiles, air-to-ground rockets, bombs and guns. It can also carry two extra fuel tanks under the wing, which extend its considerable strike range further. The hands on throttle and stick (HOTAS) system on the control column and throttle allows the pilot to make weapon selections without moving his hands from the controls. The Hawk 132 is a proven aircraft operating with over 24 nations around the world. The Indian Air Force is also operating these aircraft for training of their pilots.

The induction of this highly capable aircraft will provide the much needed fillip to the training of combat pilots in the Navy by bridging the gap between basic flying training and advanced fighter flying. The Hawk will provide the *ab initio* naval pilots with an ideal platform to hone their skills before they graduate to flying high performance aircraft and carrier based fighter jets, thereby making them available operationally in a shorter span of time. SP

X-47B operates aboard Theodore Roosevelt

The X-47B unmanned combat air system demonstrator (UCAS-D) conducted flight operations aboard the aircraft carrier USS Theodore Roosevelt (CVN 71) recently. The event, the most-recent in a series of carrier-based tests, demonstrated the integration of the latest in naval aviation technology with the most advanced and capable carrier.

"It is a tremendous opportunity for the 'Big Stick' to be a part of the development and testing of the future of Naval Aviation," said Captain Daniel Grieco, Theodore Roosevelt's Commanding Officer. The UCAS is an impressive system that gives us all a glimpse into the support and strike capabilities we can expect to join the fleet in the years to come. The tactical and support possibilities for such platforms are endless, and I know the crew of TR is proud to be able to be a part of that development."

A major objective for the UCAS-D programme is to demonstrate a digitised carrier controlled environment to allow for robust communications between the aircraft and all carrier personnel involved with launching, recovering and controlling the aircraft. A digitised carrier environment will ultimately increase flexibility and improve safety. SP

Exelis to produce carriage and release systems for MQ-9 Reaper

Exelis has been awarded a $20.6-million contract by General Atomics Aeronautical Systems Inc. of Poway, California, to produce the BRU-71/A ejector rack for the Predator B/MQ-9 Reaper remotely-piloted aircraft.

Under the contract, Exelis will produce more than 500 BRU-71/A units for deployment on US Air Force MQ-9s. The BRU-71/A is a pneumatic carriage and release system employing compressed air instead of electro-explosive charges to deploy payloads. This technology reduces overall system maintenance and life-cycle costs.

"The BRU-71/A delivers an advanced, high-performance airborne carriage and release capability," said Pete Martin, Director of Defense Systems for the Exelis electronic attack and release systems business area. "It is also one-third the weight of existing ejector racks in its class, a critical factor in the performance and endurance of unmanned platforms." SP

Triton UAV wing exceeds US Navy requirement

Northrop Grumman Corp. and Triumph Aerostructures – Vought Aircraft Division, a subsidiary of Triumph Group, Inc., have successfully demonstrated the structural strength of the US Navy's Triton unmanned aircraft system (UAS) wing. This is a key capability that will allow the aircraft to descend from high altitudes to make positive identification of targets of interest during surveillance missions.

A team of engineers found that no failures or unacceptable deformations of the wing occurred when it was subjected to a load at 22 per cent above the Navy's requirement.

"During surveillance missions using Triton, Navy operators may spot a target of interest and order the aircraft to a lower altitude to make positive identification," said Mike Mackey, Northrop Grumman's Triton UAS Program Director. SP

GA-ASI builds upon electronic attack expertise

General Atomics Aeronautical Systems, Inc. (GA-ASI) announced the conclusion of a second demonstration of Predator B's electronic Attack capability at the US Marine Corps' (USMC) Weapons and Tactics Instructor course held at Marine Corp Air Station (MCAS) Yuma.

This second demonstration expanded on the success of previous efforts between the Marine Corps, Northrop Grumman Corporation, and GA-ASI. The objective was to integrate a company-owned Predator B RPA into a Marine Aviation Command and Control (C2) network, enabling control of the aircraft's Electronic Warfare (EW) payload and other assets to deliver effects across the Electromagnetic Spectrum (EMS).

This C2 capability was exercised from the cyber/electronic warfare coordination cell located at MCAS Yuma and addressed simulated targets located hundreds of miles north at Naval Air Weapons Station China Lake. The Marine Corps is currently analysing the jamming data in an effort to quantify the EW effectiveness better and hopes to have the official results available soon. SP

PHOTOGRAPHS: US Navy, Northrop Grumman, US Army

Antony reviews Coastal Security

The Defence Minister A.K. Antony recently asked government agencies to take up the issue of private armed security guards on-board commercial ships, in International fora such as International Maritime Organisation.

Chairing a meeting on Coastal Security here, Antony said the issue has assumed significance in the backdrop of two recent incidents close to Indian Coast. He directed that the Ministry of Home Affairs and the Ministry of Shipping to come out with a plan of action and regulations on the issue at the earliest. The effort would lead to better regulation on the issue of floating armouries carrying private armed guards and weapons in our maritime zones.

The meeting was attended among others by the National Security Advisor Shivshankar Menon, the Chief of Naval Staff Admiral D.K. Joshi, Defence Secretary R.K. Mathur, senior officers from ministries of Defence, Home, Petroleum, Shipping and Agriculture, Indian Customs, Indian Navy and Indian Coast Guard.

Antony noted that during the last few years, the government had taken several steps towards enhancing India's Coastal Security. Both Indian Navy and Indian Coast Guard have been strengthened in terms of assets and manpower.

He reviewed the progress of several schemes initiated for enhancing coastal security like mandatory registration of fishing boats, issue of biometric ID cards to fishermen, formation of State Maritime Boards, designation of shipping lanes in ports, survey and monitoring of landing points along the coast. He was apprised of the work carried out in setting up 46 coastal radar stations. In addition, another 38 radar stations are being envisaged as part of phase II of the coastal surveillance network.

While appreciating the efforts of the various central agencies and ministries, Antony urged them to also be in regular touch with their counterparts in state governments to ensure that there is no room for any delay or slackness on matters of coastal security. A 24x7 alert on coastal security issues was stressed as vital. He emphasised that various ministries in Government of India, coastal state governments and coastal communities are key stakeholders in coastal security. A fully seamless and integrated approach by all the stakeholders, he reminded, is imperative for achieving a gap-free coastal security environment in the country. SP

PHOTOGRAPH: PIB

Coastline can be breached

Coastline needs to be secured much more than what it is now as they are concerned about non-state actors making entry into India land weapons and terrorists, as evidenced by the Mumbai terror attacks in 2008.

This view gets accentuated further after India apprehended the 390-tonne privately owned US vessel, Seaman Guard Ohio off Tuticorin, Tamil Nadu, on October 12 for illegally entering Indian waters with a cache of 31 assault rifles and ammunition.

The MV Seaman Guard Ohio was intercepted 10 nautical miles off Tuticorin after two alerts from intelligence agencies. The Tamil Nadu police's intelligence branch, the 'Q' branch, flashed the first alert on the night of October 11 to the Ministries of Defence and Home.

The single-page communication warned that a vessel had been spotted anchored off Tuticorin and it was including "suspected illegal activities including armed transport". This was followed by a similarly-worded alert from the Special Branch, the state unit of the R&AW, that day. A Coast Guard patrol vessel was launched within four hours of the alert and the vessel was nabbed. AdvanFort, the US firm which owns the vessel, has said that it was not engaged in any illegal activities. In a recent petition sent to the Government of India, the firm requested the release of its personnel. The vessel had embarked 25 armed guards on board merchant vessels who provided armed security to merchant vessels from Somali pirates in the Indian Ocean.

Four former Indian armed forces service personnel were onboard the vessel: Harjeet Singh, a former Indian Navy sailor and three army veterans S. Sudhir, U. Chelliapan and K.V. Prakash. They were part of the complement of 25 guards onboard the vessel, six British nationals, 14 Estonians, and 1 Ukranian. None of them had valid passports or visas. A total of 35 weapons were recovered from the vessel, these included 31 5.56mm rifles, three 7.62mm rifles and one 9mm pistol. Coast Guard authorities say no proper logs or inventories of the weapons were maintained.

Besides violations of the Arms Act for which the 35-member crew is now in prison, Coast Guard officials say the vessel and its owners also violated a September 2011 notification from the Director General of Shipping asking all vessels to declare whether they were carrying armed guards on board. The vessel also did not hire a ship's agent in Tuticorin and instead purchased fuel from fisherfolk out at sea. It also did not have any authorisation for its anti-piracy operations from its flag state, Sierra Leone. SP

Menon calls for enhanced budget for internal security

National Security Advisor Shivshankar Menon has called for enhancing budget allocation for internal security to thwart any terrorist attacks from within and without. "The budget for internal security is just one-seventh of the defence budget. So the problem lies here."

Menon, however, said that there was considerable success in thwarting terror attempts despite a low budget for internal security and mentioned that 54 terror strikes were averted in 2012. Menon was replying to a query on the Intelligence Bureau alert on Pakistan's spy agency Inter-Service Intelligences trying to fan communal tensions by reviving Khalistan radicalism and targeting Gujarat Chief Minister and BJP's Prime Ministerial candidate Narendra Modi.

Menon was in Chandigarh to deliver a lecture on science and security at the 79th annual meeting of the Indian Academy of Sciences at the Institute of Microbiology Technology of Panjab University.

For 2013-14, the UPA Government had hiked defence allocation by 5.3 per cent to ₹2,03,672.1 crore while the overall allocation to the Home Ministry saw an increase of ₹6,767 crore from ₹47,681 crore in 2011-12 to ₹54,448 crore. According to global terrorism index, published in December 2012 by the US and Australia-based Institute for Economics and Peace, India was among the top five countries most affected by terrorism. The other four were Iraq, Pakistan, Afghanistan and Yemen. SP

Boeing and Lockheed Martin team for US Air Force bomber programme

The Boeing Company and Lockheed Martin Corporation are teaming to compete for the United States Air Force's long-range strike bomber programme, with Boeing acting as the prime contractor and Lockheed Martin as the primary teammate.

To this critical mission, the team brings together nearly two centuries of combined experience designing, developing and testing aircraft for defence customers around the world. The companies also bring expertise in integrating proven technologies, and their skilled workforces and critical infrastructure and scale, to meet the US Air Force's cost and schedule requirements.

"Boeing and Lockheed Martin are bringing together the best of the two enterprises, and the rest of industry, in support of the long-range strike bomber programme, and we are honored to support our US Air Force customer and this important national priority," said President and Chief Executive Officer Dennis Muilenburg, Boeing Defense, Space & Security. "Stable planning, along with efficient and affordable development and production approaches, enables our team to reduce development risk by leveraging mature technologies and integrating existing systems."

Separately the companies are developing two of the Air Force's top priorities, the KC-46 tanker and F-35 Lightning II, respectively, and they partnered on the F-22 Raptor stealth fighter. Each has delivered key Air Force capabilities including the B-1B bomber, F-15E strike fighter, and F-117 and F-16 fighters. The team will be able to produce unique and affordable solutions that could not be achieved without partnering.

"Building on decades of manned and unmanned weapon systems experience, we're proud to bring our collection of technologies, capabilities and resources to affordably design, develop, produce and sustain the bomber programme," said Orlando Carvalho, Executive Vice President of Lockheed Martin Aeronautics. "We're confident that our team will meet the well-defined system requirements and deliver a world-class next-generation long-range strike bomber to the US Air Force within the budget and time frame required." SP

Russian-French defence cooperation

UVZ Corporation and French company Sagem Defense Securite (a member of Safran Group) have signed a strategic partnership agreement in the presence of Prime Minister of the Russian Federation Dmitry Medvedev and Prime Minister of France Jean-Marc Ayrault.

The parties have agreed on organising a long-term strategic partnership concerning usage of optonic equipment and other high-tech products produced by Sagem Defense Securite for UVZ armoured vehicles and artillery systems.

The agreement was signed by CEO of UVZ Oleg Sienko and Executive Vice President, International of Safran Bruno Cotté. SP

PineTelecom and Rafael sign shareholding agreement

PHOTOGRAPH: Rafael

Rafael Advanced Defense Systems Ltd, Israeli developer and manufacturer of air, sea, land and space systems, reached an agreement for acquisition of 49 per cent of PineTelecom, a South Korean communication technology developer.

Rafael and PineTelecom will closely cooperate in the design, development and manufacturing of high-end communications systems for the Korean military, including technology transfer. Rafael and PineTelecom are already working together in the framework of several local defence programmes.

As part of the agreement, PineTelecom will continue to operate as an independent company with engineering and operational collaboration from Rafael, enabling PineTelecom to strengthen its competitiveness in the Korean and international defence communication market and continue offering comprehensive solutions and advanced systems to Korea's and international defence communication market.

CEO of Rafael, VADM (Retd) Yedidia Yaari said that this agreement is in line with Rafael's international strategy to widen partnerships with local industries. "Today's signing marks our strong faith in PineTelecom's role as a partner in the Korean market. PineTelecom, like Rafael, is a strong believer in the development of holistic systems, rather than individual components. With this common vision, we look forward to sharing our knowledge and expertise with PT. SP

Denel and Patria announce an agreement on armoured wheeled vehicles to South Africa

Denel Land Systems and Patria have signed an agreement regarding Patria AMV 8x8 armoured wheeled vehicle serial production and delivery to South Africa. The agreement includes 238 vehicles, out of which five pre-series vehicles have already been delivered during the development phase. The first 16 serial vehicles will be assembled by Patria in Finland, Hämeenlinna. Thereafter the assembly will be migrated to South Africa to Denel Land Systems.

These vehicles are specially designed and customised to meet the unique requirements of operational deployment in the demanding African environment. The vehicle, known as Badger in South Africa, is a best-of-breed in its class and will contribute to the modernisation of the South African National Defence Force, providing its troops with effective protection and mobility. SP

Information about Tom Hanks and Donald Trump compromised

An Internet security firm reported that a company which handles reservations for limousine and town car services nationwide suffered a hacker attack, compromising information from VIPs including Tom Hanks, Donald Trump and LeBron James.

The breach has exposed credit card numbers and behavioural information of up to one million customers including top athletes, politicians, business leaders and celebrities. "The privacy implications of this are very disturbing," said Alex Holden, chief information security officer of Milwaukee-based Hold Security.

Holden says he discovered the breach about a month ago and informed the software company of the hackers attack and breach in security. Not only financial information has been potentially compromised, details of personal preferences, such as pickup and drop-off locations are now in the hands of the hackers.

Brian Krebs, a cyber security blogger who works with Hold Security, originally reported the intrusion on his website, krebsonsecurity.com. Some of the details revealed actor Tom Hanks was referred to as a "VVIP" and wanted a "No cell/radio use" driver when taking a trip to a Chicago restaurant.

Another chauffeur, meeting Latin American textile businessman Josue Christiano Gomes da Silva inside an airport luggage claim area with a printed sign was told: "Super VIP Client. Everything Must Be Perfect!"

According to the information stolen by hackers, Donald Trump required a new car with a clear front seat, and LeBron James wanted to be picked up at an entrance for athletes at a Las Vegas sports arena. SP

Woman shot dead near the White House after car chase

Recently a female suspect was shot and killed by police after trying to ram her car through the White House gates and leading them on a chase that ended near the US Capitol. At least one Capitol Police officer was injured and the Capitol was briefly placed on lockdown.

The incident started when the woman, now identified as 34-year-old Miriam Carey of Connecticut, tried to breach the White House security. Sources said Secret Service followed after Miriam on a high speed chase from the White House to the Capitol. Authorities say she refused to yield to police and was "using her car as a weapon" when they opened fire.

The most terrifying part of this story is that there was a one-year-old child inside the car during all of this, who was uninjured. According to some sources, Miriam was a dental hygienist with a history of mental issues while other sources claim she had no mental issues and described her as "friendly." SP

PHOTOGRAPHS: movieretrospect.blogspot.com, Wikipedia

Security gets lax during VVIP visits at New Mexico nuclear lab

A Los Alamos National Laboratory employee with responsibility for site security is charging that the facility suspended some safety procedures during VIP visits in 2011, and then after he complained about the practice retaliated against him because of his outspokenness, the *Albuquerque Journal* has reported.

In a lawsuit filed in federal court against the nuclear-weapons laboratory in New Mexico, Michael Irvin alleges he was demoted from his job as a security manager in the LANL director's office after he criticised to his bosses the practice of lifting certain unspecified security practices at the laboratory during spring and summer 2011 visits to the site by important individuals.

Irving's lawsuit asserts he has the right to criticise breaches of laboratory security practices that impact safety around nuclear-weapon materials. His suit claims he has been punished for his whistle-blowing with lost wages and benefits and that he was branded a "troublemaker" and "malcontent" by his manager.

The laboratory is home to a number of sensitive nuclear-weapons projects such as the production of plutonium triggers that initiate warhead explosions.

The security practices of the broader US nuclear-weapons complex – which includes sites in Nevada, Tennessee, New Mexico and California – has come under heightened scrutiny in the last year following the high-profile summer 2012 break-in by peace activists of a secured area of the Y-12 National Security Complex. SP

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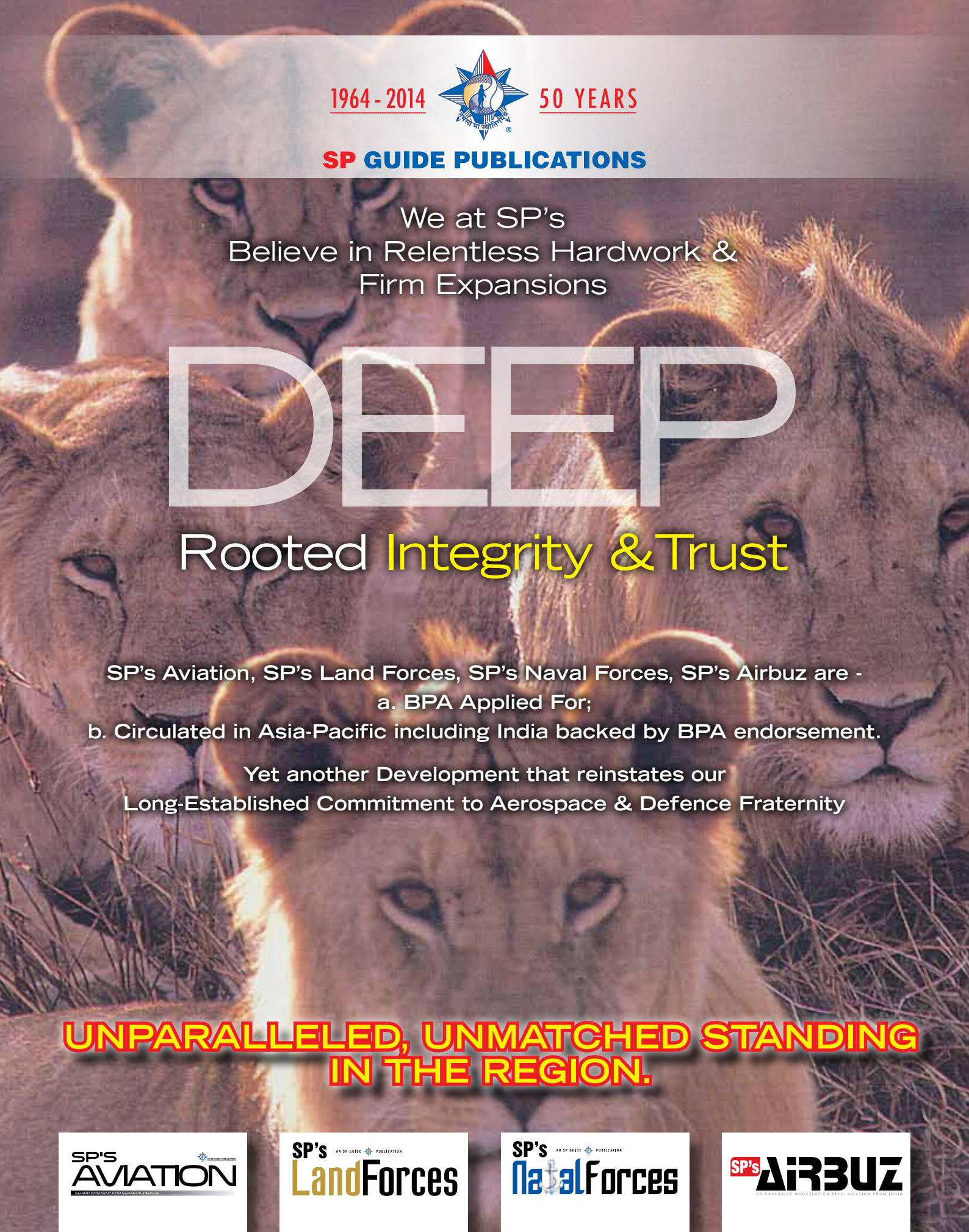

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