DIGITISATION OF BATTLEFIELD SPECIAL

SP's MAI

AN SP GUIDE PUBLICATION

ISSN 2230-9268

1964-2014 50 YEARS OF SP'S

₹55.00 (INDIA-BASED BUYER ONLY)

ONLY FORTNIGHTLY ON

MILITARY
AEROSPACE
INTERNAL SECURITY

www.spsmai.com

Vol: 4 Issue 20 ▮ October 16-31 • 2014

PAGE 6

# Prime Minister pitches for a 'Digital Armed Force'



DELENG/2010/34651

## Operation Lehar

Relief operations in the aftermath of cyclone Hudhud are being undertaken by the Indian Navy in close coordination with the state and district administration.

Airdrop of relief material was undertaken at Rambilli by Chetak helicopters as the area continues to be isolated, post the cyclone. In addition, aerial recce of the affected areas by naval helicopters was also undertaken.

Relief material transported by IAF aircraft on October 15, 2014, is being stored at INS Dega and is thereafter being shifted to feeder trucks for onward distribution in coordination with the civil administration. Suitable storage space has also been provided to the civil authorities for smooth distribution of the relief material.

Continued efforts of the Navy in close liaison with the Airports Authority of India (AAI) have resulted in clearance of the airfield for civil flights for day and night operations. A meeting was held with the AAI

on October 15 to discuss modalities for resumption of civil flight operations from INS Dega. All efforts are being made by the Navy to assist AAI and the National Disaster Response Force (NDRF) in making the Visakhapatnam terminal ready for civil flight operations by October 17. A temporary helipad has also been made operational at Naval Coastal Battery at Beach Road to facilitate smooth movement of civil officials involved in monitoring the relief operations.

Naval communication personnel are assisting the telecom authorities and civil administration in restoration of communication lines and connectivity is being progressively restored in the affected areas.

Survey of Visakhapatnam harbour till the Outer Turning Basin has been completed with wire sweeps, side scan sonar and check sounding and the harbour has been declared safe for operations. It is intended to undertake sounding checks at civil berths and carry out survey of breakwater to ensure that the harbour is fully operational at the earliest. SP

PHOTOGRAPH: Indian Navy


**Cover:**
*Prime Minister Narendra Modi with the Union Minister for Finance, Corporate Affairs and Defence Arun Jaitley and the three Service Chiefs, Air Chief Marshal Arup Raha, Admiral R.K. Dhowan and General Dalbir Singh, during the Combined Commanders' Conference.*

*Cover image: PIB*

PUBLISHER AND EDITOR-IN-CHIEF
Jayant Baranwal

ASSISTANT GROUP EDITOR
R. Chandrakanth

SR TECHNICAL GROUP EDITORS
Air Marshal B.K. Pandey (Retd)
Lt General Naresh Chand (Retd)
Lt General V.K. Kapoor (Retd)
R. Adm S.K. Ramsay (Retd)

SPECIAL CONTRIBUTOR
Lt General P.C. Katoch (Retd)

CHAIRMAN & MANAGING DIRECTOR
Jayant Baranwal

PLANNING & BUSINESS DEVELOPMENT
Executive Vice President: Rohit Goel

ADMIN & COORDINATION
Bharti Sharma

DESIGN & LAYOUT
Creative Director: Anoop Kamath
Designers: Vimlesh Kumar Yadav, Sonu Bisht
Research Assistant - Graphics: Survi Massey

SALES & MARKETING
Director: Neetu Dhulia
General Manager Sales: Rajeev Chugh

SP'S WEBSITES
Sr Web Developer: Shailendra P. Ashish
Web Developer: Ugrashen Vishwakarma



SUBSCRIPTION/ CIRCULATION
Annual Inland: ₹1,320 • Foreign: US$ 325
E-mail: subscribe@spguidepublications.com
subscribe@spsmai.com

LETTERS TO THE EDITOR
editor@spsmai.com

FOR ADVERTISING DETAILS, CONTACT:
advertise@spsmai.com
neetu@spguidepublications.com
rajeev.chugh@spguidepublications.com

SP GUIDE PUBLICATIONS PVT LTD
A-133 Arjun Nagar
(Opposite Defence Colony)
New Delhi 110003, India.

Tel: +91 (11) 24644693,
24644763, 24620130
Fax: +91 (11) 24647093
E-mail: info@spguidepublications.com

REPRESENTATIVE OFFICE
204, Jal Vayu Vihar
Kalyan Nagar
Bengaluru 560043
Tel : +91 (80) 23682204

MOSCOW, RUSSIA
LAGUK Co., Ltd, Yuri Laskin
Krasnokholmskaya, Nab.,
11/15, app. 132, Moscow 115172, Russia.
Tel: +7 (495) 911 2762,
Fax: +7 (495) 912 1260

Owned, published and printed by Jayant Baranwal, printed at Kala Jyothi Process Pvt Ltd and published at A-133, Arjun Nagar (Opposite Defence Colony), New Delhi 110003, India.

# Battlefield digitisation, adding 'real edge' to combat

The Prime Minister Narendra Modi addressing the Commanders' Conference recently touched upon various aspects of security and linked it to development. The tech savvy Prime Minister underlined the importance of a 'Digital Armed Force', urging the Services to give serious thought to upgrade technological skills. Digitisation is the way forward.

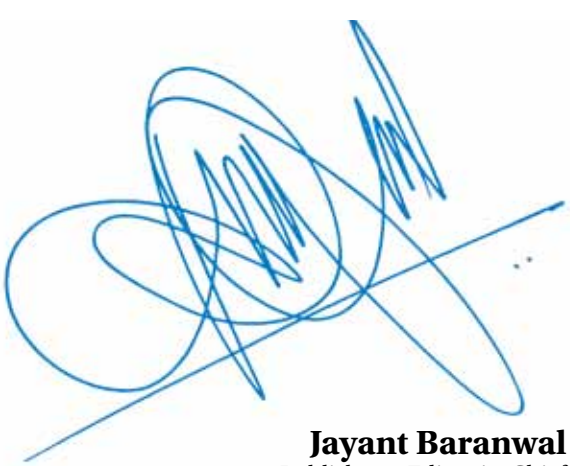
And we at SP Guide Publications believe in this mantra and have partnered with the Federation of Indian Chambers of Commerce and Industry (FICCI) for the international seminar on October 27 in New Delhi on 'Digitisation of Battlefield – Extending Network-Centricity to the Last Mile in the Tactical Battle Area'. The seminar series is a continuous effort to get the best minds in the business to talk/discuss and action about digitisation, all in an effort to equip the armed forces with the most modern arms and equipment. We are thankful to the sponsors who are in fact partners in progress specific to the defence realm. As regards Tactical Communication System (TCS), Lt General P.C. Katoch (Retd) has pointed out that the Army's modernisation plan getting affected by the void of the TCS, but is hopeful that the Prime Minister's push for indigenisation and absorbing foreign technology would speed up the TCS programme.

Of the many campaigns/initiatives that the Prime Minister Modi has launched, the 'Make in India' campaign is going to be a highly critical element in India's quest to become an economic powerhouse. There is a renewed business confidence as policymakers firm up plans to increase the attractiveness of India as a manufacturing hub and set the country on a growth path by creating jobs on a massive scale. The entrepreneur/business community is already excited about the prospects and we hope that the 'red carpet' and not the 'red tape', is laid out as promised. Though we are already witnessing an improvement in macro-economic factors including improved GDP, control on inflation and surge of the stock market, we should keep pushing for more and more reforms. The government seems to be receptive.

These reforms do augur well for the industry and we have in this issue companies such as MBDA, Rolls-Royce and Rockwell Collins endorsing the 'Make in India' campaign.

Coming to the irritant on the western front, General V.P. Malik (Retd) has stated that the installation of Modi Government in India and revision of its policy on cross border terrorism rankles Pakistan. The Pakistan establishment is unable to digest India's progress on the domestic and international fronts and that Pakistan has not yet realised that its efforts to 'tie down' India has done more harm to Pakistan itself. India has to re-evaluate its military strategy against Pakistan whose capability appears to have been reduced to terrorism, subversion and border skirmishes.

The fact that Prime Minister Modi is leading from the front has boosted enormous confidence across sections. As a responsible media house, we are partnering with various organisations to give fillip to the programmes in our own little way. We look forward to seeing you at the upcoming seminar on October 27 at the FICCI Auditorium, New Delhi.



**Jayant Baranwal**
Publisher & Editor-in-Chief

सत्यमेव जयते
रक्षा मंत्री
भारत

MINISTER OF DEFENCE
INDIA

10 October, 2014

Dear Shri Baranwal,

I am happy to know that SP Guide Publications will be completing 50 years this year. I wish you all success.

With regards,

Yours sincerely

(Arun Jaitley)

## Success of Nirbhay catches world attention

The remarkable success of the Nirbhay long-range ground-launched cruise missile from the Integrated Test Range (ITR) on October 17 has been watched keenly around the world, especially in the region. The largely indigenous missile, sporting a fully Indian inertial navigation system (INS) based guidance system and first stage, performed better than expected, striking within 10 metres of its intended end-game site in the Indian Ocean a little after 11 a.m. The 1,000+ km range cruise missile, with a cruise velocity of 0.7 Mach, is capable of delivering both conventional and nuclear warheads, and is capable of being configured for cruise anywhere from 100 metres to 5 km.

Over the next three years, the missile will be tested several more times before it is cleared for operational service both with conventional missile units as well as the Strategic Forces Command (SFC). DRDO chief Dr Avinash Chander has also emphasised that scientists will be looking to spinoff air-launched (from the Su-30 platform) and ship-launched land attack versions too. For the Aeronautical Development Establishment in Bengaluru and Advanced Systems Laboratory in Hyderabad, the recent success is redemption more than a year after the Nirbhay's first test ended in a forced abort following a guidance system malfunction owing to a subcomponent failure. Extensive redundancies and health monitoring capabilities were integrated with the second missile system for the test, resulting in a fully predictable performance. Unlike the BrahMos, the Nirbhay will be hailed as a truly Indian cruise missile, since range parameters will exclude the possibility of a Russian propulsion system on productionised variants of the weapon system. SP

## Naval utility helicopter tender scrapped, made bigger

Following the recent cancellation of the 197 reconnaissance and surveillance helicopter (RSH) competition, the Ministry of Defence (MoD) has followed up by cancelling the 56 naval utility helicopter (NUH) tender as well, and refloating it as a similar 'Buy & Make (Indian)' competition for 100 helicopters. The earlier tender saw Airbus Helicopters' AS 565 MB Panther (the militarised navalised Dauphin) and the AgustaWestland AW109 Koala LUH in the fray, though the contest had not progressed beyond the preliminary phase. The Indian Navy has stipulated in the fresh request for information (RFI) that it needs 100 helicopters to sport full SAR and utility capabilities, HADR (high availability disaster recover) capability, anti-piracy and anti-terrorism and limited maritime surveillance and targeting capability.

Also, the helicopter should be twin-engine platform, with a wheeled landing gear and blade fold capability. The helicopter should be capable of operating from ship and shore. For its required maritime surveillance and targeting capability, the navy has stipulated that weapons to meet those roles will likely need to be fittable. The 'Buy & Make (Indian)' decision, which the Narendra Modi Government has shown its preference for, mandates purchase from an Indian vendor (including an Indian company forming joint venture/establishing production arrangement with OEM), followed by licensed production and indigenous manufacture in the country. The category makes compulsory minimum 50 per cent indigenous content on cost basis, which implies that indigenous content in the total of (i) basic cost of equipment; (ii) cost of manufacturers' recommended list of spares; and (iii) cost of special maintenance tools and special test equipment, must be at least 50 per cent of the total contract value. AgustaWestland and Airbus Helicopters, in addition to other firms, may participate. SP

## NAL Mini-UAVs demonstrated to CRPF and NSG

The Central Reserve Police Force (CRPF) and the National Security Guard (NSG) have expressed interest in the National Aerospace Laboratories' (NAL) SlyBird and Pushpak micro air vehicles (MAVs) for over-the-hill surveillance and intelligence gathering. Starting November 2013, Bengaluru-based NAL has conducted flight demonstrations in simulated operational settings in Manesar to show the two agencies what the MAVs can do. NAL has received feedback on both the MAVs and will be engineering improvements, including to the autopilot guidance control laws. The NSG, CRPF, ITBP and state police forces have long expressed interest in acquiring a limited aerial surveillance capability with MAVs. The ITBP and Punjab Police have received

demonstrations of NAL's Black Kite and SlyBird in Ladakh and Chandigarh respectively over the last few years. The Twelfth Five Year Plan (2012-17) will see greater strides in the MAV space, including the entry into service of several of the systems under development. The Indian Army is still in the market to procure at least 200 mini-UAVs for its infantry units, for real-time surveillance and reconnaissance, detection of enemy movement, target detection, recognition, identification and acquisition and post-strike damage assessment, as earlier reported by **SP's**, though it has so far only acquired the indigenous Nishant UAV. Incidentally, NAL has spun off a version of the Nishant's NAL-DRDO 55 HP Wankel rotory engine for manned applications like powered hang gliders. SP



PHOTOGRAPHS: DRDO, NAL

Prime Minister Narendra Modi addressing the top commanders of the Indian armed forces, during Combined Commanders' Conference in New Delhi

PHOTOGRAPH: PIB

# Prime Minister keen on developing 'Digital Armed Force'

[ By **R. Chandrakanth** ]

The Prime Minister Narendra Modi addressed the Combined Commanders' Conference 2014 in the Defence Ministry War Room on October 17, even while tension continues along the borders of China and Pakistan. The conference is the first meeting of the Prime Minister with all top commanders, including the three Service chiefs.

The Prime Minister said that India's armed forces, which represent the world's largest democracy, were second to none in professionalism, valour, commitment, service and duty. The armed forces have always vindicated the faith and confidence that people of India placed in them, whether it is for our nation's security or for relief in times of natural calamities.

The Prime Minister noted that the world was looking at India with renewed interest, confidence and excitement and there was a universal current of expectation from India to emerge not only as one of the poles of the global economy, but also as one of the anchors of regional and global security. He emphasised that an atmosphere of peace and security was essential to enable India to achieve its goals of economic development.

He noted that "beyond the immediate, we are facing a future where security challenges will be less predictable; situations will evolve and change swiftly; and, technological changes will make responses more difficult to keep pace with. The threats may be known, but the enemy may be invisible. Domination of cyber space will become increasingly important. Control of space may become as critical as that of land, air and sea. Full-scale wars may become rare, but force will remain an instrument of deterrence and influencing behaviour, and the duration of conflicts will be shorter."

He assured the armed forces of his commitment to provide adequate resources to ensure full defence preparedness, overcome shortages and meet modernisation needs. He also asked the defence establishment to reform procurement processes as also suggest corrective measures to avoid delays in domestic development and production of defence equipment.

"We should remember that what matters is capability of the force. When we speak of Digital India, we would also like to see a 'Digital Armed Force,' " and asked the Services to give serious thought to upgrade technological skills for effective projection of power by men.

He called for increased jointness and urged the three wings of the Services to work as a team. He suggested that the Commanders' Conferences should be organised alternately on sea, in forward Army camps and at airbases, while assuring the Commanders that he would continue the practice that he had started of meeting the three Chiefs at least once a month.

The Indian Air Force chief, Air Chief Marshal Arup Raha, as the chairman of the Chiefs of Staff Committee, made a presentation, followed by the Indian Navy chief Admiral R.K. Dhowan and the Indian Army chief, General Dalbir Singh.

Besides the Prime Minister, Defence Minister Arun Jaitley addressed the conference. External Affairs Minister Sushma Swaraj, Home Minister Rajnath Singh, the National Security Adviser Ajit Doval and Defence Secretary R.K. Mathur were part of the conference. SP

# Interoperability prevails here.

Information is a powerful weapon. At Rockwell Collins, we deliver secure, networked communication that military forces around the world rely on for greater situational awareness. In the face of rapid technological advancements and limited bandwidths, our affordable, advanced and integrated solutions deliver data, imagery, voice and video to any platform, in any domain. Give your forces the power to connect.

*Enhanced situational awareness*

*Seamless coordination*

*Rapid response*

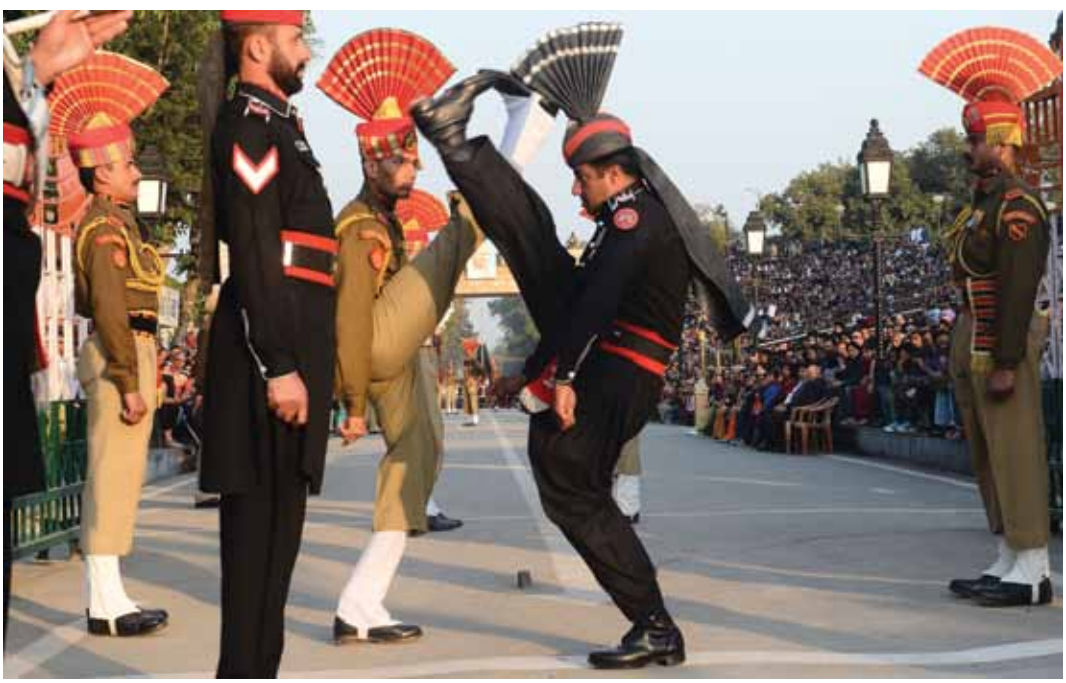
rockwellcollins.com/prevail

Rockwell Collins

Building trust every day

GENERAL V.P. MALIK (RETD)

# The Indo-Pakistan ceasefire scenario



Beating retreat border ceremony at the Wagah border

**India would have to remain alert on the border/LoC without closing its window(s) for purposeful negotiations or allowing the dilution of its revised policy. It would have to remain prepared for increased contingencies along the LoC and cross border terrorism.**

PHOTOGRAPHS: JTO, IAF

The India-Pakistan ceasefire along the 1,050-km international border, line of control (LoC), and the Siachen Glacier area, came about on November 26, 2003. Then Pakistani Prime Minister Mir Zafarullah Khan Jamali had announced it as a commemoration of Eid al-Fitr, marking the end of prayer and fasting during the holy month of Ramadan that year. This year's Eid al-Zuha saw its worst violation by Pakistan since 2003. During the heavy firefight, the annual tradition of exchanging Eidi sweets was done away. And so was the practice of holding flag meetings between the commanders of the Border Security Force (BSF) and Pakistan Rangers deployed along the international border.

A historical analysis of the ceasefire violations since November 2003 shows that the escalation in the number of violations has no correlation with the Narendra Modi Government under coming into power in India. The escalation picked up gradually in January 2013 and then very steeply after Nawaz Sharif for the third time took over as Prime Minister of Pakistan in June 2013. As per reports, 347 violations were recorded in 2013, compared to 114 incidents in 2012. This year, 334 incidents have already occurred till date. Despite much improved vigilance on the LoC, the number of cross border infiltration attempts has also gone up in last one year.

Many Indian journalists and political leaders who have been feted by Nawaz Sharif believe him to be the messiah of peace. But Nawaz Sharif's rhetoric on improving relations with India fails to match up with the developments on the ground. Apart from the Kargil misadventure in 1999 and other major cross border terrorist acts when he was in power, his tacit approval—willingly or unwillingly—to keep the LoC alive and maintain terrorist pressure in Jammu and Kashmir (J&K) cannot be missed. He and the Pakistan Army have always been together on this page.

According to intelligence reports, soon after taking over as Prime Minister in 2013, the Nawaz Sharif Government cleared a new 'Kashmir strategy' and set up a 'Kashmir Cell' in his office. The purpose of the cell was to keep track of developments in Jammu and

Kashmir (J&K). The other related fact in his current tenure is that as his political position weakens, he comes more and more under pressure from the Pakistan Army, the Inter-Services Intelligence (ISI) and the terror outfits of Punjab and Pakistan-occupied Kashmir.

After Modi Government came into power, last week of August 2014 saw the first major ceasefire violation in which Pakistani troops resorted to small arms fire and 82mm mortar shelling (such mortars have never been used on this stretch since the India-Pakistan war in 1971) of nearly 35 BSF posts; from Samba to Akhnoor along the international border. This was responded to in the usual manner. After four days of firefight, paramilitary commanders of both sides met and agreed to maintain the ceasefire.

This incident was followed by the Pakistani High Commissioner meeting J&K secessionists despite being warned by the Indian Government not to do so. The Indian Government reacted sharply. It cancelled the Foreign Secretaries' meeting. Soon after, Pakistan Prime Minister Nawaz Sharif raised the Jammu and Kashmir issue in the United Nations General Assembly on September 26, 2014. He earned a sharp rebuke from Indian Prime Minister Modi in the same forum next day. Modi made it clear that "raising it at the UN won't resolve bilateral issues."

A Cheetah helicopter landing at high altitude in the Siachen Glacier

This is where Pakistan and its army went wrong. Without taking into consideration the Indian Government's revised Jammu and Kashmir policy and resolve, it continued with its attempt to increase pressure on the new Indian regime. In a major skirmish this time, Pakistan Army and Rangers targeted the entire LoC south of Pir Panjal Range and the civilian population and towns along the international border. It must be noted that in all Indo-Pakistan wars, military forces on both sides have consciously avoided targeting civilian population in towns and cities. This engagement of soft Indian targets after October 2, 2014, left no choice with India except to retaliate with force. The Modi Government could neither afford dilution of its policy nor be seen giving in to pressure of violence. After analysing earlier incidents of ceasefire violations, it had already given greater autonomy and escalation dominance/control to local military commanders. The forceful response was evident on the ground as well as in the political rhetoric. Pakistan was shocked by the massive retaliation. It had failed to appreciate the new Indian Government's strength in public and Parliament, and that of its armed forces. Even more importantly, the change in its leadership! Such failures can be a fatal flaw in any armed conflict. The important lesson from Kargil had been forgotten.

It is not only the installation of Modi Government in India and revision of its policy on cross border terrorism which rankles Pakistan. The Pakistan establishment has always believed that India's future is hyphenated to that of Pakistan. A few days ago, Munir Akram, Pakistan's veteran diplomat in the United Nations, wrote in a US newspaper, "India cannot feel free to play a great global power role so long as it is strategically tied down in South Asia by Pakistan." The Pakistan establishment is unable to digest India's progress on the domestic and international fronts despite Pakistan. Being left increasingly behind India is bad enough for Pakistan's national security decision makers, the Indian posture of indifference adds insult to injury. Apparently, they have not yet realised that Pakistan's efforts to 'tie down' India has done more harm to Pakistan itself. Its standing and economic prospects have deteriorated primarily on account of raising and supporting its terrorist groups and trying to keep Kashmir on the boil.

What do I foresee in the coming days?

Will the Pakistan army give up needling India on the LoC or in J&K? I do not think so. As long as it is in the driving seat without being accountable to public and political leadership, it will continue with its anti-India programmes without pushing it to the level of a war-like situation. With further weakening of Nawaz Sharif domestically, the Pakistan Army will enjoy greater autonomy. The attempts in cross border infiltration and tensions on the border can be expected to go up further. Pakistan Army would also be looking to the strategic advantage when the US troops leave Afghanistan, which would enable it to use its 'strategic asset' (militant groups) in larger numbers. It would push the Pakistan Government to raise the J&K issue in all global forums: a resurgent challenge that would need to be met by Indian diplomacy.

Will the November 2003 ceasefire come to an end? Unlikely! The governments in India and Pakistan do realise that the ceasefire, which remains 'on sometimes and off sometimes', is better than not having one at all. There is much pressure from the civilian population on both sides. That notwithstanding, the Indian Government needs to consider safer habitat for people living close to the international border and LoC.

India would have to remain alert on the border/LoC without closing its window(s) for purposeful negotiations or allowing the dilution of its revised policy. It would have to remain prepared for increased contingencies along the LoC and cross border terrorism. Keeping that in view, it is recommended that:

- There is need to a re-look at the security management of disputed international border. Dual responsibility (and accountability) for external threats along a volatile border/LoC/ Line of Actual Control (LAC) between Home and Defence Ministries should be avoided.
- Synergy is important in any crisis situation. Synergy among all relevant stakeholding institutions for this purpose; the joint services, concerned ministries, intelligence agencies, the NSAB, the NSCS and within the CCS must remain high.
- Existing political polarisation on the sensitive issue of conflict over J&K needs to be bridged by periodically keeping informed about serious security related incidents on the border/LoC/LAC. SP

*The writer is a former Chief of the Army Staff.*

# Catch-22 – Authority versus accountability

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

Media is abuzz with the statement of Admiral D.K. Joshi, who resigned as Navy Chief on February 26 taking moral responsibility for repeated accidents involving naval vessels, saying the root cause of his resignation was the 'dysfunctional and inefficient' operating environment in the Navy, and that he was surprised at the haste with which the UPA Government accepted his resignation.

The Admiral, a gentleman to the core, is modest in accrediting the dysfunctional and inefficient system in the Navy, which actually is courtesy the 'dysfunctional and inefficient' defence set up of India including the defence-industrial complex. Nothing can be so precisely accurate than the Admiral saying where there is authority there is no accountability and where there is accountability there is no authority. What obviously galled the Admiral and made him resign was that with modernisation of the naval fleet stonewalled at every stage by the then government, he could do little to stop his personnel being harmed further; forced to sail in outdated submarines that were in serious need of upgrades. It is no secret that wanton blacklisting of firms even on anonymous complaints and without alternative sources of procurement created enormous criticalities in the armed forces.

The leaked letter of Army Chief General V.K. Singh (Retired now) to the then Prime Minister Manmohan Singh detailing had created ripples throughout the country. Starving the military of equipment to force imports by creating criticalities obviously suits vested interests in the arms trade. Little wonder that today the Ministry of Commerce and Industry website openly admits 50 per cent of all equipment held by the Indian military is obsolete. Then you have the Comptroller and Auditor General (CAG) reports saying that the Defence Research and Development Organisation (DRDO) has been supplying substandard and costlier equipment to the armed forces when better and cheaper equipment is available off the shelf, with lakhs of crores of rupees gone down the drain and years wasted. All this with the DRDO-DPSUs-OF functioning directly under the Ministry of Defence (MoD) and latter's Joint Secretaries on all boards of the DRDO-DPSUs-OF. It is well known that despite many defence scams, no one from the bureaucracy has even been questioned. But to have closed the issue by having accepted the resignation of Admiral Joshi instantaneously avoiding culpability in the utter lack of modernisation of the armed forces is truly shameful. INS Sindhuratna's batteries had used up their life cycle in December 2012 but the submarine was forced to go for minor refit and continue on sea because of the depleted numbers of the Navy. It was still running on out dated batteries. It could not get new batteries because procurement was delayed for months by MoD. INS Sindhuratna was on its first sea trial when the fire broke out due to the outdated batteries. Despite all this, no one in the MoD was prepared to share responsibility – not even those who sat on the related files to clear purchase of the replacement batteries.

A file photo of Admiral D.K. Joshi briefing the Defence Minister A.K. Antony about the sinking of INS Sindhurakshak submarine

PHOTOGRAPH: PIB

Similar are the cases of scores of the Indian Air Force (IAF) pilots sacrificed flying obsolete MiG-2ls that were aptly named 'flying coffins'. Admiral Joshi is right in surmising that the alacrity with which his resignation was accepted proved the intent to pin the blame on someone else. But then the Defence Minister is not even charged with the Defence of India under Government of India 'Rules of Business'. The bureaucrats too are safe as the Service Chiefs can lump all the blame, their Headquarters being 'Attached Offices' vide the same Rules of Business inherited from the British. What we do forget is that the East India Company was established by the British in India to do 'business' but what we need is 'Rules of India' that bring accountability along with authority.

Logically, responsibility of the sinking of INS Sindhurakshak after explosions caused by a fire on board when the submarine was berthed at Mumbai on August 14, 2013, killing 18 officers and sailors, plus the fire that engulfed INS Sindhuratna, on February 27, 2014 aside from numerous other mishaps should have been shared by the MoD, especially those who did not sanction purchase of replacement batteries for months – which would be the normal course in any other country. Incidentally, the bodies of 18 officers and sailors still have not been recovered from their watery grave of INS Sindhurakshak lying on the floor of the Arabian Sea. The irony was that the replacement batteries were available indigenously all the time Yet, despite such horrendous loss of life, we still have not empowered the Service Chiefs to make emergency purchases of such time critical replacements.

These are but few examples. Take the shortages in the cutting-edge soldier in the army. The shortages and quality of equipment like bullet proof jackets, bullet proof patkas, GPS, rappelling ropes, rucksacks, night vision and surveillance equipment are enormous. Why can't Service Chiefs have the authority of making emergency purchases with troops continuously engaged in counter-insurgency operations? Witness the CAG objecting to import of bullet proof jackets under the Northern Army Commander's special powers when no worthwhile bullet proof jacket has been produced by the ordnance factory board.

The million-dollar question, however, remains whether the new government is going to clear this quagmire or will remain weighed down by the erstwhile system. If the redlines of authority versus accountability cannot be clearly drawn and authority delegated to cater for emergent requirements, hope for credible defence of India will remain distant. SP

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

AIR MARSHAL
B.K. PANDEY (RETD)

# The Indian armed forces unshackled

In the last few months, as Pakistan struggled to cope with its own internal political turmoil, the tension with India has also been on an upward trajectory. Pakistan embarked on a somewhat desperate exercise to raise the Indo-Pak conflict to a new level, reignite the issue of Jammu and Kashmir (J&K) and push India on to the back foot before the international community as Prime Minister Narendra Modi continued with his highly successful foreign policy blitzkrieg. A ridiculous and somewhat bizarre assertion by Bilawal Bhutto, son of the late Benazir Bhutto, former Prime Minister of Pakistan, of his resolve to take back the whole of Kashmir from India, a veiled threat by former President Parvez Musharraf to teach India a lesson if she continues to provoke Pakistan, the somewhat unsuccessful effort by Nawaz Sharif, the very shaky Prime Minister of Pakistan who while being in office is really not in power, to raise the issue of J&K during his address to the United Nations General Assembly (UNGA), have all served only to add the fuel to fire and have been accompanied by regular firing not only across the perpetually sensitive line of control (LoC) in J&K, but of late also across the international border. Prime Minister Modi was gracious enough not to engage in ugly spat with Pakistan over the issue of J&K while addressing the UNGA. He maintained an immaculate and dignified posture and asked Pakistan to first create an atmosphere conducive for talks. The latest attempt at dialogue was abortive on account of Pakistan's misdemeanour involving meeting with the Kashmiri separatists despite objections by India.

These developments, however, are not new in character as the rhetoric emanating from the highest echelons in the Pakistani establishment as also violation of ceasefire by our not-so-friendly neighbour have been a matter of routine. However, the recent happenings are characterised by two notable differences. Firstly that this time the Pakistani forces on the border have been targeting primarily the civilian population and going beyond the LoC, have been firing across the international border which could be regarded as an act of war.

Even while Prime Minister Modi was preoccupied with the upcoming state elections, he decided to give a 'free hand' to the Indian armed forces to respond not only in equal measure but with greater vigour if required to any violation of ceasefire along the LoC. During the tenure of the earlier regimes including that of the last NDA coalition, the Border Security Force (BSF) as well as the units of the Indian Army deployed along the LoC or the international border did not have the freedom to respond to any provocation by the Pakistani Army or the Pakistani Rangers in forward deployment. The Indian forces responsible for securing the integrity of the land borders did not have the freedom to open fire even with small arms in response to hostile action by the enemy perhaps on account of fear of escalation. In fact, permission to return fire in response to provocation by Pakistan had to be obtained from the Ministry of Defence (MoD), a procedure that not only took considerable time, but also projected a rather poor image of the national resolve with the consequent debilitating effect on the morale of the Indian armed forces and especially of those deployed in forward locations in direct confrontation with the Pakistani forces. The nation appeared weak-kneed and diffident even while dealing with a small and so-called failed state – Pakistan.

The situation now is radically different. In the event of hostile action by Pakistan, Commanders of forces deployed in forward locations are not required to seek prior permission of higher authority but are free to decide on the nature and intensity of response. This is bound to raise the morale of the Indian forces. However, currently the response by the Indian side is limited to small arms, medium machine guns and mortars. Use of long-range artillery is not yet permitted in the normal course as the conflict appears to be localised to areas in close proximity of the border.

In the final analysis, the government has indeed taken the right step to unshackle the Indian soldier guarding the frontiers with Pakistan. There need to be no fear of escalation of the conflict as Pakistan's capability to wage a full-scale war with India is doubtful. Time has come for the nation to reevaluate its military strategy against Pakistan whose capability appears to have been reduced to terrorism, subversion and border skirmishes. This is the new form of warfare that India must be prepared to fight. SP

**Time has come for the nation to reevaluate its military strategy against Pakistan whose capability appears to have been reduced to terrorism, subversion and border skirmishes. This is the new form of warfare that India must be prepared to fight.**

PHOTOGRAPH: IAF

# Tactical Communications System Programme of Indian Army

ILLUSTRATION: Anoop Kamath

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

The fact that modernisation of our armed forces has been grossly neglected over the past decade has become public knowledge and has been a hot topic of debate. But what is not much known that the worst damage has been done in stonewalling modernisation of the cutting-edge of the army where the conflict will mostly occur especially with waning of conventional conflicts. This does not only include state-of-the-art weapons – firepower, night fighting, mobility and survivability but also network-centric warfare capabilities, so essential in modern-day conflict. In this context the army's Battlefield Surveillance System (BSS), Battlefield Management System (BMS), Command Information and Decision Support System (CIDSS) in particular, part of the Tactical Command, Control, Communications and Information (C3I) System and the Tactical Communication System (TCS) have been progressing at snail's pace.

The existing plan Army Radio Engineering Network (AREN) system was reviewed in 1996 and planned to roll forward and keep pace with offensive operations in the plains. But this system has been in service for almost three decades and is based on outdated and bulky technologies like second-generation radio relay hubs. In recent years, some modern frequency-hopping radio sets with integral encryption devices have been introduced into service but networked communications, which form the backbone of an effective command and control system, need substantial upgradation. More recently, the Tata Consultancy Services (TCS) has been assisting the army to replace its legacy messaging system with an automated messaging system; a messaging system that relays secured information from one user to another, using the concept of mobile nodes which can be deployed in far-flung locations including in disaster relief situations with highly secure system having multiple levels of security incorporating FORTIORA Suite of security products. But this again is a small part of upgrading networked communications.

So, the TCS was born out of realisation that AREN had to be replaced and an upgrade would not be sufficient, as was envisaged earlier especially since legacy radio systems were not designed to connect to broad-reaching IP-based networks. Interestingly in 2005, when Pakistan purchased RF-5800H-MP Harris radios at a cost of $76 million, they already had state-of-the-art TCS equipment. In case of our army, ironically, the TCS had been approved thrice by Defence Ministers in the past and should have been fielded in the Army in year 2000 but every time the whole case was worked afresh after closing the previous case file – an extreme in red tapeism and lackadaisical approach to vital issues. This also adversely affected trials of information systems being introduced into the army despite having a complete Corps nominated as the test bed formation. As the alternative to the surrendered 3G spectrum by the military, the new optical fibre cable (OFC) network being laid will provide modern landline communications in peace stations and to limited extent in the tactical battle area (TBA). However, the critical void is in supporting the Tac C3I System remained, all of which require wide-band data capabilities to facilitate real-time transmission of images and battlefield video while on the move all the way down to the cutting-edge including infantry battalions, armoured and artillery regiments. The Indian Army has a complete Corps nominated as test bed but none of the Operational Information Systems (OIS) under development and already fielded could be tested as required at full Corps level. This was because of lack of the TCS. Truncated test bed for information systems implies avoidable problems coming up at fielding and equipping stage that could have been corrected in the test bed stage itself. Concurrent to this are avoidable additional costs accruing through required immediately post fielding these systems.

Requests for information (RFI) were floated for a TCS for offensive operations and a BMS for communication at the tactical level in defensive operations a few years ago, but since then the acquisition process has meandered continuously and this has resulted in prolonged delays in introducing both these systems into service. The BMS is to be integrated with the Army Static Communications (ASCON) system. ASCON is the backbone communication network of the army. ASCON provides voice and data links between static headquarters and those in peace-time locations. It is expected to be of modular design so that it can be upgraded as better technology becomes available. The BMS is meant for communications from the battalion/regiment headquarters forward to the sub-units and soldiers. It will enable the Commanding Officer to enhance his situational awareness and command his battalion through a secure communications network with built-in redundancy.

BMS will integrate all surveillance resources available at the battalion or regiment level, including from locally-launched UAVs and ground sensors. It will also provide the accurate location of all the troops and key weapons platforms as well as the location of enemy troops and terrain analysis. BMS will automatically receive and transmit data, voice and images from multiple sources above the battalion/regiment level, simultaneously providing junior commanders on the battlefield all relevant information that has been received from the BSS. The system will be based on net radio-cum-hand-held computers.

The TCS, which is meant for offensive operations, is to have a new generation meshed network exploiting the growth in microprocessor, radio, mobility and satellites; based on light-weight high mobility vehicles which will form highly mobile communication nodes connected as a grid; largely based on tested commercial off the shelf (COTS) technologies; high bandwidth with voice, video and data; high capacity point-to-point radio backbone with multiple redundancies; high capacity point to multipoint wireless access at the user end; robust and survivable trunk and access radios; redundancy and scalability based on satellites; inbuilt protection against cyber and electronic attacks using firewalls and frequency hopping spread spectrum techniques; encryption and multi-level network security; real-time management of spectrum; integration with legacy systems, strategic networks, national communication systems; effective interoperability within the Army and other services during joint operations; light-weight user terminals; and finally effective integration of all OIS.

**Development and production of the TCS will provide a robust, snoop proof, mobile cellular network for the Indian Army's voice and data communications during a battle**

Since 2002, the Ministry of Defence (MoD) has been vacillating on categorisation of the TCS project under 'Make (High-Tech Systems)' and 'Make (Strategic, Complex and Security Sensitive Systems)', since private sector participation is allowed in the former category and not latter, and classifying it as former category was attributed to the secrecy of the 'frequency hopping algorithm' contained in a tiny microchip. The frequency hopping algorithm provides anti-jamming and electronic countermeasures (ECM) functionality. Tactical communications

networks need to be multi-hop wireless networks in which switches and endpoints are mobile nodes. In a tactical environment, system performance degraded when switching nodes or communication links fail to operate, narrow band electronic jamming is widespread and bandwidth is at premium. Fast and adaptive algorithms for performance analysis are desirable for optimising the network. Further, tactical networks commonly use pre-emptive algorithms to achieve low blocking probabilities for high-priority connections when the loss of equipment or electronic warfare in the battlefield is considerable. Under infavourable conditions, Adaptive Channel Hopping (ACH) algorithm lets sensors switch to a new operating channel/ ACH reduces the channel scanning and selection latency by ordering available channels using link quality indicator measurements and mathematical weights. Plenty of research on the hopping algorithms is being done internationally in the public domain and

Mobile Integrated Network Terminal

details such as configuring the programme are country specific.

However, the Bharat Electronics Ltd (BEL) and a consortium of L&T, Tata Power SED and HCL Infosys Ltd have been eventually selected by the government. This is the first project under the 'Buy Indian, Make Indian' clause introduced in the Defence Procurement Procedure (DPP). The government will pay 80 per cent of the development cost while 20 per cent will be funded by the industry. For TCS, both the selected parties will make the prototype system and the best bidder will then execute the whole project. The TCS is vital for operational preparedness and force multiplication endeavour. Decisive victory in future conflicts will be difficult to achieve without robust and survivable communications, both in the strategic and tactical domain. We should learn from the TCS in foreign militaries as to how they have tackled the challenges of spectrum, bandwidth, laws of physics, etc. British Win-T programme, developed by BAE Systems, Canada's Tactical Command and Control, and Communications System (TCCCS) developed by CDC Systems of UK, America's JTRS and Contact programme of France, all have lessons for us including how these countries have optimised participation and contribution of private sector, use of commercial off the shelf, time bound closure of procurement procedures keeping in mind criticality of the project and electronics manufacturing, and IT delivery self-sufficiency.

The TCS is India's second project under the make procedure, after the Future Infantry Combat Vehicle (FICV) development project but according to MoD sources, FICV is a stand-alone armoured vehicle in contrast to which the TCS is the network-centric backbone that connects crucial systems in the electronic battlefield; connecting sensors, shooters, decision systems and the command and control set up. Therefore, the TCS together with the Tac C3I are the very nerve-centre of the TBA as future battles will take place concurrently in the three domains of information, physical and the cognitive. The strategic value of information can hardly be optimised without efficient battlefield management, in which TCS plays a vital role. The battlefield of tomorrow requires traverse communications. Not only is interoperability imperative intra-service and inter-service in the military, it is required across the entire security sector since unconventional warfare and asymmetric threats are borderless in contrast to classical conventional battlefields. Communication systems need to meet multi-mission requirements, functioning through cyber and electronic warfare environment while engaged in battle. Development of software defined radios and cognitive radios are operational breakthroughs.

There is increasing overlap of communications and information systems in militaries across the world, optimising Information and Communication Technology (ICT). Command, Control, Communications, Computers, Information and Intelligence, Surveillance and Reconnaissance (C4I2SR) System provides great operational advantage for the defence establishment; force multiplier for commanders at all levels. Communications, information and their confluence are vital for our military given present and future conflict scenarios. In the jointmanship paradigm our military has only taken some nascent steps. Actually, we are decades away from integration in its true form and spirit. We need to take measures from the existing state of 'cooperative functioning' and 'patchy jointness' to 'de-conflicted operations', advancing to 'joint' and finally 'integrated operations'. Unless vital steps as indicated above are taken, shedding the baggage of legacy thinking, jointmanship will be elusive and our goal of achieving NCW capabilities will remain utopian. MoD and the military need to take holistic stock and act. We must speedily establish a reliable and robust ICT network which allows interoperability of the three services within themselves, and with the requisite government agencies spanning the strategic, operational and tactical domains. Development and production of the TCS, which will provide a robust, snoop proof, mobile cellular network for the Indian Army's voice and data communications during battle will likely cost upwards of ₹15,000 crore.

The new government has demonstrated the will to address the modernisation of armed forces on priority. The various projects sanctioned include dedicated army communications and mobile systems for three Corps deployed along the line of actual control (LAC) facing China at a cost of ₹900 crore. This is over and above the TCS. The Army's modernisation plan has been seriously affected by the void of the TCS. This must be developed and fielded at the earliest keeping in mind its compatibility with the BMS, criticality, timelines, capability to deliver and complexity of sensors and requirement of multiple nodes in delivering the trinity of voice, data and video speedily and securely. The Prime Minister's push for indigenisation and absorbing foreign technology should help speed up the TCS as well. SP

PHOTOGRAPH: SP Guide Pubns

# Cutting-edge technologies in the battlefield

DRS's Appliqué Computer Systems for the US Army's Force XXI Battle Command Brigade and Below programme supports the US Army's Blue Force Tracking requirements

[ By **R. Chandrakanth** ]

At the upcoming 'Digitisation of Battlefield' seminar jointly organised by SP Guide Publications and FICCI, several technology companies are presenting products and solutions that go to add a distinctive edge in the battlefield. Six of the companies we have featured here include: Elbit Systems, Honeywell, Rockwell Collins, DRS Technologies, Cisco and Gilat Satellite Networks.

## Elbit's Impressive Line-Up of Next-Gen Systems

Elbit Systems has an impressive line-up of next-generation systems and solutions to enable and integrate the future land forces of several countries. The wide range of cutting-edge solutions answers the modern battlefield's demands for connectivity, interoperability and network-centric warfare (NCW) concepts. These solutions fully integrate and network all land platforms and systems to enable them to react with significantly greater speed, precision and intelligence as a unified force. Accurate situational awareness allows for quick coordination and effective responses to rapidly changing operational scenarios. To achieve this requires advanced technologies involving the latest hardware and software. Leveraging in-house development of underlying technologies, products, platforms and systems, Elbit Systems has developed extensive experience in designing, developing and integrating these technologies into future land digitisation programmes around the world.

Elbit Systems employ a tactical building-block approach to link various applications and levels of command implementing advanced NCW concepts. Configurations comprise tactical computers, digital maps, message-handling systems, electro-optics, surveillance radars, ground sensors, EW systems, remote weapons stations, advanced radio communications, tactical modems and routers. This is in addition to specific components developed for customer-specific needs.

Elbit also provides software infrastructure and applications for mobile and airborne platforms, for the individual soldier, and headquarters command and control (C2) applications. Based on these core technology building blocks, Elbit offers customers comprehensive integrated solutions of command, control, communications, computers and intelligence (C4I) for land forces at all levels. The systems process, manage and present massive amounts of data arriving from various sources into a user-friendly format.

## Dynamics of Command and Control from DRS Technologies

The FBCB2 (Force XXI Battle Command Brigade and Below) programme is focused on developing a digital battle command information system designed to provide commanders, leaders and soldiers, from brigade to individual soldier and across all the battlefield functional areas, with improved information for command and control and enhanced situational awareness. Supporting the Army's overall battlefield visualisation efforts, the Appliqué Computer Systems provide a seamless flow of battle command information and interoperability with external command and control and sensor systems.

Incorporating the latest developments in digital information processing and networking, DRS-built FBCB2 systems provide improved combat support for lower-echelon battle command tactical mission requirements, including near real-time command

PHOTOGRAPH: US Army

and control capabilities, enhanced interoperability, situational awareness, and graphical combat area displays, throughout the force structure at the soldier, weapons and platform levels. These systems assure that US armed forces keep pace with advanced technology developments of the 21st century. The situational awareness component collectively displays the geographical location of all weapons, platforms, soldiers, command posts and other facilities and is being used in conjunction with the Army's Tactical Internet (TI) and celestial communications, a seamless Internet connection, for ease in communication. The TI interfaces with the Army Battle Command Systems (ABCS), collects information from both the operation centre and the individual units and disseminates the data through the FBCB2 computers for improved situational awareness.

The system is intended to support lower-echelon battle command tactical mission requirements, such as real-time situational awareness, target identification and graphical combat area displays. The situational awareness component will collectively display the geographical location of all weapons, platforms, soldiers, command posts and other facilities and will be used in conjunction with the Army's Tactical Internet, a seamless Internet connection, for ease in communication. The TI interfaces with the Army Battle Command Systems, collects information from both the operation centre and the individual units and then disseminates it through FBCB2 computers for improved situational awareness.

## Honeywell Range in Digitisation of Battlefield

Honeywell products are integrated onto a wide range of platforms they support, be it missiles, munitions, tanks, mortars, rockets, fighting vehicles and artillery. They provide precision, information, accuracy, improved communications and digitisation.

Honeywell has battlefield solutions from across the business, everything from bullet resistant protection through to protective clothing and respiratory equipment, as well as navigation and communication solutions that are helping customers to digitise the battlefield.

Honeywell's range of inertial measurement units, which help missiles and munitions to accurately hit the desired target, even in GPS denied environments. Its family of TALIN products that enable accurate navigation, pointing, stabilisation and fire control in a GPS denied environment for a wide variety of platforms including artillery, mortars tanks and infantry fighting vehicles. Another product central to Honeywell is the GC-27, which enables soldiers to communicate securely, in real-time and share video, voice and other data.

Honeywell products are not always easy to see; often they are integrated deep within the platform and hidden from general view. However, the capabilities they deliver are significant to users—everything from knowing where you are on the battlefield and knowing where your enemy is, to providing you with the ability to move faster than the enemy (known in the industry as shoot and scoot!) and increasing the survivability of the platform.

## Rockwell Collins' Connected Battlespace

With net-enabled systems from Rockwell Collins, the company has put innovative technology in place so the user can exploit every advantage of the connected battlespace. It helps expand ones network's reach with proven, full-spectrum capability that connects every war fighter in the network with a secure, up-to-the-minute flow of tactical and near real-time situational information, whether it is in the air or on the ground.

The systems keep the force decisively aware with network systems that seamlessly integrate valuable legacy assets with cutting-edge technology. It is fully scalable to the changing needs of your platforms and missions, the solutions are currently in theatre giving you the connectivity and situational awareness you require. Now, Rockwell Collins gives a common operating picture, shared on multiple platforms, to keep you connected and aware. The information you need—when you need it.

Rockwell Collins Army networking solutions include GMR and HMS JTRS; Quint Networking Technology (QNT); Tactical Targeting Network Technology (TTNT); Advanced Tactical Data Link (ATDL); Intelligence, Surveillance and Reconnaissance (ISR), EW-SIGINT; Information assurance solutions; ARC-210 Mobile User Objective System (MUOS)/SRW, ARC-220 HF; Joint Network Node (JNN); Mini-CDL; StrikeHawk Video Downlink Receiver; Nett Warrior; Common Avionics Architecture System (CAAS) and Integrated Soldier solutions.

Rockwell Collins is working to equip ground soldiers with the rugged, lightweight tools needed to make better-informed decisions at the tactical edge of battle. The components for its family of integrated soldier systems provide improved situational awareness and network connectivity capabilities at various echelon levels within a brigade combat team while minimising the size, weight and power impacts to the soldier throughout the life cycle. These solutions heighten the information-assured situational awareness that keeps the soldier alive.

## Gilat Solutions on the Move

Net-centric battle has increased the importance of quick-deploy satellite communications on-the-pause and on-the-move. governments and militaries, already attuned to the advantages of fixed and mobile satellite services, recognise the urgent need to access these services, wherever and whenever required.

Gilat's response is the SatTrooper Military Manpack terminal. This lightweight portable solution provides data, video and telephony under the toughest battle and environmental conditions. The small-size antenna can be set up in just a few minutes with automatic pointing and does not require any tools for assembly. The integrated Gilat MLT-1000 modem supports militaries and warfighters with high availability, secure communications and excellent performance in extremely low SNR conditions.

On today's net-centric battlefield, war-fighters demand reliable, vehicle-mounted satellite communications for effective information transmission between command and tactical levels. These Satcom on-the-move (SOTM) solutions must be able to perform faultlessly in the most extreme conditions.

Meeting this challenge, Gilat's integrated SOTM solutions combine stealth-design antennas with low SWaP BUCs and battle-proven modems, delivering: Always-on communications, with no setup time; Fully automated, 1-minute signal acquisition and tracking; Immediate and rapid signal re-acquisition on satellite line of sight blockages; Real-time communications for vehicles moving at high speeds in tough terrain; and over-the-horizon network access with virtually unlimited range.

## Cisco's Innovative Capabilities

Cisco considers the network to be the platform for all communications applications. To this end, Cisco networking technology offers innovative capabilities that incorporate mobility, voice over IP (VoIP), instant collaboration, video and access to actionable information regardless of physical location. This network-centric approach stresses the role of shared information and situational awareness, which can lead to an increased speed of command and more tightly synchronised efforts involved in nation-building, peacekeeping, war-fighting, emergency response and disaster relief. SP

# Last mile connectivity, key in a tactical battle area



SP's Editor-in-Chief & CMD Jayant Baranwal offering vote of thanks during the seminar on Digitisation of the Battlefield in 2013; (right) Jay Shah, Senior Principal Engineer, DRS Tactical Systems speaking during the seminar on Digitisation of the Battlefield in 2012.

[ By **R. Chandrakanth** ]

For the third consecutive year, SP Guide Publications is organising the international seminar on 'Digitisation of Battlefield', this time in association with the Federation of Indian Chambers of Commerce and Industry (FICCI) on October 27 at the FICCI Auditorium in New Delhi.

In the earlier two editions, SP Guide Publications had associated with the Centre for Land Warfare Studies (CLAWS) which had evinced substantial interest from serving officers, defence industry and private multinational companies. This year the interest generated for the upcoming event is very encouraging. The seminar will be inaugurated by the Minister of State for Defence, Rao Inderjit Singh, and the keynote address will be delivered by Lt. General Philip Campose, Vice Chief of Army Staff, Integrated HQ of the Ministry of Defence.

The theme of this year's seminar is 'Extending Network Centricity to the Last Mile in the Tactical Battle Area'. The seminar aims to analyse the requirement of net-centric capability at the national level; examine Indian military's net-centric warfare (NCW) capacity building; overview of the Army's Tactical Command, Control, Communications and Information (TacC3I) system; examine the concept and road map of the Battlefield Management System (BMS); examine space as a force multiplier in the digitised battlefield, etc.

Indigenisation is still a far cry and India has a long way to go in developing core battlefield technologies. With the new government led by the Prime Minister Narendra Modi giving a fresh fillip to the indigenisation process through the launch of the 'Make in India' campaign, it is expected that the defence industry will shift gears soon.

The aim of the seminar is to highlight and review the magnitude and complexity of the programme and to outline the role the industry could play in assisting the Indian Army, given the new energised economic reforms scenario in India.

What is digitisation all about? According to Cisco, IP-based networks provide a platform to connect everything that flies, drives, walks or sails. Every military unit is a node on the network. A common standards-based infrastructure enables voice, video, data and mobility on one network and provides unique global accessibility with the potential to reach anyone, anywhere, using any communications device.

A network-centric approach to homeland security and public safety communications enables government agencies and disaster response organisations to respond more effectively and efficiently to unpredictable challenges. First responders and homeland security agencies can now perform secure, real-time collaboration and surveillance while sharing information across the local, regional and national agencies. An intelligent network enables the rapid collection, analysis and distribution of voice, video and data traffic. These network-centric communications and technology solutions support established homeland security priorities in their jurisdictions, addressing issues in the areas of public safety and first response, public health, transportation and critical infrastructure protection.

As new challenges and threats confront the global defence, space, homeland security and public safety sectors, more intelligent networks are needed to achieve operational effectiveness and to efficiently cope with reduced budgets, staffing and time.

Many government entities have begun to deploy more mobile and ubiquitous IP-based solutions that bring the power of the network to their respective missions, at home or abroad. Defence, commercial and civil space organisations are looking to commercial off the shelf (COTS) technologies to reduce deployment time lines and provide next-generation global services at reduced costs. At the local, regional and national levels, public safety agencies are focusing on overcoming the challenges of radio interoperability and information sharing across agencies with incompatible systems. They are all also looking to implement advanced technologies such as sensor-based video surveillance and seamless wireless networks to accommodate rapid information sharing and real-time collaboration.

The network enables the deployment of converged technologies that deliver critical information to those who need it, when they need it, and how they need it. Standards-based IP networks can make organisations more responsive and adaptable. Commercial companies have migrated to IP-based networks to respond to global competition and adapt to fast-changing market demands. SP

PHOTOGRAPHS: SP Guide Pubns

# 'Make in India' campaign set to boost manufacturing sector chain

[ By **Kishore Jayaraman** ]

For a long time, India has relied on the service sector for growth. To create jobs for India's working-age population, which is 64 per cent of its total population, the country needs to focus on manufacturing-driven growth. Furthermore, the 'Make in India' campaign will enable the country to meet the targets envisaged in the National Manufacturing Policy, which aims to create 100 million manufacturing jobs and raise manufacturing's contribution to GDP from 16 per cent today to 25 per cent by 2022. The 'Make in India' campaign is therefore a welcome move.

The launch of the 'Make in India' campaign has led to renewed business confidence as policymakers firm up plans to increase the attractiveness of India as a manufacturing hub and set the country on a growth path by creating jobs on a massive scale.

Rolls-Royce, with a legacy of over 80 years in India, supports this progressive initiative as it will not only help Indian industries become globally competitive but will also allow companies like us to further support the country's modernisation needs. However, for the campaign to succeed, hurdles such as infrastructure bottlenecks, environmental clearances and unfriendly tax regime need to be removed to create a level-playing field for manufacturing in the country vis-à-vis imports.

At Rolls-Royce, we are committed to delivering the government's vision of positioning India as a global manufacturing hub. We already have 1,000 local engineers working in India through outsourced agreements and have world-class manufacturing facilities here, exporting components around the world. We now need to extend this experience into defence, beyond today's licensed production. Going forward, we are passionate about making India a hub for Rolls-Royce defence engineering, manufacturing and export as it will not only help create jobs but also supports India to achieve strategic self-reliance.

In order to boost manufacturing, the supply base of component and materials needs to be improved, demand accelerated, besides overcoming challenges like developing adequate infrastructure, providing skilled manpower and simplifying procedural and regulatory formalities.

The International Aerospace Manufacturing Pvt Ltd (IAMPL), a joint venture between the Hindustan Aeronautics Ltd (HAL) and Rolls-Royce that produces components for the technologically advanced Trent family of civil aero wasn't required by an offset commitment. It was the result of recognition of the value that both parties could add to each other. Today, the IAMPL production facility represents another commitment to the long-standing partnership with HAL and the future of Indian aerospace industry.

The new government has already led to tremendous positivity for progress, and we are already witnessing an improvement in macro-economic factors including improving GDP, control on inflation and surge of the stock market. The 'Make in India' programme will further build on this momentum and push India towards greater heights.


IAMPL produces components for the technologically advanced Trent family

At Rolls-Royce, we are well poised to cater to the growth opportunities available in the India region. We look forward to continue to offer India a unique combination of technology, experience and innovation that can help to improve the capability of our customers. SP

*The writer is President for India and South Asia, Rolls-Royce.*

PHOTOGRAPH: Rolls-Royce

# MBDA, unlocking the 'Make in India' strategy

[ By **Loïc Piedevache** ]

A country of India's stature in terms of economic strength and geopolitical significance clearly cannot afford to be over-reliant on overseas defence equipment suppliers. In this respect, Prime Minister Narendra Modi's 'Make in India' policy is intended to prepare the way for Indian industry to start developing and exploiting the necessary high technology skills that will serve to develop and produce the guided weapons systems that India's armed forces need.

However, creating a military industrial structure capable of providing India with the strategic missile autonomy it has been calling as it requires a new mindset and the involvement of not only the defence public sector Undertakings (DPSUs) but also the private sector including dynamic, technology SMEs. It will also require the input of established industrial leaders who have years of experience and the most advanced levels of technology that they are willing to share with Indian partners.

MBDA, as is well known, has been working with Indian defence industry for well over 50 years with its Milan ATGM being manufactured under licence by BDL. Recent contracts such as the MICA and ASRAAM air-to-air missiles ordered for the IAF's Mirage and Jaguar upgrade programmes respectively will further serve to promote an Indian defence technology supply chain through the associated offsets.

Offsets alone will not give the required boost to see 'Make In India' really start to bear fruit in the short term. What is required is the transfer of the highest levels of guided weapon technology. This is exactly what MBDA has been discussing with India regarding two programmes—SRSAM and a fifth-generation ATGM. SRSAM, led by the Defence Research and Development Organisation (DRDO) as design authority, has already been approved by the Indian authorities but is still waiting a final go ahead.

SRSAM is crucial not only as a critical operational requirement but also for what it means to the future of the Indian defence industrial sector. Some 80 per cent of the missile content will be made in India and what is more, the French Government has approved an unprecedented level of technology transfer. This will see India gain access to key seeker and hot launch technologies as well as automated production line know-how that will serve India well regarding its own future indigenous capability to develop and produce guided missiles. In addition, projected exports for a missile that would meet the needs of several other countries' armed forces are calculated at being far greater than the actual SRSAM contract cost. So not only would India gain important hard currency revenues, it would see its global prestige as a supplier of leading edge equipment grow while providing the scale of production throughput that would see facilities, small and large in India benefit.

Building on this SRSAM model, MBDA has also been discussing a new generation family of ATGM which, though based on the MMP weapon currently being developed for the French Army, would be developed by the DRDO and wholly produced in India. The technology transfer involved would see India capable of mass producing in as little as three years, a family of ATGM missiles (with ranges and target sets aligned to precise Indian needs) which far exceeds the older generation of weapons such as Javelin and Spike. Clearly 'Make In India' has much to gain from SRSAM and ATGM, two projects that will open the door to Indian industry, giving it the kick start that will reap dividends in the years to come. SP

*The writer is Country Head (India Operations), MBDA Group.*

Milan ATGM

PHOTOGRAPHS: SP Guide Pubns, MBDA

# MBDA—giving a boost to the Indian defence sector supply chain

[ By **Loïc Piedevache** ]

Prime Minister Narendra Modi's call to US companies to participate in the Indian defence sector has generated plenty of euphoria. This is not very different from the Prime Minister signaling another boost to indigenisation prior to embarking on his trip to Japan; earlier decision to manufacture medium level military transport aircraft in India reinforced by decision of manufacturing light utility helicopters also in India instead of importing them.

The Modi' Government has made it clear that it intends to do its utmost to see India becoming self-reliant in arms procurement. The 'Make in India' campaign is a clear signal of intent and Defence Minister Arun Jaitley has already set out his stall along these lines. In achieving this strategy, the state sector with its large defence public sector undertakings (DPSUs) has a major part to play but it is clear that eventual success will also depend on the involvement of the growing private sector with its inherent dynamism. Large Indian companies have already begun investing heavily in view of the new procurement trend. They are aiming to be well placed to benefit from the expected boost in defence spending that India deems necessary to confront the traditional security challenges posed by its neighbours. However, and as recognised by Prime Minister Modi in calling upon India's "entrepreneurs with an engineering background to set up clusters of defence units", the skills offered by the small and medium enterprises (SMEs) will be crucial in setting up the required industrial framework. These SMEs are required, particularly in the area of electronics, even though small companies have traditionally found entry into the defence market exceptionally difficult to achieve.

MICA IR on Rafale

The question needs to be asked concerning the current capability of the private sector to offer the advanced technology solutions necessary to develop and produce the next-generation of defence equipment. This is where international partnership enters the equation. It is through close partnerships and transfer of technology that the levels of know-how gained over many years can be acquired to the benefit of the Indian defence industrial sector. The Indian Government's recent decision to up FDI from its previous 26 per cent to the current level of 49 per cent is most definitely a step in the right direction as it will serve to build confidence for international companies to make the necessary investments in India's industrial infrastructure.

MBDA, as is well known, has been working with Indian defence industry for well over 50 years with its Milan ATGM being manufactured under licence by BDL. This experience has seen MBDA developing important links with the full supply chain behind this staple of the Indian Army.

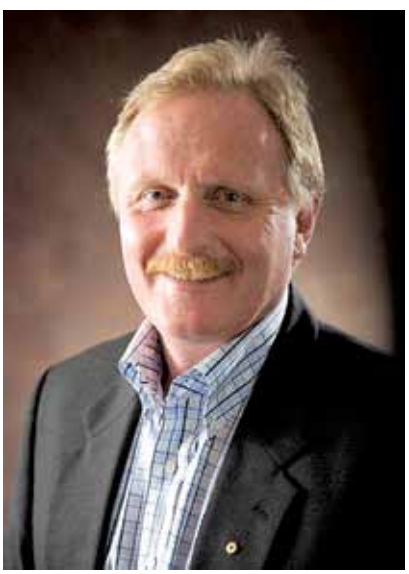
Understanding the mechanisms of this supply chain has stood MBDA in good stead as recent contracts are calling increasingly on the skills and input of a range of Indian companies, mainly SMEs. MBDA's offset programme related to the weapon package of the Mirage upgrade programme will include the transfer of production of several sub-assemblies of MBDA's MICA air-to-air missile and MICA launchers (rail & ejection) involving both electronic and mechanical domains. The above mentioned direct offset projects, that will see some 80 per cent of both the rail and the ejection launch systems components sourced in India, involve many high skilled SMEs, mostly the type of SMEs that the Indian Government wants to see prosper, either directly as a Tier-1 subcontractor of MBDA or through the supply chain of a large defence private industrial company. As well as the missile casing and cables, advanced componentry such as the aerodynamic servo-controller units that allow the missile to follow the guidance trajectory with the launcher will also be produced by Indian private sector SMEs for assembly in France.

Discussions are currently underway with potential suppliers for the local supply of elements for the ASRAAM air dominance missile that was ordered as part of the Indian Air Force's Jaguar bomber upgrade earlier this year. As with MICA, a significant part of the launcher's components will also be sourced in India providing a healthy boost to defence sector SME revenues and experience.

It can be seen that MBDA is offering so much more than world leading missile systems. It is also providing much needed technical support to the defence industrial sector. This support is crucial if India is to gain access to world-class technologies and industrial solutions that it does not currently possess. That is why the much talked about DRDO-led SRSAM air defence programme is so important. It is important not only to India's armed forces but also to the full gamut of the Indian defence industry structure from the DPSUs such as BDL through to a large number of private sector SMEs. Using MBDA's skills acquired in developing supply chains around the world, India's most able companies, of all sizes, will be involved in producing the revolutionary new missile's key sub-assemblies including radar and IR seekers and the propulsion system. In fact some 75 per cent of SRSAM's contract value will go directly to India's defence industry with the potential for significantly more once the weapon enters the export market. Of course, export success will serve to boost prestige for India's defence industry capabilities and prowess and foster even greater success and financial returns in the future. As a sign of how important SRSAM is to India's defence industry plans, Jean-Yves Le Drian (Designation needs to be mentioned) has even written to Defence Minister Arun Jaitley underlining the fact that within a few years, the project would enable India to get "the strategic missile autonomy it has been calling for". SP

PHOTOGRAPH: MBDA

# Rockwell Collins eminently positioned for partnerships in India



Jim Walker, Vice President and Managing Director, Asia Pacific, Rockwell Collins

LeAnn Ridgeway, Vice President and General Manager, Simulation and Training Solutions, Rockwell Collins

*On October 7, Rockwell Collins and Zen Technologies signed a memorandum of understanding to combine their strengths in simulation and training to offer industry-leading, high fidelity solutions to Indian military customers. Rockwell Collins, based in Cedar Rapids, Iowa, with facilities in Hyderabad and near New Delhi, provides world-class aviation simulation and training products, systems and integration solutions. Zen Technologies, based in Hyderabad, specialises in supplying industry-leading ground military simulation and training solutions. Talking about this partnership and Rockwell Collins road map in the region are* ***Jim Walker****, Vice President and Managing Director, Asia Pacific and* ***LeAnn Ridgeway****, Vice President and General Manager, Simulation and Training Solutions, Rockwell Collins.*

***SP's M.A.I.*** **(SP's): Could you tell us about how you zeroed in on Zen Technologies for the partnership?**

**LeAnn Ridgeway (LeAnn):** We have been looking for good partners in India for quite some time. We have been familiar with Zen Technologies for better part of last seven years. As political restrictions open up in India, it became apparent to us that the time was now to move forward to find the correct partner. We have a due diligent process wherein we look at reputation, performance, financials, capabilities etc of many companies and we found that Zen Technologies is one of the best partners for us to move forward.

The beauty of Zen is there is very little overlap. Rockwell Collins has some ground capabilities whereas Zen has more advanced capabilities. We see that as a synergy. We both have a little bit of UAVs and there is room there where we can work together.

**SP's: Given their limited footprint in aerospace market, was that some kind of an impediment to discussions?**

**LeAnn:** No, not at all. It is one of the things that attracted us. When we looked at their capabilities, facilities, engineering etc it became apparent that they are good partners for us to bring the air market here. We have products in India but we don't have full flight simulators in India. We see their combined ability to penetrate the market. We don't see that as an impediment at all.

**SP's: Any similar MoUs or joint ventures you have entered into in the Asian market?**

**LeAnn:** In China, we have recently entered into a joint venture with BlueSky. We have a good business model to grow in the region.

**SP's: What are your expectations of the Indian market? Is it a big military simulation market?**

**LeAnn:** When we look at India from a growth perspective, there are indigenous full flight simulators. The market is absolutely ready for indigenous make and the policies and local politics are shaping up around that. The solutions we have created are suitable for Indian market, we have done that in Brazil and China. India is our next

opportunity. The training/simulation market dovetails what the platforms are going to be. When we look at the global market as far as aircraft platforms are concerned we notice that India is the third largest market in terms of growth projections.

We are going to focus on military segment as the commercial segment is very competitive and saturated right now. For the selective and collective success, we will focus on the defence market.

**SP's: Can you name the key platforms of military market where you are offering solutions?**

**LeAnn:** In the rotary-wing, we are well positioned with solutions for Chinook and Apache helicopters. Those platforms are coming into India. For fixed-wing, we have solutions for all types of military market, PI8, transport tanker market etc. Rockwell Collins is eminently positioned in the fighter market. We have visual solutions on F-15, F-16, joint strike fighter aircraft market. We have visual solutions on some European fighters with BAe. We have good positions in the training market for that segment of the fighters.

**SP's: What about land systems for the army... are you present with simulators?**

**LeAnn:** We have JTAC (joint terminal attack controller) for ground solutions for the dismounted soldier. We have also some maintenance solutions on MRAP and striker vehicles. Zen has lot of technologies for shooters, tank simulators and that is very complimentary to us.

**SP's: Jim, what are your thoughts on the Asian market, the challenges and the opportunities?**

**Jim Walker (Jim):** The Asian market is a pretty big market for us. Rockwell Collins has a long history of engagement in Asia-Pacific in terms of commercial solutions. We have positions on all the Airbus and Boeing platforms. We have positions with most of the major airlines, including the low-cost carriers. We dominate that market. As capacity and air traffic grows within the region, biggest growing regions in the world in terms of commercial aircraft, aviation business, we continue to partner with those airlines. We got a number of key solutions that we offer such as avionics, air weather radar, TCAS (traffic alert and collision avoidance) solutions. We have brought into the market for single aisle jets, new inflight entertainment systems which we just launched in Bangladesh for Biman on its Boeing 737 aircraft.

As regards, business jets we are strong in Asia-Pacific, particularly in China. We have had very key successes in China having signed MoU with AVIC for systems on MA700 regional airliner. We are on board the ARJ21 and the C919 programmes.

In terms of military system business, we have not been here as long as commercial business. But from the FMS and direct perspective we have been on most of the major platforms with US delivering in Asia-Pacific. They are based around Australia, Korea, Taiwan, Singapore and Japan. As we move and grow into India which is the Third largest growing military market in the world, we see a number of key niche areas such as networked enabled communications, providing software defined radio for the navy and also for the army in terms of battle management systems.

Recently with Tata we have demonstrated to the Army the SDR and also the networked enabled communications which is a big part.

The second part is avionics. And we have positions on the Dornier, we have GPS solutions, electronic countermeasures etc.

In terms of land systems' opportunities, we want to see what the market holds for India. We cannot just build the market by programmes because it becomes a bit lumpy. We have been doing lot to sell basic products through PSUs and private companies as well. We see the military market emerging.

**SP's: Which would be other important markets in the region?**

**Jim:** Australia, clearly because of its length of time we have been there and the close relationship the US has with Australia. Korea is another one. We have strong partnerships around the fighter, indigenous helicopter programme and also the upgrades on Chinook and Black Hawk. Japan is an emerging market for us from a military sense. Australia, Japan, Korea and India are very key to Rockwell Collins.

**SP's: What is your take on 'Make in India' programme and the increase in foreign direct investment announced by the new government?**

**Jim:** The 'Make in India' programme fits in very well with Rockwell Collins programmes. We have traditionally long-term partnerships with companies where we develop technologies. We believe that just manufacturing within the country is not going to develop your capability. What is going to develop your capability is transfer of technology and co-development. Partnership with Zen is really a classic example of how we work together. Over time we will build this relationship, transfer technologies and start on particular programmes. As we grow together, the trust and relationship builds. The move by the Narendra Modi Government to increase FDI promotes confidence into companies like Rockwell Collins who want to have deeper relationship. We want to grow together and go to the world together.

**SP's: Do you have any road map worked out for expansion in the market?**

**Jim:** We have a road map. Network enabled communication has been fundamental. It is our legacy, if you like. We have a number of key programmes we are working on with Selex and BEL on the Finsas programme, with Tatas for the SDRr programme, and also for TCS solutions; and moving forward we are looking at integrated avionics and flight supplies of sensors etc. We have developed Helisure, which provides first of type for the pilot in terms of synthetic vision and terrain awareness. There are niche technologies and capabilities we have been renowned for and we want to bring them to India.

**LeAnn:** With Zen Technologies, there is a unique value proposition Rockwell Collins has to offer and that no other competitor in training and simulation has. We can bring to the market is integrated avionics solution in training. We have found cost savings for the end customer and also nearly one hundred per cent concurrency in what we are co-developing. That is a huge value proposition. That is when we know we have arrived.

**SP's: You have an engineering facility in Hyderabad? Could you tell us how that fits into your plan?**

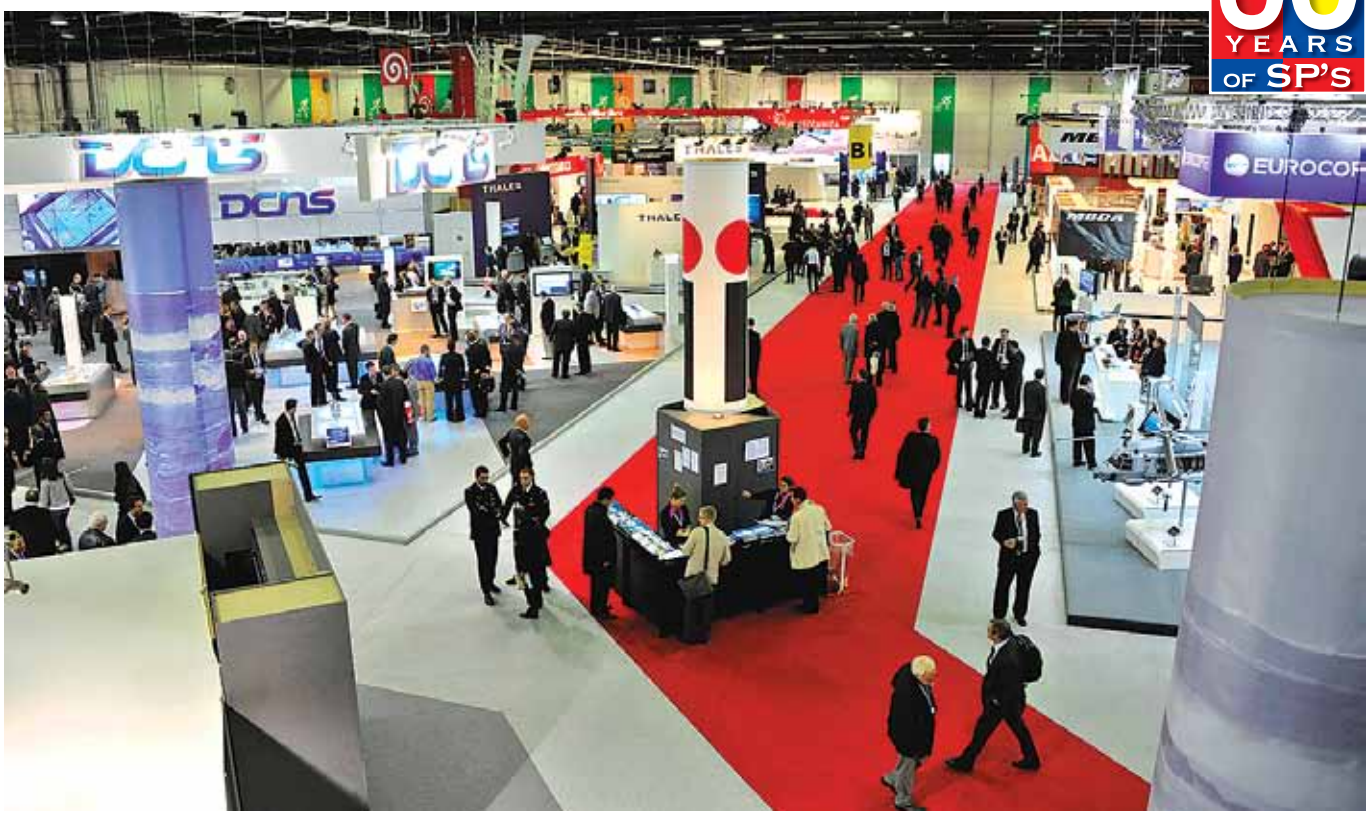
**Jim:** The Hyderabad facility was established to provide couple of things, low-cost engineering. From software verification capability to system engineering, we are improving the capability. It helps us in product development and we use it for developing new business within India; and thirdly help us with engineering support.

**LeAnn:** In the training and simulation side, we are doing a lot of database development here in Hyderabad and that is hugely important.

**SP's: How is the integration with ARINC?**

**Jim:** In Asia-Pacific it is doing particularly well. Earlier this year, we started leveraging each others products. We have been able to identify a number of niche areas where we can complement each other.

**LeAnn:**: We have identified several areas and Rockwell Collins is moving into the virtual training scenarios. We bring secure communications, avionics, we bring diverse range of capabilities. SP




PHOTOGRAPH: Euronaval

# Euronaval, largest platform for naval and maritime security

[ By **R. Chandrakanth** ]

Over the course of its 24 editions, Euronaval has become the largest platform for international exchange on naval and maritime issues (besides yachting). Euronaval which set sail in 1968, owes its leader status to the excellence of French naval industries, the world's sixth manufacturer and second in Europe.

This five-day international exhibition to be held from October 27 to 31 is organised under the joint patronage of the French Ministry of Defence and Secretariat of State for the Sea.

The Chairman of Euronaval, Patrick Boissier, states that global maritimisation is causing the demand for maritime transport to soar. 'Blue growth' relies on the development of mineral, food and energy resources and contains the hope for a better future. But the sea is a complicated and sometimes dangerous place. This is why state concerns focus on rendering it safe and peaceful. The fight against terrorism and piracy, surveillance of exclusive economic zones, protection of resources, security of economic activities, safety of human lives at sea, defending national interests and national sovereignty claims are critical issues that encourage all coastal countries to equip themselves with powerful, reactive and multi-purpose navies.

With an annual turnover of more than 40 billion euros, military shipbuilding is one of the driving sectors in the global economy. Every two years at Euronaval, shipyards, contractors, equipment providers, industrial businesses and naval defence service companies come together. Beyond its status as an exceptional exhibition of innovative material and high performance services, Euronaval brings together political decision-makers, military chiefs and industrialists from around the world to exchange ideas and prepare for the navies of the future.

Euronaval is the centre stage for negotiating or concluding of a large number of contracts to the benefit of shipbuilding businesses. Euronaval is where the future of maritime security and safety is determined, the future of peace, he states.

In Septembrer 2013, AMI International released a World Naval Market Forecast, demonstrating astrong growth in total new naval construction through 2032.

- 522 new construction programmes totalling more than 3,800 new ships, submarines and craft.
- These same hulls and related equipment expenditures are expected to reach $838 billion over the next 20 years, up about 12 per cent from AMI's 2011 20-year world naval market numbers.
- Volume growth is even more striking, with the number of new hulls forecasted to be built over the next two decades up some

22 per cent compared to 2011 forecasts.
- This robust growth highlights the increasing significance of naval and maritime security capabilities in overall defence spending.

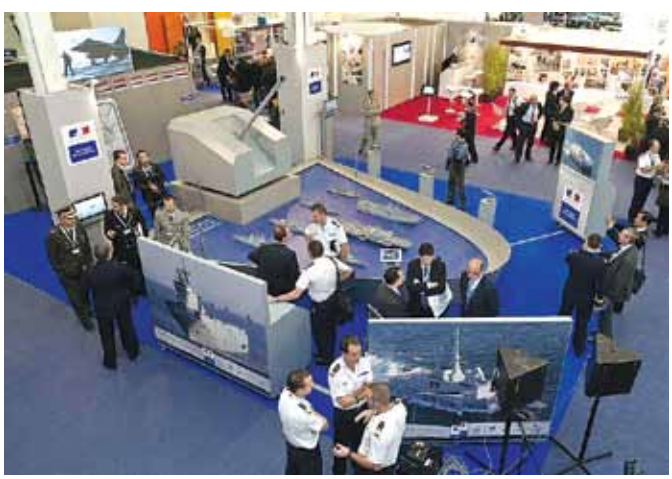
## Asia-Pacific overtakes US market

The Asia-Pacific naval market continues to show strong growth. The Asia-Pacific region has passed the US to become the world's largest naval market by volume comprising 1,066 vessels or approximately 28 per cent of the market over the next 20 years. This includes over 650 major and minor surface combatants and 116 submarines worth over $167 billion in the next two decades.

In the Middle East & North Africa (MENA), over 640 vessels totalling $54.7 billion are to be acquired. A majority will be for patrol vessels with major surface combatants, mine warfare vessels and submarines.

Naval shipbuilding programmes in Latin America appear to be stable through 2032. A growing number of countries in the region are seeking partners on design/build projects and making near-term investments, with 60 per cent of the region's forecasted new build hulls expected to be commissioned over the next five years.

Many NATO countries (excluding the US) continue to restructure their sea services and realign new ship programmes to optimise fleet structures in a resource constrained environment. Future procurements remain relatively flat with 524 ships and submarines forecasted to be built through 2032 totalling $179 billion.



PHOTOGRAPH: Defense.gouv.fr

The US market continues to show weakness due to ongoing fiscal issues. Despite slowdowns, the US remains the world's largest naval market by value with over $291 billion expected to be spent on nearly 1,042 new ships, submarines and craft through 2032.

GICAN has estimated:
- Worldwide order book for vessels: $150 billion for military orders, plus $300 billion for civilian orders.
- Europe order book (excluding Russia): $36 billion for military orders (24 per cent of world orders), plus $36 billion for civilian orders (12 per cent of world orders), i.e. $72 billion in total (16 per cent of world orders).
- France order book: $10 billion for military orders (6.7 per cent of world orders and 28 per cent of Europe's) plus $5 billion for civilian orders (1.7 per cent of world orders and 14 per cent of Europe's), i.e. $15 billion in total (3.3 per cent of world orders and 20.8 per cent of Europe's).

Estimates of activity values for new defence constructions, the principal countries can be classified as follows:
- USA, with an annual sales figure of approximately $10 billion.
- China, approximately $4 billion.
- France, Russia and the United Kingdom, around $2.5 billion to $3 billion.
- Germany, Japan, approximately $1.5 billion.

Be it for defence missions or economic development, the sea is seen now by all the stakeholders, customers and suppliers in the world as an area of increasing strategic importance. In terms of the market, Euronaval witnesses the fast-growing naval equipment demand since nations have realised the importance of what is called the 'fait maritime' (strategic and economical importance of seas and oceans).

Such awareness is accompanied by the necessity to dispose of the means to protect maritime borders and oil, mining and halieutic resources within the countries exclusive economic zones (EEZ). These new demands guarantee the high potential of development in the naval sector on an international scale for the years to come, and comfort Euronaval has a key place for world naval industry.

## Euronaval's DNA

The Euronaval's raison d'être is to simplify decision making for buying countries by offering a wide range of innovative solutions that can be applied to all contemporary naval issues. Sponsored by the French Government, Euronaval is the only professional international show exclusively dedicated to naval defence and maritime safety/security (MSS), covering surface vessels, submarines and naval aviation.

Since 1968, the exhibition takes place every second year in the French capital during five days and covers all the necessary means to carry out coastal and offshore missions: protection of naval sovereignty, law enforcement and peacekeeping at sea, protection of assets and natural resources, control of migration flows.

The 24th edition has 352 exhibitors from 28 countries. There are 10 nation pavillions – Australia, Brazil, Chile, Germany, India, Italia, Russia, Netherlands, United Kingdom and USA. In terms of exhibitors, Euronaval will welcome India and Australia, two new nation pavillions with professed ambitions in the naval sector. And Belgium, the United Arab Emirates and Turkey will also be present at the exhibition for the first time.

Over 55 per cent of the exhibitors are foreign companies. Over 90 official delegations from 65 countries have confirmed participation. The expected trade visitors has been put at 30,000.

## Trends and innovations

At Euronaval 2014, some of the most significant technical developments will be related to stealth and discretion issues and new technologies for reducing radar and acoustic signatures. The B2B events to develop new technical or commercial partnerships will be organised this year by the CCI Paris-Ile de France and the Entreprise Europe network.

Jean-Marie Carnet, the CEO of Euronaval, said: "Marine space is becoming increasingly strategic with 80 per cent of the volume of the world's trade travels by sea. With the inevitable depletion of land resources, states are now looking to the sea for energy, food and raw materials to provide for the nine billion inhabitants projected for 2050. All these objective data are the source of major schemes around marine spaces currently led by states, prompting them to become appropriately equipped to defend the interests of their respective populations. An increasing demand for equipment ensures global activity that is well-supported on an international level. The six major sectors of activities covered at Euronaval 2014 will answer these demands." SP

## Thales and Bharat Electronics form joint venture

Navratna defence public sector undertaking the Bharat Electronics Limited (BEL) and Thales have announced that the Ministry of Corporate Affairs, Government of India, has approved the incorporation of their joint venture (JV) company, BEL-Thales Systems Limited, in August this year.

This joint venture company will primarily focus on the design, development, marketing, supply and support of civilian and select defence radars for India and the global markets. The first board meeting of BEL-Thales Systems Limited took place on September 26.

BEL holds a 74 per cent stake while Thales holds the rest. The initial product portfolio of BEL-Thales Systems Limited will comprise innovative solutions for air surveillance, including air traffic management radars, and select ground-based military radars. The ultimate objective of the JV is to expand its scope in other fields than radars, in the defence electronics domain.

2D Low Level Light Weight Radar (Bharani)

BEL-Thales Systems will seek to work closely with the government laboratories and the Indian industry and will consequently become a decisive contributor for innovation in various fields of defence electronics.

Expressing his confidence in this JV, S.K. Sharma, Chairman and Managing Director of BEL, said: "We have always valued our partnership with Thales. We are confident that our JV company will benefit from the significant technology transfers and support from Thales, and from the extensive industrial and design skills of BEL."

Eric Lenseigne, Managing Director of Thales in India, said: "The incorporation of this joint venture company marks an important milestone in our 60-year-old association with BEL, and takes it to the next level. We will constantly support BEL-Thales Systems to become a centre of excellence, offering solutions specifically aimed at meeting the needs of both Indian and export customers – in line with the government's 'Make in India' approach." SP

## Boeing to open first Cyber Analytics Center in Singapore

Boeing will open its first Cyber Analytics Center outside the US in Singapore, to bring advanced cybersecurity capabilities and services to customers in the Asia-Pacific region.

The centre will help train and equip cybersecurity professionals, perform advanced analytics and serve as Boeing's regional cybersecurity centre of excellence. Boeing will hire and train cybersecurity professionals in Singapore.

"Boeing is a leader in cyber security from the US, and we warmly welcome Boeing's decision to establish the Cyber Analytics Center in Singapore," said Gian Yi-Hsen, director of the Singapore Economic Development Board's Safety & Security Industry Programme Office. "This centre is a first for Boeing internationally and a significant addition to the cyber security industry in Singapore to meet the growing demands of the region." SP

## Cassidian Optronics now Airbus DS Optronics

Effective October 1, 2014, Cassidian Optronics is a 100 per cent subsidiary of Airbus Defence and Space, and will operate as Airbus DS Optronics GmbH. This concludes the integration process started in October 2012. Since then, Airbus Defence and Space has held a 75.1 per cent share of the former Carl Zeiss Optronics GmbH subsidiary of Carl Zeiss AG with headquarters in Oberkochen. Both companies have agreed not to disclose the price of the final 24.9 per cent share.

The Management led by CEO Ralf Klaedtke will remain unchanged. Also, the alteration to the company's name and the complete change of ownership will not entail any changes for the suppliers, customers and employees of the company. With approximately 800 employees at its German sites in Oberkochen and Wetzlar as well as in Irene (South Africa), Belo Horizonte (Brazil), Seoul (South Korea) and Sidi bel Abbès (Algeria), Airbus DS Optronics develops, designs and produces optronic, optical and precision-engineered products for military, civil and security applications.

These are used globally by armed forces and security personnel for monitoring, identification and classification purposes, as well as for precise measurement, evaluation and targeting. The optronic products are used for land, air, sea and space missions on a variety of platforms. These include submarines and armoured vehicles as well as aircraft, satellites and UAVs. SP

## Germany's Jenoptik signs agreement with Raytheon

Raytheon and Germany's Lechmotoren, a company of the Jenoptik Group, signed a letter of intent to cooperate in mutually beneficial business opportunities related to Germany's air defence architecture, as well as significant exports to global markets.

The companies will examine opportunities in current international projects with Jenoptik state-of-the-art equipment. Jenoptik presented a prototype of their next-generation technologies such as the new Jenoptik Patriot hybrid power supply to Raytheon and Bavarian members of parliament, which initiated discussions about the significant fuel and maintenance cost reductions it would result in.

"We are very proud that this long-term partnership with Raytheon assures the ongoing success in serving international markets out of our Bavarian site," said Stefan Stenzel, Executive Vice President and Head of Jenoptik Defense & Civil Systems division.

"Jenoptik is a reputable company and we look forward to establishing a long-term relationship with them on future opportunities related to the TVLS programme, Global Patriot and beyond," said Doug Patrick, Director of Integrated Air and Missile Defense Supply Chain, Raytheon Integrated Defense Systems. SP

PHOTOGRAPH: BEL

## Getting too close to celebrities

A Ukrainian man, who was arrested after police, said he rushed and touched Brad Pitt at the premiere of the Angelina Jolie movie *Maleficent*. He is a former journalist with a history of getting too close to celebrities.

Vitalii Sediuk was jailed recently on suspicion of misdemeanour battery at the El Capitan Theatre in Hollywood and was held in lieu of $20,000 bail, police said. Sediuk has previously crossed the line with celebrities, most recently rushing America Ferrara on a red carpet at the Cannes Film Festival and crawling under her dress.

He crashed the 2013 Grammy Awards and was arrested after he went onstage and grabbed a microphone before Adele accepted an award. He pleaded no contest to trespassing and remains on probation.

In 2012, Will Smith slapped Sediuk after he tried to kiss him on a red carpet, and he drew Madonna's ire a year earlier by presenting her a bouquet of flowers.

In the latest incident, Sediuk is accused of jumping over a barrier in a fan area and rushing at Pitt along the red carpet, touching him briefly before security guards wrestled Sediuk away in handcuffs.

Police could only confirm that he made contact with Pitt and could not classify it further. Pitt was apparently unhurt and resumed signing autographs before walking into the theatre. SP

PHOTOGRAPH: www.popsugar.com

## Bihar CM's security guards enter zoo with arms

Bihar Chief Minister Jitan Ram Manjhi's security guards entered the Sanjay Gandhi Biological Park with firearms, flouting the executive direction of former Chief Ministry Nitish Kumar.

Manjhi entered the zoo premises to attend an official function with three of his security guards carrying arms barely eight months after his predecessor Nitish issued the executive direction prohibiting entry to the Sanjay Gandhi Biological Park with firearms. A source said the guards were not ignorant about the norm, according to a report in *The Telegraph*.

*The Telegraph* report quotes that the Principal Chief Conservator of Forests, Bihar, B.A. Khan, "No one is allowed to enter the zoo with firearms, not even the Chief Minister's security guards. They are required to leave their firearms at the entrance of the zoo."

The Director General of Police (DGP) P.K. Thakur, however, claimed that no compromises should be made with the Chief Minister's security. "The Chief Minister is entitled to Z+ security category because he is perpetually under threat for various reasons. He would be vulnerable to threats if proper security is not provided to him all the time." The DGP said the prohibition on the entry with firearms to the zoo was basically focused on VIP morning walkers.

"The Chief Minister had gone to the zoo today to attend an official programme, thus his security was a must. The ban on firearms on the zoo premises was basically for the security guards coming with the VIP morning-walkers. The directive was issued after repeated complaints were made against the crowding of the zoo because of too many security guards in the morning."

Brij Kishor Prasad, the evaluation and monitoring officer of Central Zoo Authority (CZA) — the national regulatory agency for zoos—differed. He said firearms were prohibited on the zoo premises across the country. "CZA does not allow entry of people in the zoo with firearms for protection of the wildlife," said Prasad. SP

## Kmart stores security compromised

Sears said it was the victim of a cyber attack that likely resulted in the theft of some customer payment cards at its Kmart stores, the latest in a series of computer security breaches to hit US companies and dealing a fresh blow to the struggling US retailer.

The US Secret Service confirmed it was investigating the breach, which occurred in September and compromised the systems of Kmart, which has about 1,200 stores across the United States. The breach did not affect the Sears department store chain.

A Sears spokesman said he could not say how many credit and debit card numbers had been taken. He added that the personal information, debit card PIN numbers, e-mail addresses and social security numbers of its customers remained safe.

Security professionals said they were not surprised to learn that yet another major retailer was reporting a breach, adding they believe many big merchants do not have adequate systems for detecting cyber attacks, which means they still remain easy prey for hackers.

"This is going to continue indefinitely until people change their practices," said Shawn Henry, a former senior cyber cop with the FBI who is now of the president of cyber forensics firm CrowdStrike Services. Security experts say retailers have traditionally not invested enough in security, partly because of the industry's relatively thin profit margins. SP

FICCI

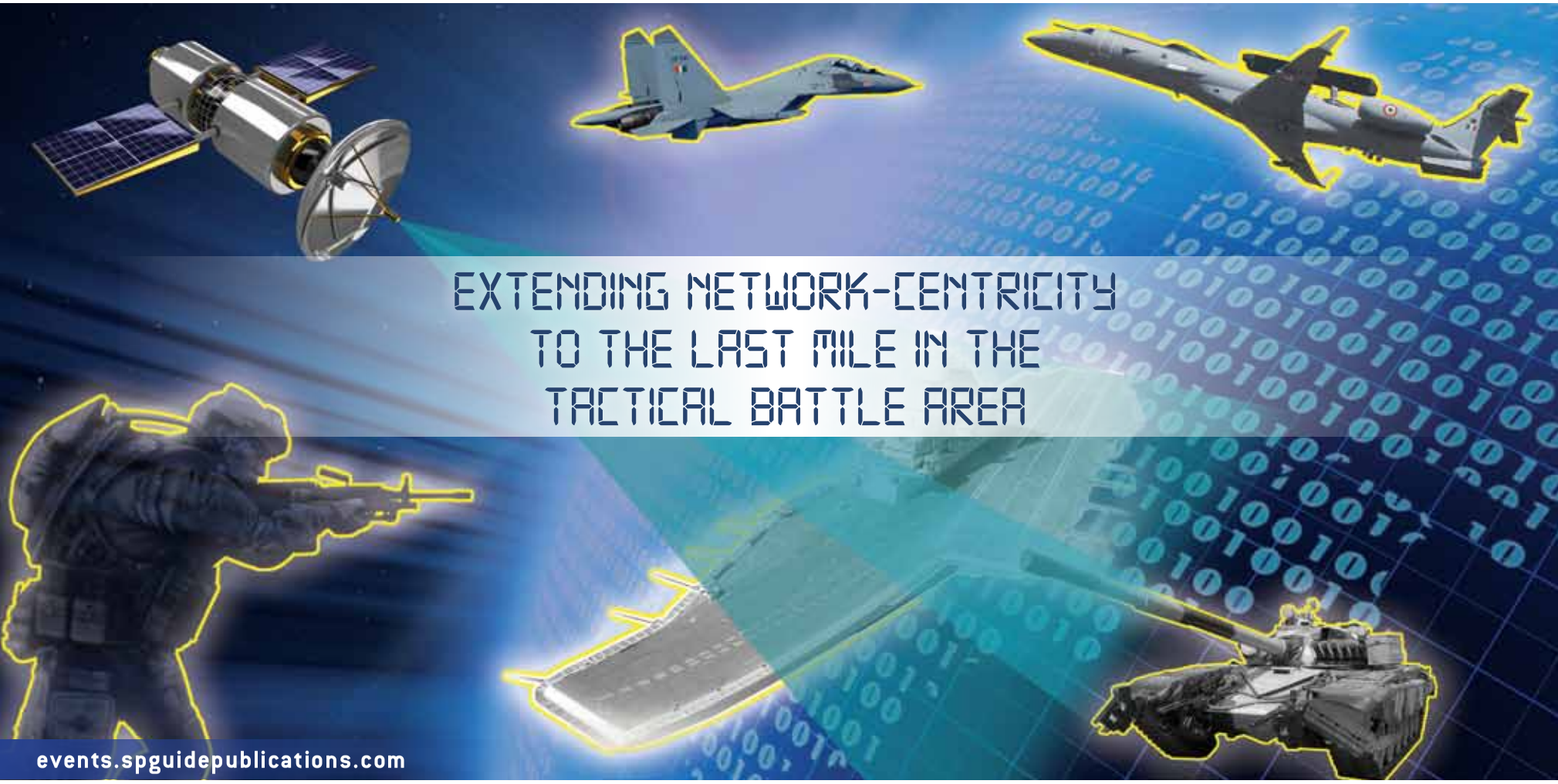
International Seminar on

# DIGITISATION *of* BATTLEFIELD

October 27, 2014

1964-2014 50 YEARS OF SP'S

SP GUIDE PUBLICATIONS



## EXTENDING NETWORK-CENTRICITY TO THE LAST MILE IN THE TACTICAL BATTLE AREA

events.spguidepublications.com

**OUR PARTNERS**

Elbit Systems · CISCO · Rockwell Collins · LARSEN & TOUBRO · Honeywell · TATA · TATA POWER SED · Gilat · KALYANI · BHARAT FORGE