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# Upgrade of Mirage 2000 A shot in the arm

Page 13



## Musicians change but not the music

PAGE 9



## Boost to indigenous AWACS programme

PAGE 15

### FROM THE

EDITOR'S DESK

4

SECURITY BREACHES

22

### MILITARY

Report

7

Viewpoint

10

Updates

11

### AEROSPACE

Developments

### INTERNAL SECURITY

Safe Cities

18

Border Management

19

Cyber Security

20

Supply Chain Security

21



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Narendra Modi, Hon'ble Prime Minister of India



While we at SP's cherish our journey started in 1964, founded by our Founder Editor and Founder Publisher Shri S P Baranwal; we do believe that the entry into 51st year and beyond is just a beginning for us. We therefore look forward to constantly evolving and expanding our qualitative efforts during coming years and coming decades.

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## Evacuation of Indian nationals from Aden by the Indian Navy and the Indian Air Force

Consequent upon the Government of India issuing an advisory for Indian nationals to leave Yemen, the Indian Navy has deployed three ships in support of the evacuation operation. In a well coordinated operation involving multiple agencies, INS Sumitra, an offshore patrol vessel, which has been deployed for anti-piracy patrol in the Gulf of Aden since March 11, 2015, was the first to undertake evacuation from Yemen. The ship was re-deployed off the Port of Aden on March 30, 2015, and thereafter, entered Aden Harbour in the evening of March 31, 2015. The ship evacuated 349 Indians from Aden and is currently on passage to Djibouti. On disembarkation of these per-



sonnel at Djibouti, the ship is scheduled to return to Aden to undertake further evacuation, if required.

Indian Navy ships Mumbai and Tarkash also sailed from Mumbai on March 30, 2015. The ships will escort two passenger vessels, Kavaratti and Corals, through the piracy risk area off the Coast of Somalia. These passenger vessels had sailed from Kochi on March 30, 2015, to Djibouti. The two warships will, thereafter, be available for evacuation of Indian nationals from Yemeni ports, as required.

The Indian Air Force (IAF) deployed two heavy transport aircraft with alacrity, in support of evacuation operations. In a well coordinated operation involving multi agencies, IAF deployed two C-17 Globemaster III aircraft on April 1. These two aircraft brought back people evacuated from Yemen to India. The first IAF C-17 aircraft landed at Kochi at 0147 hrs carrying 168 passengers and the second C-17 landed at Mumbai at 0324 hrs carrying 190 passengers. **SP**



### Cover:

Upgrade of the Mirage 2000 fleet will provide the much needed relief to the Indian Air Force and a shot in the arm for its combat fleet.

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## It is not music to the ears!

**W**e expected it to be, but it isn't. When the Narendra Modi government came to power last year around this time, the nation expected major reforms that would accelerate the pace of economic development, enhanced national security and to use their own terminology 'acche din.' While we acknowledge that global and national perception changed considerably with Modi coming to power that India now had a strong leader whose only agenda was development, on the ground things have not changed as expected. We have been talking to a cross section of industry people, not just in aerospace and defence but different sectors too, and what we hear is that – except the perception nothing else has changed. In this issue, we have an foreign OEM who has expressed this concern in no uncertain terms, on how several projects have been held up, while the rhetoric continues. If clearances are given, they must be followed by finalisation of contracts and concrete actions so that our armed forces finally have something to cheer about.

Are we judging the government a bit too early? Maybe, but then it was them who built castles in the air that they would turn things around in no time. We still believe they can do it and we hope that they will deliver.

National security needs are utmost, considering the tensions that prevail on our borders and the government while it pushes its 'Make in India' programme, would do well with necessary acquisitions post-haste. Diplomacy is one aspect, being prepared is another. The Prime Minister will be visiting China end of May and there are many contentious issues that need to be resolved. It is hoped that the border row will not impinge on evolving relations of multifarious cooperation between the two Asian giants and this aspect has been analysed by Ranjeet Kumar.

China, we all know, is a growing military might and it has increased its defence budget by 10 per cent, besides investing heavily in infrastructure projects which will have ramifications in the region generally and India specifically. Lt General P.C. Katoch (Retd) has been unequivocal in his viewpoint on how China's aggressive behaviour can unshackle India, unless we overhaul our defence preparedness.

In another viewpoint, Lt General Katoch writes about the looming threat of nuclear weapons from Pakistan which is said to be in possession of about 120 nuclear warheads. He has cited US reports which states Pakistan has the fastest growing nuclear programme in the world. Considering these two neighbours, India will have to considerably shore up its defence. Not doing so will be at our peril, he cautions.

Defence modernisation is topmost and the good news here is that we have the upgrade of the Mirage 2000 fleet which will provide the much needed relief to the Indian Air Force and a shot in arm for its combat fleet. Air Marshal B.K.Pandey (Retd) has termed March 25 as 'Red Letter Day'. Around the same time, the Ministry of Defence has given a big push to the Defence Research and Development Organisation (DRDO) promoted indigenous airborne warning and control systems (AWACS) programme. The defence acquisition council has decided to provide six Airbus A330 aircraft, a major boost to the programme. We expect the government to shift into top gear with regard to all programmes.

Happy reading!

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





LT GENERAL  
PC. KATOCH (RETD)

# Chinese defence budget – increasing asymmetry



Chinese developed J-11 air superiority fighter in service with the PLAAF

**Much that we may avoid the issue, the PLA is far ahead throughout the spectrum of conflict: nuclear, conventional, subconventional and cyber-space. And these asymmetries will be widened further with the steady double-digit increase in the defence budget.**

China's massive defence budget 2015, pegged over \$144 billion (about 890 billion RMB) with an increase of 10.1 per cent over the previous year, should be of concern to us. It may be safely assumed that if this is the official Chinese announcement, the actual figure would easily be around \$200 billion or more considering the People's Liberation Army's (PLA) business empire. In addition to this is colossal amounts of money (other than the defence budget) that China is investing through development initiatives, particularly on port projects ringing the Indian Ocean region for strategic aims, which boil down to creeping forward deployment of the PLA since all such projects are either through PLA owned or PLA affiliated companies and more importantly have PLA presence as overseers, advisors, technicians, workers in the garb of civilians.

Post the defence budget announcement, the PLA media spokesperson during the press briefing at Beijing was questioned: maintaining double-digit increase in defence budget past five years hyping 'China threat,' how will the increase be used and distributed, and what measures PLA has taken post the March incident where death and injuries of Chinese occurred with a bomb dropped by a Myanmar aircraft astride the China-Myanmar border? The PLA spokesperson responded that the overall defence budget 2015 amounts to RMB 911.49 billion taking into account defence budgets of 'local government'. The increased part of the budget will be used for R&D of weapons and equipment; improve military training; better salaries and welfare of military personnel; and, military reforms in multiple fields. He stressed that China's defence budget increase is appropriate and reasonable, and compared with



People's Liberation Army (Navy) frigate Sanming (FFGCHM 523)

some other countries in terms of per capita defence budget or the ratio of the defence budget to national GDP, China's defence budget is relatively small.

With respect to the incident on the China-Myanmar border, he stated that PLA border defence troops have increased the frequency of border patrols, set up more sentry posts, and beefed up control and management in the important passages and sensitive areas in addition to PLA Air Force (PLAAF) strengthening air situation monitoring in China-Myanmar border area and conducted emergency response to safeguard the sovereignty of China's territorial air. Referring to the continuing double-digit increase in the Chinese defence budget, Chinese scholars maintain that the defence budget is no longer tied to economic performance and that defence spending is 'sacrosanct' and 'untouchable'. Such policy is authenticated since China has gone ahead with a 10.1 per cent increase in defence spending despite the fact that her economic growth is unlikely to cross 7 per cent. They attribute this to political decision 'across the board,' but then dissent would hardly be tolerated with CCP's hold through every echelon and Mao's legacy dictum that power flows from the barrel of the gun.

Interestingly, external voices supporting increase in China's defence budget came from Cambodia where in addition to scholars voicing support, Phay Siphon, spokesperson for Cambodia's Council of Ministers, stated, "The rise (Chinese defence budget 2015) is reasonable and in line with China's defence needs. There is nothing strange about this." But it is well known that the Chinese investments in Cambodia and Laos have been massive to the extent of buying their opinion within the ASEAN. For India, the increase in China's defence budget needs to be viewed in the backdrop of A.K. Antony's decade as Defence Minister where forget the lull in modernisation, there was regression to the extent that even former diplomats remarked that the military had been brought down to the level of 1962 asymmetry with the PLA. Our defence-industrial complex remained comatose, laced with endemic inefficiency and corruption. The result today is that with glaring voids in inventories, it is officially acknowledged that 50 per cent of equipment holdings of

our military are obsolete. This in addition to CAG reports pointing out that 30 per cent of indigenous defence equipment provided to the military by the DRDO-DPSUs-OF is substandard.

Much that we may avoid the issue, the PLA is far ahead throughout the spectrum of conflict; nuclear, conventional, subconventional and cyberspace. And these asymmetries will be widened further with the steady double-digit increase in the defence budget. China successfully test flew a hypersonic vehicle last year and has introduced stealth fighters, stealth UAVs, helicopters, vessels and submarines are to follow. China aims parity with the United States in science and technology in three decades. Compare this with our taking 15 years to develop the INSAS assault rifle that is nowhere near the top 10 in the world, the decades taken to develop the yet to be inducted Tejas aircraft, 31 years after Project Akash was sanctioned in 1984 news coming in that Army may get it finally albeit an interim model rejected in Army trials was simply dumped onto the Air Force to beef up point and aread air defence. These are just few examples.

We are minnows in cyberspace compared to the PLA and nowhere in electromagnetic warfare while PLA has been training 600 personnel in this type of warfare since past three years. China's 24 x 7 surveillance across the borders, designs on the IOR and deployment of missiles in Gilgit-Baltistan, and increasing offensive capabilities provide her the wherewithal for adventurism and brinkmanship against us.

Revolution in Military Affairs (RMA) was ushered into the PLA by Jiang Zemin and continues to be overseen by the CGS of PLA. The term would be foreign to our concerned polity and generalist and unaccountable bureaucrats of the Ministry of Defence (MoD). Despite the hype that our China Study Group consults the Services results on ground show we are unable to even read the strategic intentions of China. The last NSA speaking at Harvard recently never went beyond the hunky-dory policy of the previous government despite serious Chinese intrusions, intrusions and nibbling away some 645 sq km of our territory in Ladakh alone as brought out through the Shyam Saran Report. Confusion within our government ministries is apparent. Two years back, the NSCS warns against electronic equipment of Chinese companies Huawei and ZTE because of their links with PLA and possibility of embedded vulnerabilities in but within four months the Ministry of Home Affairs (MHA) opened the doors for them in India. Presently, the Ministry of External Affairs (MEA) has announced visa on arrival for Chinese nationals amidst protests by MHA; China need not now smuggle individuals with fake Indian identity across the LAC to meet insurgents in north-east. The question is will this government continue to ramble along in a manner similar to earlier ones or take stock of the situation and act; review defence allocations; remodel higher defence structures and the MoD plus the defence-industrial complex bringing in military professionals; define a national security strategy and national security objectives; order a comprehensive defence review; and, establish credible deterrence against proxy war? Not doing so will be at our peril. **SP**

# Modi to visit China – multiple challenges



Prime Minister Narendra Modi with the Chinese President Xi Jinping in New Delhi on September 18, 2014

**The issue of India joining Chinese-led trade routes will once again figure prominently during the forthcoming visit of Prime Minister Modi to China.**

[ By Ranjeet Kumar ]

**S**ummits after summits have failed to resolve the contentious border issue between India and China and once again all eyes are now on the May end visit of Prime Minister Narendra Modi to China. These summits have indeed resulted in political bonhomie in the capitals and assertions and commitments from both the sides to maintain cordial relations between the two countries, and do not allow the border row to impinge on evolving relations of multifarious cooperation at various fronts between the two Asian giants. However, the bonhomie in the capitals have not transformed in relaxed atmosphere on the 4,000 km line of actual control (LAC).

Resolving bilateral disputes and issues with China have proved to be the most challenging on the foreign policy front. China has not only shown obduracy and aggressive behaviour on the huge 4,000 km long LAC but also challenges and teases India on the international trade highway projects, by indulging in nefarious infrastructure development games in countries like Sri Lanka and Maldives. India seems to be suspicious and apprehensive on many of the Chinese offers to join its ambitious international projects like the One belt One road and Maritime Silk Road projects, trans-Himalayan corridor linking Tibet, Nepal and India. China has also offered to extend the China-Pakistan economic corridor to India, China has been convincing India to initiate work on the development of BCIM cor-





The State Councillor and Chinese Special Representative Yang Jiechi with Prime Minister Narendra Modi in New Delhi on March 24, 2015

ridor, which runs through Yunnan province of China, Myanmar, Bangla Desh and India. These were the issues taken up during the visit of the Chinese State Councilor Yang Jie Chi from March 22 to 24. Though India has pleased China by joining the Asian Infrastructure Investment Bank as a founder member, India remained non committal on Chinese mega trade highway projects.

The visit of the Chinese State Councilor Yang Jie Che as the Special Representative of the Chinese Prime Minister on boundary and territorial issues has expectedly not produced any concrete result, but when he met the Prime Minister Narendra Modi, he hoped that concrete outcomes from his mid May visit to China will emerge and will take the relationship to a new level. The September end visit of Chinese President Xi Jin Ping has definitely not assisted in the forward movement of the contentious boundary and territorial issues. And the forthcoming visit of Prime Minister Narendra Modi to China in late May does not seem to be very result oriented though the two countries will continue to tell the world that relations are warm and stable between the two sides. The first ever boundary negotiations under the new regimes of Prime Minister Modi and Chinese President Xi Jinping has also not officially talked of any forward movement. After the conclusion of the talks the External Affairs Ministry spokesman Sayeed Akbaruddin repeated the usual, "The talks were marked by cordiality and candour and were held in a constructive and forward looking atmosphere."

The Chinese side made a clever offer to India to initiate a new dialogue on the Code of Conduct for the 4,000 km long LAC, but India seems to have refused to even entertain the idea, which proposes that both sides should not plan or build new infrastructure projects on both sides of the LAC. As India is a late comer in infrastructure construction like mountain rail and road projects and forward air strips, India will be put to tactical disadvantages, if it agrees to the Chinese demands, India certainly cannot think of leaving the entire inaccessible border areas to the mercy of the Chinese forces. India needs to develop the backward areas near the LAC, so as also to uplift the living standards of the border population and economically integrate them better with the rest of the country. On the other hand India repeated its earlier requests to the Chinese border team in Delhi to agree for early demarcation of the 4,000 km LAC, to avoid confrontation on the LAC. Expectedly there was no positive response from the Chinese side.

According to Srikanth Kondapalli, noted China expert, "very tactfully the Chinese side had shifted the discourse towards the eastern side of the territorial dispute and refuses, since the first Special Representative meeting, to discuss the Aksai Chin and contiguous areas. Also, China's military leaders visits to Aksai Chin go unnoticed with hardly any criticism from Indian side."

However, after the talks China seemed to be moving positively towards Indian stand that early resolution of the border and territorial issues will lead to removal of major bottlenecks in the bilateral relations. China also expressed its readiness to achieve more progress in finding a solution to the very complicated issue.

China perhaps is realizing that its grandiose economic infrastructure plans will not succeed if India is not taken on board. India is a vital link in the grand Chinese designs and taking India along will increase the weight, significance and fruitfulness of Chinese economic and trade routes. According to Indian diplomatic sources, India will be amenable to join Chinese infrastructure projects if it's fears of Chinese strategic dominance are dissipated. Much will depend on the Chinese forward movement on border issues, which will persuade Indian strategic planners to be more amenable to Chinese insistence to join its projects. It will also be in India's interest to join the Chinese initiated projects, but India must insist that India will participate in these as equal partner and part of the infrastructure projects falling in Indian area of influence will be handed over to India for development. For example if China maintains a good distance from countries like Maldives, Sri Lanka and Seychelles etc., It will assuage India's concerns.

India's fears of Chinese dominance in the Indian Ocean region will subside. China must also ensure that its all weather friendship with Pakistan does not cast an evil eye on India's national interests. India also needs to be reassured that Chinese side will open its market for Indian pharma, agriculture and IT products, in the absence of which the trade balance remains heavily tilted in favor of China, which had reached to a figure of \$70 billion. If China has to rise fast as a power to the global level it must dissuade India from falling in the lap of western alliances of US, Japan and Australia. Both India and China are already cooperating in multilateral fora of leading developing countries like the BRICS and the India, China, Russia trilateral grouping. These multilateral groupings have strong potential of emerging as rival to western led alliances, provided China is able to cajole India to join its bandwagon, through the carrot of an early resolution of border disputes.

The issue of India joining Chinese led trade routes will once again figure prominently during the forthcoming visit of Prime Minister Narendra Modi to China in mid-May.

Both the countries must come to a common understanding on the future of Afghanistan and China must not view Afghanistan through the Pakistani prisms. There is lot of scope for India and China to cooperate in stabilising South and Central Asia, which are the new growth and investment areas for India and China. Taliban and other extremist forces can only be tamed if China and India come together. Only China can convince Pakistan to shed its anti - India strategy of using Afghanistan as strategic depth and promoting Taliban. If China wants to fast forward its silk routes projects it must take into account India's concerns - both bilaterally and multilaterally and stop viewing India through the prism of Pakistan. In order to win India's support, China must also come out with a positive stand on India's aspirations to join the United Nations Security Council, the Nuclear Suppliers Group and other export control regimes. SP



# Musicians change but not the music

*Despite the declared intention of the new government to bring about changes in the defence procurement system such as to reduce the time taken to complete the acquisition process, inclusion of the private sector to bid for tenders and end the monopoly of the defence public sector undertakings (DPSU), nothing much seems to have been done so far.*

**A**fter more than one year that the musicians have been changed, the music continues to remain the same. The most favourite tune is “New deal declared”. But the fact is that the deal remains declared only!

Despite the declared intention of the new government to bring about changes in the defence procurement system such as to reduce the time taken to complete the acquisition process, inclusion of the private sector to bid for tenders and end the monopoly of the defence public sector undertakings (DPSU), nothing much seems to have been done so far.

Tenders under processing for years with the previous government, still await their turn of finalisation despite the fact that nearly a year has gone by since the new government has taken over. Some of these are:

- **Scorpene class submarine:** No decision taken yet on the tender for weapon systems for the Scorpene class submarines. This will undoubtedly undermine its operational capability and consequently impinge on India's national security interests.
- **Medium multi-role combat aircraft (MMRCA):** Although the tender was floated in August 2007 and the Rafale from Dassault Aviation was declared as the selected aircraft, the matter continues to linger. Contract negotiations persist endlessly without any clear indication on the final destination of the contract.
- **LUH helicopter tender:** Several years after the tender for 197 light utility helicopters (LUH) was floated, the tender has finally been cancelled. The armed forces are left high and dry without the LUH, a platform they badly needed.

‘Make in India’ is the new slogan these days all around. However, companies that are already partnering activity with the DPSUs in projects where the Made in India content is 50 per cent or more, are rather penalised due to the lack of decision-making towards “go ahead” for a number of contracts that are awaiting final clearance by the government.

Off-set banking for up to a million euros as requested by companies offering high-end technology is still awaiting clearance.

Foreign companies are welcome to come to India to invest in technology. However the mute question is how a company can decide to invest in India with the factors below:

- To finalise a tender is required more than seven to eight years.
- There is no clear advantage for foreign companies in forming joint ventures with Indian companies both in respect of winning contracts and the time frame for their finalisation and award after being declared as the lowest bidder.
- The Indian bureaucracy has a stranglehold on all matters concerning national security as well as the requirement of the armed forces.
- India is a nation where complaint from any quarters can paralyse the defence acquisition process. Even while the affected company may try and disprove allegations, both the reputation of the company and its business interests are seriously damaged. In the process, those that help create the problem ultimately stand to benefit.
- Business oriented companies cannot afford to wait endlessly to recover the investments made in India.

Finally, the frustration of foreign companies that are completely blind with regard to the bureaucratic procedures is too steep. For years the companies involved in the tendering process have received no response to their offers against the tender or subsequent queries. Letters written to the concerned authorities are possibly consigned to the dustbin at the earliest opportunity.

Does this scenario call for radical changes in the procedure and attitude of those in charge to make India an attractive destination for foreign investments? Need to be answered. **SP**

— Name withheld on request



LT GENERAL  
P.C. KATOCH (RETD)

# Pakistan's Tactical Nuclear Weapons

**The fact is that while Pakistan has continued to tread on the path of terrorism, the TNWs are adding a more dangerous dimension to it under the protective cover of the US administration and Saudi Arabia**

PHOTOGRAPH: Pakistan Army

**A**t a recent event at Carnegie Endowment, a Washington, DC-based think tank, Khalid Kidwai, a former Pakistani General who reportedly was custodian and planner of Pakistan's nuclear security and strategy for many years and Adviser to Pakistan's National Command Authority, advocated that Pakistan needs Tactical Nuclear Weapons (TNWs) to deter India's Cold Start doctrine, which is aimed at a quick punitive military strike in the event of another Mumbai-style operation by Pakistani intelligence. He insisted that development and deployment of TNWs actually made war less likely because India had had to rethink the Cold Start strategy.

Pakistan's TNWs have been in the news past few years. In its February 2015 update, the Arms Control Association assesses Pakistan has 100 to 120 nuclear warheads. But Wikipedia says Pakistan already had 120 nukes in February 2013 which is two years back. The Council of Foreign Relations of the US recently stated, "Pakistan has the fastest growing nuclear programme in the world. By 2020, it could have a stockpile of fissile material that, if weaponised, could produce as many as 200 nuclear devices." The "if weaponised" part is actually redundant. Considering the various reports of Pakistan feverish pitch to increase her nuclear arsenal and the capacity of the fuel for the purpose through the Chinese reactors installed/being installed purportedly for nuclear energy for civil purposes, it may be assumed that present Pakistani nuclear warheads may actually number around 160 to 180. Interestingly, while discounting the possibility of nuclear warheads falling into the hands of terrorist organisations, Kidwai said that Pakistan's Shaheen-III missile, test-fired recently with a 2,750-km range, was aimed at countering India's second-strike capability, possibly from bases it was developing in the Andaman and Nicobar Islands on the far side of India's east coast, adding that the strength of the rest of Pakistan's nuclear arsenal, the fear of "mutually assured destruction" of the South Asian rivals would ensure that 'sanity prevails'.

Incidentally, the Shaheen-III missile has a range of 2,750 km, giving it the capability to reach every part of India — but also potentially to reach into the

Middle East, including Israel. Pakistan, however, says her nuclear programme is only India specific. The fulcrum of Pakistan's TNW is the Nasr missile having a range of 60 km. Pakistan's development of smaller warheads built for use on battlefields, in addition to longer-range weapons, has increased international concerns that they could get into rogue hands because of the pervasive threat of militants in the country.

What is causing more worry is that Pakistan's nuclear strategy includes developing nuclear warheads for deployment at sea; both in surface vessels and submarines. Pakistan had already established her Naval Strategic Force command in 2012 and Shireen Mazari, former Director of the Pakistan's Institute of Strategic Studies based at Islamabad, had admitted, "We are on our way, and my own hunch is within a year or so, we should be developing our second-strike capability." Michael Krepon, co-founder of Stimson Centre, has said, "The assurances Pakistan has given the world about the safety of its nuclear programme will be severely tested with short-range and sea-based systems, but they are coming .... "A cardinal principle of Pakistan's nuclear programme has been, 'Don't worry; we separate warheads from launchers.' Well, that is very hard to



Test-fire of short-range surface-to-surface missile Hafth IX (Nasr)

do at sea." Being a rogue nation that has a state policy of terrorism, is controlled by its military-ISI with deep deniable links with multiple terrorist organisations, and where part of the political organisation and administration too is linked with radicals both for ideology and survival, to say that these weapons would not fall into hands of radicals, cannot be believed.

The second issue is that if TNWs are needed against India's Cold Start doctrine, would you really need them in such big numbers? Do you see them being used all over on only in plains sector against Strike Corps? Isn't it most stupid to think India will not react to TNWs, in complete contrast to what is indicated in India's nuclear doctrine—a second strike against nuclear attack (read irrespective at any level). Lastly, what about a nuclear accident at sea? Will that not trigger escalation? The fact is that while Pakistan has continued to tread on the path of terrorism, the TNWs are adding a more dangerous dimension to it under the protective cover of the US administration and Saudi Arabia. **SP**





## India and Japan hold defence dialogue

**T**he Defence Minister Manohar Parrikar paid a bilateral visit to Japan from March 29 to April 1, 2015, at the invitation of the Minister of Defence of Japan, General Nakatani.

The meeting was held in a constructive, friendly and forward looking atmosphere. The two Ministers briefed each other on the security environment surrounding each country and their respective defence policies. They reviewed strategic developments relating to international security situation with emphasis on the inter-connected Asia-Pacific and Indian Ocean regions. They were of the view that in the inter-connected Indo-Pacific region, India-Japan Special Strategic and global partnership has a key role in maintaining peace and stability in the region. Nakatani briefed on Japan's recent efforts related to Japan's security policy.

The two Ministers welcomed the progress made in bilateral defence exchanges following the signing of Memorandum of Cooperation and Exchanges in the Field of Defence during the

visit of Prime Minister Narendra Modi to Japan in September 2014 and emphasised the need to further strengthen and elevate bilateral defence relations. They appreciated ongoing maritime cooperation as exemplified by bilateral Japan-India Maritime Exercises and participation of Japan Maritime Self Defence Force in India-US Joint Naval Exercises 'Malabar 14' in July 2014, which was held off the coast of Japan.

The two Defence Ministers noted the progress made in discussion in the Joint Working Group (JWG) on Defence Equipment and Technology Cooperation (JWG-DETC). They were of the view that India and Japan have the potential in the area of defence equipment and technology cooperation, which can emerge as a key pillar of bilateral defence relations. They exchanged views on potential projects for cooperation in this area and emphasised the need to pursue mutually beneficial future cooperation projects.

In order to further enhance the cooperative relations in India-Japan Special Strategic and Global Partnership between the defence authorities, the two Ministers shared views to conduct cooperation and exchanges, including: Continue the high-level exchanges including the Ministerial meeting on an annual basis; The Defence Minister of Japan will visit India in 2016; Hold the 4th Vice-Minister/Defence Secretary level Defence Policy Dialogue and the 3rd Vice-Minister/Secretary level '2 Plus 2' dialogue in Delhi at the beginning of April, 2015; Visits by Service Chiefs on reciprocal basis; Continue to promote exchanges on UN Peacekeeping Operations between Centre for UN Peacekeeping (CUNPK) of the Indian Army and Japan Peacekeeping Training and Research Center (JPC) of Joint Staff College, Central Readiness Force (CRF) of Japan Ground Self Defence Force (JGSDF); Continue to conduct bilateral exercises between Japan Maritime Force's and Indian Navy on a regular basis; Conduct expert exchanges in Humanitarian Assistance/Disaster Relief and Counter Terrorism between both Indian Army and Japan Ground Self Defence Force (JGSDF); Conduct staff talks, professional exchanges of test pilots between Japan Air-Self Force and Indian Air Force and exchanges between their air transport squadrons; and Enhance discussions on future cooperation in defence equipment and technology. **SP**

## Vice Admiral P. Murugesan assumes charge as Vice Chief of Naval Staff

**V**ice Admiral P. Murugesan, AVSM, VSM assumed charge as Vice Chief of the Naval Staff on March 31, 2015. In a ceremony held at the South Block lawns earlier during the day, Vice Admiral P. Murugesan was received by Vice Admiral S.K. Jha, Chief Hydrographer and Commodore V.K. Garg, station commander Delhi area and a ceremonial guard of honour was accorded to him.

Vice Admiral P. Murugesan was commissioned in the Indian Navy on January 1, 1979. He is a recipient of the President's Gold Medal as a Cadet in the Naval Academy, Sea Cadet's 'Telescope' during Cadet Afloat Training and 'Sword of Honour' as a Midshipman. After the initial sea appointments, he specialised in Navigation and Aircraft Direction by securing first position in his class and served onboard frontline fleet ships. He has been the commissioning crew of the first ship of 1241 RE (Veer class missile boats) and has undergone training in Russia. He has held various prestigious operational and staff appointments, both afloat and ashore.



For his distinguished service, Vice Admiral P. Murugesan was awarded with VSM and the AVSM in 2008 and 2011 respectively. **SP**

## Vice Admiral Sunil Lanba takes over as Commander-in-Chief of Southern Naval Command



Exchange of baton between the outgoing and incoming Commander-in-Chiefs

**I**n a ceremonial parade held at the naval base recently, Vice Admiral Sunil Lanba PVSM AVSM took charge as the Flag Officer Commanding-in-Chief of the Southern Naval Command from Vice Admiral S.P.S. Cheema, PVSM AVSM NM. The parade was followed by the traditional 'Pulling Out' Ceremony in which the outgoing Commander-in-Chief, Vice Admiral Cheema was ceremonially pulled out in a jeep by Flag Officers and Commanding Officers of Ships and Naval establishments of Kochi, amidst emotional 'Jai'- 'Jai' by the men of Southern Naval Command.

Earlier in the day, Vice Admiral Lanba laid wreath at the War Memorial, prior to assuming command, as a tribute to the thousands of martyrs who had fought for the country. The Flag Officer, a native of Palwal in Haryana, who was the Vice Chief of Naval Staff prior to taking over as the FOC-in-C (South), had arrived in Kochi on March 28, 2015.

Vice Admiral Cheema will now assume the charge of the Flag Officer Commanding in Chief, Western Naval Command, on March 31, 2015, on the retirement of the present incumbent, Vice Admiral Anil Kumar Chopra. **SP**

## Fourth LCU for Indian Navy launched at GRSE

**A**dding yet another milestone in India's quest for self-reliance in sophisticated shipbuilding, the fourth ship in the series of eight landing craft utility (LCU) Mk IV project - Yard 2095 - for the Indian Navy was launched at Garden Reach Shipbuilders and Engineers Ltd (GRSE), Kolkata, on March 24, 2015.

The launching of Yard 2095, designed and built by GRSE was done in the presence of Vice Admiral R.K. Pattanaik, Deputy Chief of the Naval Staff. Vice Admiral Pattanaik asserted that Indian Navy has been the torch-bearer in the drive for indigenous construction of warships and acknowledged the role of GRSE as a reliable partner in pursuing the national goal of 'Make in India'.

The DCNS also extended warm felicitations to the entire team of the GRSE for their significant contribution towards meeting the Navy's growing requirements of state-of-the-art warships. Two LCUs were earlier launched on March 12 and September 23 last year. The third LCU was launched on January 16 this year.

These ships will play significant role in transportation of main

battle tanks, armoured vehicles and troops of the Indian Army during amphibious operations.

The ship can be deployed for maritime roles like maritime security, beaching and un-beaching operations, humanitarian relief operations and evacuation from distant islands, search and rescue operations besides peacekeeping missions. **SP**

## Three immediate support vessels commissioned at Visakhapatnam

**T**he second batch of three Immediate Support Vessels (ISVs), comprising T-38, T-39 and T-40 were commissioned on March 24, 2015, by Vice Admiral Satish Soni PVSM AVSM NM ADC, Flag Officer Commanding-in-Chief Eastern Naval Command at an impressive ceremony held at Naval Dockyard, Visakhapatnam. These three ISVs are in addition to the first batch of ISVs commissioned last year on June 4, 2014, and will constitute the 84th Immediate Support Vessel Squadron based at Visakhapatnam. Two ISVs have been built by Rodman Spain whereas one ISV has been built by the Abu Dhabi Ship Builders (ADSB). The project was a joint collaboration between Oil and Natural Gas Corporation (ONGC) Ltd, Ship Builders and the Indian Navy.

Vice Admiral Satish Soni was received on arrival at the Naval Jetty by Commodore K.A. Bopanna, Naval Officer-in-Charge (NOIC), Andhra Pradesh. The inaugural address was delivered by the NOIC, Andhra Pradesh. Lieutenants Jai Kishore, Shobhit Saxena and Vaibhav Bhardwaj, Commanding Officers of T-38, T-39 and T-40 respectively, read out the commissioning warrants. Hoisting of the naval ensign onboard for the first time and 'Breaking of the Com-



missioning Pennant' with the national anthem being played marked the completion of the commissioning ceremony.

"These ISVs were brought to naval dockyard Mumbai where delivery acceptance trials were carried out. These ships have sailed 1,200 nautical miles from Mumbai to Visakhapatnam over duration of 12 days before getting commissioned at the Eastern Naval Command," Vice Admiral Satish Soni said while addressing the gathering, adding that the ISVs proved their sturdiness as they crossed successfully the Gulf of Mannar facing strong winds and high seas.

The ISVs are armed with heavy machine guns (HMGs) and are fitted with state-of-the-art radar and navigation equipment. They are fitted with two caterpillar engines of 1,600 MHP each to provide water jet propulsion which provides the vessels a high speed of 40 knots and an endurance of 500 nautical miles. These ships are capable of carrying out day and night surveillance and can be used for rapid insertions/extraction of Marcos for military intervention. **SP**





# Upgrade of Mirage 2000: A shot in the arm

*Upgrade of the Mirage 2000 fleet will provide the much needed relief to the IAF and a shot in the arm for its combat fleet*

[ By **Air Marshal B.K. Pandey (Retd)** ]

**M**arch 25, 2015, was indeed a red letter day for the Indian Air Force (IAF) as it was on this day that the first two Mirage 2000 combat aircraft of the IAF upgraded to Mirage 2000-5 Mk 2 standard and re-designated as the Mirage-I for the IAF, were formally handed over to the Indian Ambassador Arun K. Singh by Eric Trappier, Chairman & CEO of Dassault Aviation, at their Flight Test Centre at Istres in France. Pierre Eric Pommellet, Thales Executive Vice President, Defence Mission Systems, was also present at this event that flags a major milestone for the combat fleet of the IAF. The remaining fleet of the Mirage 2000 aircraft will be upgraded in India by the Hindustan Aeronautics Limited (HAL) under transfer of technology arrangement with Dassault Aviation. The Mirage 2000-I has substantially enhanced operational capability with

a new Thales RDY-3 radar, new night vision-compatible all-digital cockpit, the latest avionics, mission computers, glass cockpits, helmet-mounted displays, electronic warfare suites and new weapon systems including the MICA air-to-air missiles from MBDA that is capable of beyond visual range engagement.

While the Mirage 2000 fleet has been in service with the IAF for around three decades and may be regarded as an ageing platform, the upgrade programme will provide the ageing fleet with a new lease of life. Besides, what is more relevant here is that the upgrade programme ought to be viewed in the context of the precarious state the combat fleet of the IAF has descended to over the last decade.

## Development of the Combat Fleet

The fleet of combat aircraft is the primary instrument of air power through which the IAF is expected to respond in any aerial conflict with adversaries, to counter any threat to the integrity and sanctity





The upgrade of Indian Mirage 2000 at Istres flight test centre; (Right) (Seated in the front) Jean Marc Viard, Dassault India Mirage 2000 Programme Director, Captain K.J.V. Singh and Nicolas Korotchansky, Thales Airborne System Mirage 2000 India Programme Director. (standing) Eric Trappier, Chairman and Chief Executive Officer of Dassault Aviation, Arun Kumar Singh, Indian Ambassador in France, and Pierre Eric Pommellet, Executive Vice President Defence Mission Systems, Thales Group.

of the national air space or to support operations by surface forces over land or over the sea. It is incumbent on the nation therefore that this vital component of national airpower be built up to and sustained at the level required to meet with the prevailing, emerging or perceived challenges to national security interests. In conformity with this principle, in the post-independence era, the combat fleet of the IAF was developed progressively beginning with first-generation fighter aircraft in the 1950s. The IAF combat fleet thus went through capability enhancement progressively both through the increase in the number of combat squadrons and induction of second- and subsequently third-generation combat aircraft to replace those inducted earlier and had been overtaken by obsolescence. As part of the process of periodic renewal, a fleet strength of 50 odd third-generation Mirage 2000 multi-role aircraft was inducted into the IAF beginning in the early 1980s.

Having successfully operated fighter aircraft of French origin such as the Ouragan (renamed Toofani in India) and the Mystere IV, both from the French aerospace major Dassault Aviation, the IAF was very comfortable with their next product on offer, the Mirage 2000. At the time of induction, the Mirage 2000 fleet was indeed state-of-the-art and it did provide the IAF with a distinct operational edge over the potential adversaries. Also, the platform proved highly reliable and with excellent fleet serviceability, the IAF could generate high sortie rates, something that has not been the case with even the fourth-generation Su-30MKI fleet inducted two decades after the Mirage 2000 fleet.

## Inductions Lagging Behind

A major component of the periodic fleet renewal plan of the IAF was the light combat aircraft (LCA) Tejas, designed and developed by the Aeronautical Development Agency (ADA) and built by the only Indian aerospace major the HAL. The LCA was meant to replace the huge fleet of MiG-21 family of aircraft that were inducted beginning in the mid-1960s and were being retired from service beginning in the year 2005. The LCA programme having been launched in 1983, the IAF had estimated that the aircraft would be available for induction in the period 2003 to 2008. However, towards the end of the decade of the 1990s, it became clear to the IAF that the LCA would not be available in the timeframe estimated initially and there was no guarantee as to when it would be. To cater for the new situation, in 2001, the IAF initiated a proposal for 126 combat aircraft primarily for the air defence role. By 2007, the proposal was eventually

metamorphosed into a requirement for medium multi-role combat aircraft (MMRCA). Unfortunately, nearly eight years have gone by since the tender for the MMRCA was floated and over three years since the Rafale was declared as the preferred platform, but the contract is yet to be awarded. There are issues to be resolved before the contract negotiations can be finalised.

In the year 2000, the IAF had successfully concluded a contract for procurement from Russia followed by licensed manufacture by HAL of a total of 272 Su-30MKI, a fourth-generation air dominance fighter. Though afflicted with problems, induction of this fleet is progressing and all 272 Su-30MKI should be with the IAF by 2019. Unfortunately, the Su-30MKI fleet of around 200 already operational in the IAF has been plagued with deficiencies in product support leading to low serviceability and other technical issues, some suspected to have contributed to accidents involving the aircraft especially in the recent past.

Despite the ongoing induction of the Su-30MKI fleet, on account of the retirement of vintage fleets such as the MiG-21, MiG-23 and MiG-27 aircraft, the strength of the combat fleet has reduced to 25 squadrons as against the currently authorised level of 39.5. In fact, the government has approved increase in the strength of combat squadrons from 39.5 to 42 by 2022. With the strength of the combat fleet currently reduced to nearly 60 per cent of the enhanced level, there is bound to be serious erosion in the operational potential of the IAF, stout denial by the organisation notwithstanding. The precarious state of the combat fleet of the IAF today needs to be viewed particularly in the context of the growing belligerence on the part of both China and Pakistan and a strong possibility of military collaboration between the two nations that will impinge directly on the national security interests of India.

The problem will be further aggravated if the award of contract for the MMRCA is delayed further as by the end of this decade the remnants of the MiG-21 Bison, upgraded MiG-21 Bis and the MiG-27 fleets are retired from service. As frequently stated by senior functionaries, there is no Plan B in the event of cancellation of the MMRCA tender except to increase the size of the Su-30 fleet. Apart from the fact that this is really no true alternative to the Rafale MMRCA, it will take several years for HAL to deliver the numbers required.

This is where upgrade of the Mirage 2000 fleet will provide, albeit only partially, the much needed relief to the IAF and a shot in the arm for the combat fleet! ■

# Boost to indigenous AWACS programme



The twin-engine A330 is selected for the indigenous development of the AWACS programme

[ By **Ranjeet Kumar** ]

**The decision to go for six to eight A330s for IAF AWACS may also pave the way for selection of Airbus A330 MRTT for IAF's air refuelling needs.**

**T**he Manohar Parrikar led Ministry of Defence (MoD) has given a big push to the Defence Research and Development Organisation (DRDO) promoted indigenous AWACS (airborne warning and control systems) programme. In a major decision to promote the 'Make in India' initiative of Prime Minister Narendra Modi, the Defence Acquisition Council headed by the Defence Minister has decided to provide six Airbus A330 aircraft for the indigenous development of the AWACS programme.

Initially the MoD has decided to order for two A330s at a cost of ₹5,113 crore and probably six more would be acquired later. Interestingly, the MoD has taken this significant import decision two weeks before the proposed visit of Prime Minister Narendra Modi to France and Germany in the second

week of April. These countries are major partners in the production of A330 Airbus. The indigenous AWACS project is targeted to be completed by 2020. The decision to go for six to eight A330s for Indian Air Force (IAF) AWACS may also pave the way for selection of Airbus A330 MRTT for the IAF's air refuelling needs.

Reliable defence sources said that decision makers will look into this possibility from the angle of single maintenance infrastructure of the Airbus fleet. It is obvious that the decision to acquire two A330s, to be followed by four or six more A330s with the possibility of acquiring six to eight MRTT which will Airbus kitty with around \$6-8 billion.

The air platform for India's 'eye in the sky' was chosen in a single vendor situation. The Russians (for A-50 EI based on Russia's IL-76 MD military transport aircraft) and Boeing had also evinced keen interest in providing the flying platform for AWACS.





Indian Air Force's EMB-145i AEW&C aircraft

But, only Airbus remained in the fray, leaving the MoD decision in the doldrums as the previous government had decided not to consider any deal on a single vendor basis, fearing allegations of corruption. But with the NDA Defence Minister at the helm of affairs, the government has taken a bold move to push the modernisation process of the Indian armed forces, which were lying dormant in the previous A.K. Antony led MoD. The need for more AWACS was being felt in the forces headquarters since the beginning of last decade, soon after Kargil conflict the recommendation was made to immediately acquire round the clock operational 'eye in the sky'. The previous NDA Government had initiated the move in the early years of last decade to acquire an air surveillance system and finalised a trilateral negotiation with Russia and Israel, a kind of deal never heard of in Indian security establishment. India acquired three IL-76 heavy transport aircraft from Russia and handed it over to Israel for implanting its most advanced Phalcon radar, a system even denied to China.

Afterwards in 2007, India entered into an agreement with Brazil for the supply of three Embraer ERJ-145 jets for the development of airborne early warning and control (AEW&C) which has a lesser surveillance range than AWACS. Considering multiple militarily active fronts on 14,000-km-long Indian borders from East to North, round the clock surveillance of the enemy areas are needed

so that our forces are warned of the enemy designs well in time. Hence, the government decided to provide more AWACS type systems to the Indian forces, India's indigenous AWACS programme of the 1990s based on Avro HS-748 aircraft suffered a huge crash in 1999 when during a flight test all the eight specialist crew died. Two prototypes were developed and flight tested for three years by the Defence Research and Development Establishment Aviation Laboratory Centre for Airborne Studies. The acquisition of surveillance system through imports was again initiated in the early parts of the last decade.

As the IAF awaits the acquisition of three Embraer based AEW&C this year, the government in January 2013 gave the go-ahead for the development of indigenous AWACS programme, with an initial sanction of ₹6,000 crore, the DRDO scientists began working on this futuristic next-generation 'eye in the sky', which will have the capability of longer distances and radius to view inside the enemy areas with the aid of radar and electronic warfare system. The indigenous AWACS programme was initiated during the regime of Dr V.K. Saraswat, who had revealed in January 2013 that "AWACS will be a heavier and high endurance system, which can give

a coverage of 360 degrees as against 270 degrees of the AEW&C. Compared to AEW&C the AWACS can fly at a higher altitude and can penetrate into the enemy territory - not physically but through the radars and electronic warfare systems to longer distances, say around 400 km, and can remain in flying mode for more than eight to ten hours at a stretch, besides providing better visibility."

According to Dr Saraswat, both AEW&C and the AWACS have a role. "All over the world, people have AEW&C and AWACS in a tandem mode because each one does its role and that's what our country is also doing." In fact, the AEW&C are known as mini-AWACS.

Before embarking on the indigenous AWACS programme, the Indian MoD in 2012 had approved the acquisition of two more AWACS from Israel, which was informed by the then Defence Minister Antony who said in Parliament, "Long-term integrated perspective plan seeks to have a mix of large AWACS aircraft and small AEW&C aircraft." Antony had then confirmed, "DRDO is also working towards developing indigenous AEW&C system on the Embraer aircraft and it is expected to be completed within 84 months."

However, this MoD decision to import two more AWACS from Israel could not be implemented and the new NDA Government seems to have shelved the import plan of two more AWACS and has given the go-ahead to the indigenously developed AWACS system on the imported Airbus A330 platform. **SP**

## EDITORS' COMMENT

### Long haul between clearance and contract

The Indian Defence Procurement Procedure can be extremely frustrating for the global aerospace and defence majors vying for contracts. What renders the process particularly agonising is the long haul between "Clearance" and "Contract". A host of "clearances" have taken place during the regime of new government, however, the wait for actual "signing of contract" pertaining to the relevant programmes persists. The most recent example is the proposal for acquisition of two Airbus A330

aircraft which has been cleared by the DAC on March 28, 2015. When the "Contract" will be signed for all these deals that have been "Cleared", is anybody's guess. Given the track record so far, the apprehension is that it may take years! The question that gravely needs the attention - Is "Clearance" enough or "Contract signing" needs to be equally taken care of?

— Air Marshal B.K. Pandey (Retd), Sr Technical Group Editor



## Saab receives follow-on orders for self-protection systems for Dhruv

**D**efence and security company Saab has received follow-on orders from the Hindustan Aeronautics Limited (HAL), for serial production of an integrated electronic warfare self-protection system for installation on the Indian Army's and Air Force's advanced light helicopter Dhruv. The orders have a total value of approximately \$78 million (SEK740 million).

Saab's Integrated Defensive Aids Suite (IDAS) protects crew by enhancing platform survivability in sophisticated, diverse and dense threat environments. The system provides timely warning against radar, laser and IR-guided threats and automatically deploys the appropriate countermeasures.

"The success of IDAS continues and we are proud that HAL and the Indian armed forces have continued faith in the IDAS system, of which this follow-on orders is a clear indication. It is a testimony of the effectiveness and reliability of the IDAS solution", says Micael Johansson, head of Saab business area Electronic Defence Systems.

"With these follow-on orders we continue to build on our very successful partnership with HAL and further establish Saab as a local partner to the Indian industry and as a supplier of high-tech products and systems to the Indian armed forces", says Lars-Olof Lindgren, head of Saab market area India.

Production of the IDAS system will take place at Saab in Centurion, South Africa (Saab Grintek Defence). Deliveries will take place during the years 2015 to 2018.



In addition to the production orders received, Saab also received orders for IDAS ground support and test equipment for the advanced light helicopter programme.

The system has a long and successful history with proven capability on many airborne platforms such as the Saab 2000, AgustaWestland A109, Super Lynx 300, Boeing CH-47 Chinook, Denel Rooivalk and Oryx, Eurocopter Cougar, Puma and Super Puma, NH Industries NH90, C-130 and L100 Hercules, Sukhoi Su-30MKM. Deliveries are ongoing for Dhruv. **SP**

## Alenia Aermacchi delivers the first C-27J Spartan aircraft to the Peruvian Air Force



**T**he official ceremony for the delivery of the first C-27J Spartan to Peru's Air Force was held on March 27, 2015, in Lima, at Las Palmas airbase.

The event has seen the participation of the Peruvian Defence Minister Pedro Cateriano Bellido, the Commander-in-Chief of the Peruvian Air Force General Dante Arévalo Abate, the Italian Defence Minister Roberta Pinotti, the Italian Ambassador in Lima

Mauro Marsili, and Alenia Aermacchi's Vice General Manager, Massimo Ghione.

This aircraft is part of the contract signed between Alenia Aermacchi and the FAP in December 2013. In December 2014 a second contract was signed for two additional C-27Js bringing to four aircraft the number of these planes ordered by the Peruvian Air Force (FAP).

The C-27J has been selected thanks to its capability of operating safely and efficiently and at competitive costs in all operational scenarios of this Latin American country, including activities on semi-prepared airstrips of the Andes and of the many local airports, at high altitudes and with hot weather.

The FAP will employ the C-27J as a strategic asset in passenger and cargo transport, humanitarian, firefighting, search and rescue and internal security missions. **SP**

## Official handover of the first Airbus A400 to the Royal Malaysian Air Force

**T**he Royal Malaysian Air Force (RMAF) officially received its first of four Airbus A400M military transport aircraft,



ordered from Airbus Defence and Space on March 17, 2015.

Chief of RMAF, General Dato' Sri Roslan Saad, officially took over the aircraft from Bernhard Gerwert, CEO of Airbus Defence and Space. The ceremony took place at the Langkawi International Maritime & Aerospace (LIMA) 2015 in the presence of the Prime Minister of Malaysia Dato' Sri Najib Razak and Minister of Defence Dato' Seri Hishammuddin Hussein.

Malaysia is the first export customer of the A400M outside of the original launch nations.

The occasion also marked the debut of the A400M at LIMA 2015. The technologically-advanced airlifter had earlier performed a special fly-past at the show's opening ceremony. **SP**

# Securing cities



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

**T**wo news reports related to safe cities emerged in media in recent weeks. First related to paucity of funds with the Kolhapur Municipal Corporation (KMC) to implement its Safe City project in a phased manner since the overall project costs reportedly amounts to around ₹11 crore in addition to an annual expenditure to keep it operational. The project involves installing around 250 CCTV cameras across 67 key points in the city and other systems like for command and control, emergency vehicle tracking, public address, traffic challan and visitor information management.

The second media report related to visit of a delegation from the Government of Uganda to the Gujarat Government's eGujCop project, connecting all police stations with high bandwidth network and digitising the entire police paperwork, the meeting taking place on the sidelines of the 18th National Conference on e-Governance held at Gandhinagar on January 30 and 31. Public safety is a vital duty and function for the government which implies ensuring the safety of its citizens, organisations and institutions against threats to their well-being as well as the traditional functions of law and order. In simple terms Safe Cities comprise: one, critical infrastructure protection; two, transport security management; three, transportation and road information system; four, automatic vehicle locating system; five, city surveillance; six, intelligence and interception system, and; seven, emergency operation centre.

The UN-Habitat Safer Cities Programme aims to reinforce per-

sonal safety and reduce fear by improving safety services and accountability to the community through following: first, building urban safety through urban vulnerabilities reduction - with special attention to violence and crime; second, building urban safety through urban planning, management and governance - sustainable urbanisation by emphasising inclusive and participatory urban planning, local development practices, incorporates policy-making and strategy development to promote institutional and organisational development, resource planning and management to boost efficiency in governance, and; third, improving the governance of safety - where there is fearless interaction among people and groups, creating an enabling environment for the inhabitants of the city, allowing improved quality of life and fostering economic development.

The Constitution of India enjoins the Union to protect every state against external hostility and internal disorder in order to ensure that the governance of every state is carried out in accordance with the provisions of the Constitution. As per the Seventh Schedule to the Constitution, 'Police' and 'Public Order' are State subjects and, therefore, the State Governments are primarily responsible for the prevention, registration, detection and investigation of crime and prosecution of the perpetrators of crime within their jurisdiction. However, the Central Government supplements the efforts of the States through funds for modernisation, training and infrastructure of the state police forces; CCTVs, radio tetra sets, forensic laboratories, weaponry, vehicles, computerisation and training infrastructure, etc.

The megacity policing plan introduced in 2005 has been progressing. \$72 million has been allocated under this scheme for period 2013-17. Policies and physical measures are must to ensure that a nation's critical infrastructure possesses readiness and ability to recover from attacks, accidents or natural disasters. In terms of critical infrastructure protection, Frost & Sullivan Global PSIM Market, 2013 forecasts total C4ISR spending between 2012 and 2021 to be \$1,113 billion and the value of physical security information management market to reach \$2,789 million by 2021. With such enormous costs, capacity building for safe cities must perform be systematic and graduated. Building capacities of departmental officials involved in operations and decision making too is must for developing requisite knowledge, skills, attitude and culture. Collaborative monitoring should be ensured through integrating surveillance, communication and data gathered by government and private establishments. Network connectivity is one of the most important components of a safe city project and needs careful attention in assessment, planning and implementation.

It is the backbone of the system in which data travels from the surveillance systems to the data centres and control viewing centres. It is in such context that Prime Minister Narendra Modi had called for Smart Cities and launched the Digital India plan. The states should capitalise on these initiatives in taking India to the next level. Fundamentally, the Safe Cities plan should be standard, simple, open and on open scalable architecture demand, meeting requirements of flexibility, intelligence, reliability and high quality. **SP**

# Border management: Key to curbing illegal activities



[ By **R. Chandrakanth** ]

**W**ith the increasing mobility of people and goods in a globalised world, organised crime groups are making use of easy and convenient trans-border access to commit crimes. For this reason, border security management is a priority. Perpetrators of terrorism; trafficking in human beings, arms and drugs; environmental crime; fraud; identity theft and many other types of crime continuously change their modus operandi to avoid detection by national law enforcement agencies, but many of these crimes involve the physical crossing of a border by people or goods.

Take, for instance, India which has been having problems from across the border and hence needs to manage its borders much more effectively. India has 15,106.7 km. of land border and a coastline of 7,516.6 km. including island territories. Securing the country's borders against interests hostile to the country and putting in place systems that are able to interdict such elements while facilitating legitimate trade and commerce are among the principal objectives of border management. The proper management of borders, which is vitally important for national security, presents many challenges and includes coordination and concerted action by administrative, diplomatic, security, intelligence, legal, regulatory and economic agencies of the country to secure the frontiers and subserve its best interests.

The Ministry of Home Affairs created the Department of Border Management in January 2004 to pay focused attention to the issues relating to management of international land and coastal borders, strengthening of border policing and guarding, creation of infra-

structure like roads, fencing and flood lighting of borders and implementation of Border Area Development Programme (BADP).

The European Union (EU) has developed the concept of 'Integrated Border Management' which is key to the European border management strategy and presents key elements and activities for inclusion in International Organisation for Migration (IOM) Immigration and Border Management programming. IOM is increasingly called upon by European countries to assist in addressing complex border management challenges. Integrated Border Management requires that all competent authorities work together in an effective and efficient manner. Integrated Border Management seeks to address three levels of cooperation and coordination: intraservice cooperation, inter-agency cooperation and international cooperation.

A sub-concept of Integrated Border Management frameworks is the OneStop-Border-Post (OSBP). Even though a relatively new concept by title, OSBPs have been implemented in various ways and in many regions, implying a single, shared physical infrastructure in which the neighbouring countries' customs/border services operate side by side. A parallel concept exists called 'Coordinated Border Management' (widely recognised by the customs community and the World Customs Organisation), with similar objectives to Integrated Border Management, which focus more on the specifics of enhanced coordination and collaboration between customs with other non-state actors.

For instance, the US shares borders with Canada and Mexico and has joint declaration with both the countries. In 2011, President Barack Obama and Canadian Prime Minister Stephen Harper announced the United States-Canada joint declaration: Beyond the Border: A shared vision for perimeter security and economic competitiveness. The declaration articulates a shared approach to security in which both countries work together to address threats within, at, and away from its borders, while expediting lawful trade and travel.

## High Turnover for Trans-border Crimes

The global border security market size was \$16.3 billion in 2012, expected to increase to \$32.5 billion by 2021. The intelligence, surveillance and reconnaissance segment will contribute more than 40 per cent to this market by 2021, according to Frost & Sullivan Global Border and Maritime Security Market Assessment, 2013.

It said that border security remains a more fragmented market, and has relied on human-intensive techniques, such as lookout posts, guards or paramilitaries. According to Frost & Sullivan, this will change over the forecast period with technology adoption and better ISR solutions being procured in the market.

It was revealed at the 2012 World Economic Forum that the cross-border flow of global proceeds from criminal activities, corruption and tax evasion is estimated at over \$1 trillion. Illegal drugs and counterfeit goods each account for 8 per cent of the world trade.

A coordinated approach is therefore essential to eliminate duplication of mechanisms and efforts and to improve border security management around the world. **SP**



# Cyber crimes, growing threat



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

**T**he use of Internet has been a boon to crime syndicates, radicals and terrorists. Al Qaeda used it for the 9/11 attack through coded messages for recruitment, planning, funding and execution. Today the ISIS and other terrorist organisations have been using cyberspace similarly. Cyber crime has gone up exponentially. Frost & Sullivan Global Cyber Security Market Assessment, 2014, says cybercrime has a global cost greater than that of trafficking in marijuana, heroin and cocaine with an estimated one cybercrime victim in every three Internet users.

Cyber warfare and cybercrime are a growing threat, now more than ever. The consumer shift towards the interconnectivity of personal computers, tablets and mobile phones is creating new opportunities for criminals to access critical personal data, in addition to increasing number of devices connected to the Internet. In their assessment, the global cyber security market is expected to grow at a compound annual growth rate of 11.8 per cent from \$71 billion in 2013 to \$155 billion in 2020. Critical national assets, organisational and physical structures and facilities too require enormous effort and expenditure.

Last year, the discovery of the ISIS twitter account operator 'Mehdi' alias 'Shami Witness', ex Bengaluru, jolted India. He was recruiting volunteers for ISIS past several years, abetted ISIS in its agenda to wage war against Asiatic powers and had posted the video of US aid worker Peter Kassig's beheading several times on his account. Twitter India when questioned said they would not comment on individual accounts, for privacy and security reasons and only review reported accounts against their rules, which prohibit direct, specific threats of violence against others. Post the Mehdi episode, a former NSA went on record to say that some 100 Indians were engaged in Mehdi type of activities on the Internet. Other social media too is being used for such purpose. Possibly that the false news of rapes and photos posted on social media during 2013 of homes attacked and burnt that forced the exodus of north-east youth working in Bengaluru and Delhi was handiwork of radicals. Similarly, the WhatsApp message purportedly by a young officer

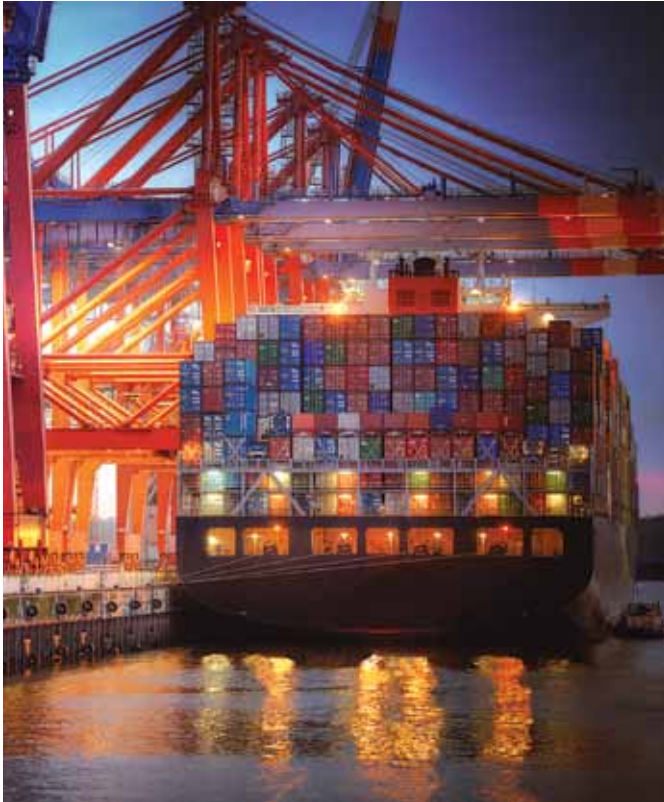
post the terrorist attack on an army camp in Uri during 2014 too could have been by radicals aimed at creating dissension in the army' rank and file.

The National Investigation Agency (NIA) had reported earlier that the Indian Mujahideen (IM) cadres have been using proxy servers and complex code to chat: setting up e-mail accounts that disappear if they not accessed in 24 hours, proxy servers to camouflage geographical location, encrypted files and complicated code language; use of US-based Yahoo Inc, Paltalk Inc, Sophidea Inc and Hurricane Electric, plus providers in Nepal, Canada and Ireland; IP address of Nimbuzz chat traced to Pakistan Telecom Company Ltd and others traced to France, Germany, Netherlands, Nepal and India.

Additionally, Riaz Bhatkal and his close aides are known to run a high-tech command centre in Karachi to communicate with terror cells in India and Nepal, and possibly even Maldives, Sri Lanka and Bangladesh. In 2012, the Al Qaeda 'electronic jihad' against the US through a video message, calling for cyber attacks against US Government networks and critical infrastructure including the electric grid. US intelligence officials assessed Al Qaeda could even 'purchase' such capabilities to do so from expert criminal hackers; engineering devastating attack on the electric grid, water delivery systems and financial networks. This led to calls for new legislation to protect critical networks necessary to protect national and economic security, urging the Senate to act on the bipartisan Cyber Security Act that requires minimum security performance requirements for key critical infrastructure cyber networks. We have the IT Act that has been amended many times and announcement of various task forces on cyber security have been made from time to time.

Some progress has also been made in terms of public-private partnership. Total security against cyber attacks is misnomer but we can mitigate such threats to a large extent by establishing a robust mechanism to govern the use of IT in the country, centralised structure for proactive defence of information assets, effective cyber forensic analysis and regulatory risk evaluation enabled through legislation and across the board cyber-security awareness and training, all of which cannot be ignored in interest of national security. **SP**

# Supply chain security essential to smooth global trade



[ By **R. Chandrakanth** ]

**R**apid globalisation has presented nations with an abundance of economic opportunities. The international trading system, which comprises transport and logistics systems for the world's cargo and commercial trade, is a key driver of global economic growth, and innovation.

Due to its lucrative nature, cargo and commercial trade supply chains are highly susceptible to threats such as terrorism, piracy, theft and illicit trade. Illicit trade in particular is a global threat that undermines governments, manufacturers, retailers and consumers. The phenomenon has grown to an unprecedented level, posing tremendous risks to society and the global economy, accounting for anywhere between \$1 trillion and \$2 trillion every year.

One of the keys to combating illicit trade and ensuring the security of supply chains lies in innovative security solutions and enhanced collaborative action between governments, the law enforcement community, the private sector and consumers. Illicit trade in illegal and smuggled goods are a particular concern to country governments because of the direct consequences on public's safety and health, the loss of legitimate revenue opportunities

for governments, and due to the links with organised crime and subversive groups. In order to combat this evolving crime trend Interpol established its dedicated 'Traffic in Illicit Goods and Counterfeit Directorate,' to directly address this problem, through which Interpol coordinates operations with the law enforcement partners and authorities of its member countries.

These strategic operations have involved partnership with over 170 member countries, as well as the private sector companies, in all regions of the world, and include interventions related to smuggling of excisable goods, food related crimes, web-based interventions, fake cosmetics and fast moving consumer goods, including also counterfeit car parts, clothing, luxury goods, electrical equipment, software and many other commodities.

The United States has laid emphasis on securing the global supply chain. It states that while ensuring its smooth functioning, is essential to national security and economic prosperity. This vital system provides the goods that feed the domestic critical infrastructures and support way of life. Other nations worldwide also rely upon the goods transported by the global supply chain system – in that sense it is a truly global asset that all stakeholders must collaboratively work to strengthen.

As a number of recent events have shown us, the global supply chain is dynamic, growing in size and complexity, and is vulnerable to a host of threats and hazards such as natural disasters, accidents, or even malicious attacks. A common approach, involving the range of stakeholders with supply chain roles and responsibilities, is necessary. The US strategy is focused on the worldwide network of transportation, postal, and shipping pathways, assets, and infrastructures (including communications and information infrastructures) is an important step forward. It provides strategic guidance to departments and agencies within the US Government and identifies our priorities to stakeholders with whom we hope to collaborate going forward.

The strategy establishes two goals. The first is to promote the efficient and secure movement of goods and the second is to foster a global supply chain system that is prepared for and can withstand evolving threats and hazards, and rapidly recovery from disruptions. It is guided by two overarching principles established in the strategy. First, to galvanize and integrate efforts across the US Government and with other key stakeholders. And second, to continue and enhance risk management efforts. The strategy also identifies a number of priority areas upon which the department's will focus on immediate implementation efforts. Similarly, other developed countries have outlined their supply chain strategies to safeguard against criminal activities.

Frost & Sullivan research found that the global maritime security market size was \$13.1 billion in 2012, and is expected to increase to \$20.2 billion by 2021. The intelligence, surveillance and reconnaissance segment will contribute more than 50 per cent to this market by 2021. Since 2012, Interpol has supported cross-border regional operations to fight illicit trade in all corners of the world, which has resulted in the seizure of illegal and counterfeit goods worth approximately \$550 million. **SP**



## Norfolk Naval Station breach

**T**he failures of a civilian police officer at the gate of Norfolk Naval Station allowed an intruder to enter the base without authorisation last March and fatally shoot a sailor aboard the destroyer Mahan as it sat pierside, a US Navy investigation has found.

The guard failed to ask the intruder for identification or his intent, did not immediately pursue him when he realised the driver was not making a U-turn, and did not sound an alarm to warn others on base, demonstrating a complete lapse of proper security procedure, said the Navy report. Those errors were key factors in the deadly shooting of Petty Officer 2nd Class Mark Mayo, the investigation found.

But the report also cites deeper systemic problems with security on the world's largest naval base, including a lack of senior supervisors, manpower shortages, poor integration between the base and ship security, and broken equipment, including cameras, turnstiles and duress buttons.

The report, released one week shy of a year since the March 24, 2014, attack, makes a series of recommendations for correcting the problems. The Navy said it has implemented many of them and is continuing to put others in place.

"The investigation identified several deficiencies in the Naval Station security programme that left it vulnerable to this unacceptable security breach," Admiral Bill Gortney, who recently completed his term as Fleet Forces Commander, wrote in his endorsement. "This tragic event demonstrates that we must dedicate even more effort, manpower and resources to strengthening our installation security."

The incident began when Jeffrey Tyrone Savage, the civilian driver, pulled up to the gate at 11:30 p.m. in his tractor-trailer cab, according to the documents. The guard, failing to ask for identification, apparently thought Savage was making a U-turn. But after



Savage continued onto the base, the report said, the guard failed to "deploy the hardened anti-access control system, failed to pursue Savage in a timely manner, failed to notify Naval Station Norfolk Security department dispatch and failed to execute any standard operating procedures required in response to an unauthorised individual on Naval Station Norfolk."

Savage drove to Pier 1 and parked, then walked through the entry control point while a sentry opened the adjacent gate for Mayo, the guard in charge of the piers. The sentry saw Savage and called for him to stop, but Savage ignored her instructions, the report said. **SP**



## Security lapses at Buddhist heritage sites

**T**he Buddhist Monuments Development Council (BMDC) has expressed its deep concern over security lapses at various Buddhist sites in Bihar, including the famous ancient ruins of Nalanda university. Council chairman Arvind Alok, said he has communicated this to Archaeological Survey of India (ASI) DG and sought his immediate intervention. He said a large number of visitors visiting these sites are also causing damage to the world heritage site. He demanded immediate deployment of monument attendants and security people to protect the antiquities at the ancient site in Nalanda. **SP**

## Woman walks on airfield at Silicon Valley

**A** woman walking on the airfield at a Silicon Valley airport probably jumped a fence, said authorities, who are now investigating their fifth security breach there in less than a year. A UPS employee spotted Deanna Predoehl, 20, in a secure area at Mineta San Jose International Airport, and she resisted arrest when approached by officers around 5:15 p.m. San Jose police said. She was ultimately subdued and arrested. She had no identification, and police say their investigation indicates she had jumped a fence to get into the secure area.

The airport's overall security has faced scrutiny and criticism since Santa Clara teen Yahya Abdi climbed the fence last April, stowed away in a jet's wheel well and survived a five-hour flight to Hawaii. Security was breached again last August when a woman without a boarding pass bypassed a checkpoint inside the airport and got on a plane to Los Angeles before she was caught. In November, a man was spotted near a restricted loading ramp and tried to flee, commandeering an airport work truck before being caught. In January, a security guard spotted a man walking on the tarmac side of the airport fence at night. When they tried to grab him, the man tried to climb over the fence to get out of the secure area. San Jose beefed up its security after Abdi hopped the fence, adding video camera coverage and testing other alarm systems. **SP**







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