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Page 5

# India-US Cooperation on a High



**FROM THE  
EDITOR'S DESK** 4  
**SECURITY BREACHES** 22

**MILITARY**  
Viewpoints 7, 8, 10, 16  
Report 12  
Updates 14

**AEROSPACE**  
Developments 17  
Unmanned 20

**PLUS**  
Corporate 21



“In a country like India with limited support from the industry and market, initiating 50 years ago (in 1964) publishing magazines relating to Army, Navy and Aviation sectors without any interruption is a commendable job on the part of SP Guide Publications. By this, SP Guide Publications has established the fact that continuing quality work in any field would result in success.”

Narendra Modi, Hon'ble Prime Minister of India (\*message received in 2014)



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OVER **5** DECADES SINCE 1964

## Javelin Joint Venture signs letter of intent with Tata Power

**T**he Javelin Joint Venture team, a partnership between Raytheon Company and Lockheed Martin, signed a letter of intent (LOI) with Tata Power Company Limited operating through its Strategic Engineering Division (SED), to explore co-development and production of the Javelin anti-armour missile system.

"This agreement brings together three world leaders in aerospace and defence technology to extend Javelin to new customers, new applications and new platforms," said John Halvey, Javelin Joint Venture President at Raytheon Missile Systems. "With this deal, we are also reinforcing our continued support of the 'Make in India' initiative."

As part of the LOI, the Javelin Joint Venture (JJV) and Tata Power SED will create a strategy to co-develop and produce the Javelin missile system and integrate platform mounts to meet Indian requirements. This includes ground combat vehicle, dismounted infantry and rotorcraft applications.



"The combat-proven Javelin continues to fulfil a critical precision-strike role with our domestic and international partners," said Rich Benton, Javelin Joint Venture Vice President and Javelin Program Director at Lockheed Martin Missiles and Fire Control. "We look forward to working with Tata Power SED to maximise the versatility and lethality of Javelin on these new platforms."

"Since the early 1980s, Tata Power SED has established its R&D and 'Make in India' credentials as part of Dr Kalam's Integrated Guided Missile Development Programme," said Rahul Chaudhry, Chief Executive Officer at Tata Power SED. "Now, our partnership with the JJV will bring the world's best technology to our soldiers enabling battlefield supremacy. Indian industry will benefit immensely from the depth and range of this planned technology transfer and co-development." **SP**



### Cover:

Defence Minister Manohar Parrikar was on a three-day state visit to the US from August 29-31. At the same time, Secretary of State John Kerry was in India for the 'strategic and commercial dialogue' launched by Prime Minister Narendra Modi and President Barack Obama last year.

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OVER 5 DECADES SINCE 1964

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## Indo-US relationship 'moving amazingly'

**T**he number of engagements that the present Indian and US governments are having is remarkable. In quick time, the two major democracies of the world are finding themselves on the same page in many areas, particularly in dealing with terrorism. Indian Prime Minister Narendra Modi and President Barack Obama have laid out a path for continued cooperation between the two countries which in a way is unsettling Pakistan.

End August, the two nations had their senior most leaders participating in dialogues. More or less at the same time, Defence Minister Manohar Parrikar was in the US discussing with the Defense Secretary Ashton Carter, while the Secretary of State John Kerry was in India talking with the Prime Minister and the External Affairs Minister Sushma Swaraj. Both the countries have been struggling to build the relationship, but according to John Kerry in recent years "we have moved amazingly".

Top of the agenda has been the role of Pakistan in state-sponsored terrorism and this was acknowledged by the Secretary of State who said that "US stands in strong partnership with India on Pakistan-sponsored terrorism in India." It was Sushma Swaraj who set the tone for the meeting by stating that she apprised the visiting leader on cross-border terrorism from Pakistan. "Pakistan should withdraw safe havens provided to Lashkar-e-Toiba, Jaish-e-Mohammad and D-company. There was a meeting of mind between the two sides on the issue of terrorism", she added, while Kerry assured that he had talked to the Pakistan Prime Minister and General Raheel Sharif for the need for Pakistan to deprive any group (terrorist) of sanctuary.

Meanwhile, everyone is awaiting the conclusion of the contentious US Presidential elections due on November 8. Lt General P.C. Katoch (Retd) in his viewpoint has wondered what stance the next US President would take on Pakistan, while calling for harsher measures against Pakistan which is exporting terror. In another viewpoint, he talks about how China is supporting such overt and covert

operations. As per Israeli defence forces, Pakistan now wants to take its land-based VLS nuclear deterrent to sea on stabilised surface ships and underwater in Chinese submarines. China, he states, will gleefully oblige as it helps keep India boxed in further.

In the US, Parrikar concluded the Logistics Exchange Memorandum of Agreement (LEMOA) at the Pentagon. In two separate articles, Air Marshal B.K. Pandey (Retd) and Lt General V.K. Kapoor (Retd) have dealt in detail what the LEMOA stands for and how India is going to gain from it. LEMOA is a document that establishes basic terms, conditions and procedures for reciprocal provision of logistic support, supplies and services between the armed forces of India and the United States. By signing the LEMOA, New Delhi comes closer, strategically, to the US which will have a number of spin-offs in terms of technology transfer and modern weaponry that India is looking for apart gaining access to US military facilities and closer military cooperation.

While these dialogues continue, the Indian Army took another step towards indigenisation programme. It launched its design bureau and has identified 10 projects under 'Make' category for manufacturing by domestic defence industry. This was announced at an army seminar on 'Make Projects' organised in partnership with the Confederation of Indian Industry.

Happy reading !

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



# US Secretary of State in India; Indian Defence Minister in US – Dialogue continues



US Secretary of State John Kerry with Prime Minister Narendra Modi in New Delhi

[ By **R. Chandrakanth** ]

**I**n recent years, India-US relationship has taken a new and invigorating turn where there is continuous engagement between the Heads of State and their respective officials to take it to another level. In this continuing dialogue, we have the Indian Defence Minister Manohar Parrikar visiting the US for three days from August 29-31, while the US Secretary of State John Kerry is in India to further the 'strategic and commercial dialogue' launched by the Prime Minister Narendra Modi and President Barack Obama last year.

Parrikar is in the US on the invitation of the Secretary of Defense Ashton Carter. The defence relationship between India and the United States is based on the two countries' shared values and interests, and their abiding commitment to global peace and security. During their meeting, the two discussed the wealth of progress in bilateral cooperation and the deepening strategic partnership between the United States and India. The visit – their sixth interaction to date – demonstrates the importance both sides place

on strengthening defence ties across many areas: from increased strategic and regional cooperation to deepened military-to-military exchanges, to expanded collaboration on defence technology and innovation.

## Countering China's growing military assertiveness

The two sealed the agreement in efforts to strengthen defence ties to counter concerns over China's growing military assertiveness. The two countries signed an agreement in Washington that allows access to each other's military bases for repairs and resupplies.

In addition to his official meetings at the Pentagon and joint visit to the 9/11 Memorial with Secretary Carter, Minister Parrikar also met with the leadership of the Defense Innovation Unit Experimental (DIUx) and visited US Cyber Command (CYBERCOM). He will also visit the Defense Advanced Research Projects Agency (DARPA), and Joint Base Langley-Eustis for a tour of the Air Combat Command (ACC) and the 480th Intelligence, Surveillance, and Reconnaissance (ISR) Wing. In addition, he will interact with representatives of US defence industry during the visit.



Secretary of State John Kerry with Commerce Minister Nirmala Sitharaman, External Affairs Minister Shushma Swaraj and US Commerce Secretary Penny Pritzker in New Delhi; (right) Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar at joint news conference at the Pentagon



## Dialogue on Contending Terrorism that Emanates from Pakistan

While in India, the Secretary of State participated in the 2nd Indo-US Strategic and Commercial Dialogue where terrorism emanating from Pakistan and other important issues, including economic matters like visas, were discussed. During the Dialogue, co-chaired by External Affairs Minister Sushma Swaraj and Commerce and Industry Minister Nirmala Sitharaman along with Kerry and US Secretary of Commerce Penny Pritzker, the entire gamut of cooperation between the two countries was taken up. John Kerry also met the Prime Minister to discuss ambitious plans to hike trade between India and the US five-fold to around \$500 billion.

While in the US, Minister Parrikar and Secretary Carter discussed India's 'Major Defense Partner' designation, announced during Prime Minister Narendra Modi's visit to Washington in June 2016. They agreed on the importance this framework will provide to facilitate innovative and advanced opportunities in defence technology and trade cooperation. To this end, the United States has agreed to elevate defence trade and technology sharing with India to a level commensurate with its closest allies and partners.

## Progress Under DTTI

Secretary Carter welcomed India's membership in the Missile Technology Control Regime (MTCR) and reaffirmed US support for India's technology control in the Nuclear Suppliers Group (NSG). They welcomed continued progress under the Defense Technology and Trade Initiative (DTTI). They welcomed the decision at the DTTI meeting in Delhi in July 2016 to broaden its agenda by setting up five new Joint Working Groups on Naval Systems; Air Systems, Intelligence, Surveillance and Reconnaissance; Chemical and Biological Protection; and Other Systems. They also noted the signing of an Information Exchange Annex under the framework of the Aircraft Carrier Joint Working Group. Minister Parrikar and Secretary Carter also agreed to continue to their close consultation on 'Make in India' proposals.

## Joint Exercises

Minister Parrikar and Secretary Carter welcomed the continued efforts by both countries' militaries to deepen bilateral cooperation and expand opportunities for greater collaboration. They commended the recent completion of the naval exercise Malabar with Japan and India's participation in the Rim of the Pacific (RIMPAC) Exercise in Hawaii, as well as the Red Flag Air Force Exercise in Alaska. They were encouraged by the increased complexity in the

Yudh Abhyas Army exercise, which is scheduled for September in India. They agreed to facilitate greater and regular interactions to deepen mutual understanding between military services and promote practical cooperation in areas of mutual interest, such as counter-terrorism, maritime security, special operations, humanitarian assistance and disaster relief. They also welcomed the signing of the bilateral Logistics Exchange Memorandum of Agreement (LEMOA), which will facilitate additional opportunities for practical engagement and exchange.

The Defence Minister in his opening statement at the joint press conference said: "As was noted, this is our sixth meeting in about a year. This reflects our shared intent to take the India-US defence partnership forward. Indeed, defence cooperation between India and the United States has never been stronger than it is today."

## India-US Cooperation on a High

"Today, India has more cooperative activities with the US military than with any other country. Over the past few months, our Air Forces have jointly exercised in Red Flag as have our Navies in RIMPAC and Malabar. The Army Exercise Yudh Abhyas is to be held shortly. Our decision to sign the LEMOA today would make it easier for our armed forces to carry out joint activities, such as training and exercises, as well as HADR missions.

"Our engagement on maritime security is developing well. India and the United States have a shared interest in freedom of navigation and overflight and unimpeded commerce as part of a rules-based order in the Indo-Pacific. Our officials met in May 2016 for the inaugural Maritime Security Dialogue. We have tasked them to meet more regularly as we implement the Joint Strategic Vision. The signing of the White Shipping Agreement and the Information Exchange Arrangement on Aircraft Carriers recently underlines our desire to work closely together in the maritime domain. Today we decided to further enhance our engagement on Maritime Domain Awareness."

In the statement he added: "We also resolved to continue our cooperation on counter-terrorism. India and the United States are fellow democracies. Our open and diverse societies are committed to peace. However, as the United States has shown, there can be no compromise when we are faced with terrorism. The forces that seek to undermine our progress and our way of life require a comprehensive and robust response. We appreciate the support from the United States in our efforts to eliminate terrorism in India's neighbourhood. Secretary Carter and I agreed that countering terrorism is an important shared objective." **SP**



LT GENERAL  
PC. KATOCH (RETD)

# Kerry's visit: India, US focus on Pak terror

**D**eliberations during the recent visit by US Secretary of State John Kerry is being hailed for delivering a blunt message to Pakistan, not to distinguish between good and bad terrorists, in the backdrop of Pakistan continuing to export terror and China openly backing for anti-India terrorists based in Pakistan. Kerry was visiting India to attend Second Indo-US Strategic and Commercial Dialogue.

External Affairs Minister Sushma Swaraj discussed the issue of cross-border terrorism by Pakistan with US Secretary of State John Kerry during the latter's recent visit. "We both agreed that a country (Pakistan) should not differentiate between terror as good or bad. Pakistan should withdraw safe havens provided to LeT, JeM and D-Company," Swaraj said after the meeting. Besides Pakistani terrorism, Kerry and Swaraj also focused on: carrying the civil nuclear cooperation between the two nations to another level for ensuring clean energy to many nations; cooperation in the field of health, particularly research and development of newer drugs aimed at developing and starting clinical trials of vaccines; more cooperation in space technology, and; making it easier for Indian travelers to enter US. Kerry and Swaraj signed a cyber framework to reduce cyber crime and improve coordination among the law enforcement agencies even as the US reaffirmed India as a major cyber partner. The two leaders also briefed each other on the developments in Afghanistan with Kerry appreciating India's efforts in the region.

Later in a press meeting jointly addressed by Sushma Swaraj and John Kerry, both nations reiterated their commitment towards strengthening Indo-US relationship. Swaraj made the following points: she had apprised Kerry of cross-border terrorism from Pakistan – there cannot be double standards in combating terrorism (there is no good or bad terrorism: Pakistan should withdraw safe havens provided to LeT, JeM and D-company; there is meeting of mind between the two sides (Indo-US) on the issue of terrorism; both countries agree that Pakistan needs to take swift action to catch perpetrators of 2008 Mumbai attacks and the Pathankot attack.

John Kerry made the following points: reiterated US commitment to bring perpetrators of these attacks to justice; there should be no double standards while looking at terrorism; he had talked to Prime Minister Nawaz Sharif and General Raheel Sharif to deprive any group (terrorist) of sanctuary, and; it is well known that LeT and

Haqqani network have operated from Pakistan. Kerry hinted that the US is likely to join the global climate agreement soon. Responding to a question by the media, Kerry said, "US stands in strong partnership with India on Pakistan sponsored terrorism in India." Swaraj thanked Kerry for the constant support to India's membership to the Nuclear Suppliers Group (NSG), adding, "We have agreed to scale up our collaboration in clean energy and to quickly operationalise the various initiatives that were announced during Prime Minister's visit to facilitate investments in this sector from US into India."

Swaraj concluded by saying, "Overall, our meeting has contributed to our efforts to forge a closer partnership with the US in pursuit of our development goals and strategic priorities. We are certain that the India-US partnership will continue to benefit not only both our peoples but also become a factor for peace and stability in the region and the wider world."

It is no doubt that such blunt message has been given to Pakistan but how many times has such message been given to Pakistan and by whom. Certainly India, Afghanistan, Bangladesh have been accusing Pakistan for exporting terrorism and the US itself has been exhorting Pakistan to go after the terrorists, particularly the Haqqani network. It has not made much difference to Pakistan though the US has recently blocked the \$300 million aid that was to be given to Pakistan.

Post the 26/11 Mumbai terrorist attack, Ashley Tellis of Carnegie Foundation had recommended to the US congressional committee in 2012, "The only reasonable objective for the United States is the permanent evisceration of LeT and other vicious South Asian Terrorist groups – with Pakistani cooperation if possible, but without, if necessary." Nothing, however, happened and Hafiz Saeed is as free a man despite two red corner notices by Interpol. In fact, as per Voice of America, Afghanistan officially told Pakistan recently that Hafiz Saeed, former LeT chief is directing ISIS attacks in Afghanistan. That Hafiz Saeed was backed by China even at the UN is well known.

John Kerry was on his last visit to India as US Secretary of State with US Presidential elections slated for coming November. What the stance of the next US President would be on Pakistan is yet to be seen. But certainly much harsher measures will be needed to force Pakistan stop exporting terror. **SP**

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







LT GENERAL  
VK. KAPOOR (RETD)

# LEMOA — An overall assessment



Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar at the 9/11 Pentagon Memorial on August 29, 2016

**I**ndia and the United States have signed an important logistics agreement that will enable forces of both the countries to use each other's bases for repair and replenishment of supplies. US Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar formally signed the Logistics Exchange Memorandum of Agreement (LEMOA) on August 29, 2016.

## What is LEMOA?

This agreement is not the same as the one signed by nearly 100 countries some of whom are seen as close military allies of the US.

That agreement is called Logistic Support Agreement (LSA). However that failed to pass muster with the two previous UPA regimes and even the Modi Government, on taking over, was sensitive to its content. As the Indian Government insisted on various changes to address concerns of unfettered access and US military bases on the Indian soil, the text was amended and the agreement was renamed LEMOA. It has been specially drafted and designed for India due to the apprehensions expressed by the Indian Government.

It has taken more than 12 years for LEMOA to become a reality. LEMOA will enable both the nations to access supplies, spare parts



and services from each other's land facilities, airbases and ports, which can then be reimbursed. However, the signing of the LEMOA does not give automatic access to the use of military bases.

In April this year, when Carter visited New Delhi, the two sides announced an in-principle agreement on inking the pact. Hectic negotiations between the two sides had taken place before that visit, with US officials submitting drafts of three foundational agreements. However, India chose to proceed only on the logistics agreement (LEMOA), deferring the Communications and Information Security Memorandum of Agreement (CISMOA) and a Basic Exchange and Cooperation Agreement for Geospatial Information and Services Cooperation (BECA).

## What has Pushed India into Signing this Agreement?

Since the Cold War ended and the erstwhile Soviet Union broke up the Indian foreign policy has undergone a complete makeover. Though India's nuclear tests of 1998 brought it sharp rebuke from the United States and many other nations, things started improving after a visit from the then President Bill Clinton in 2000. The US-India civilian nuclear deal of 2008, for which Prime Minister Manmohan Singh staked his political future, further changed things.

The United States also helped India get a waiver from the Nuclear Suppliers Group (NSG), even though India has not signed the Nuclear Non-Proliferation Treaty (NPT) or the Comprehensive Nuclear-Test-Ban Treaty (CTBT).

India and the United States are increasingly concerned about Beijing's growing aggressiveness in the South China Sea and beyond. India's annoyance with China for preventing India's attempts to designate the Pakistan-based terror outfit Jaish-e-Mohammed's chief Maulana Masood Azhar as a terrorist at the UN is not hidden. Moreover China's military, including nuclear assistance, to Pakistan has emboldened Pakistan in being more belligerent towards India as far as the proxy war in Jammu and Kashmir is concerned. At the same time, China has been going all out to woo countries in India's neighbourhood like Nepal, Sri Lanka and Maldives.

Beijing's island building activities in the South China Sea and its deployment of missile batteries on Woody Island in the South China Sea have set it on a collision course with the United States and its allies in the region, like Japan and the Philippines.

In 2015, President Barack Obama became the first President to visit India twice during his presidency when he was the chief guest at India's Republic Day celebrations on January 26. During his visit, the two sides released a joint statement where they affirmed "the importance of safeguarding maritime security and ensuring freedom of navigation and over flight throughout the region, especially in the South China Sea." This in itself is very significant since New Delhi had studiously avoided getting entangled in the South China Sea imbroglio.

In the recent years, India has become one of the biggest purchasers of US military hardware, a sea change from the times when the country used to source the majority of its defence needs from Russia.

India now aspires to play a greater role in international affairs. India desires to be a permanent member of the United Nations Security Council (UNSC). In addition, India, under Prime Minister Narendra Modi, has rapidly moved away from its traditional stance of non-alignment to one of multi-alignment. By signing

the LEMOA, New Delhi comes closer, strategically, to the US which will have a number of spin-offs in terms of technology transfer and modern weaponry that India is looking for apart gaining access to US military facilities and closer military cooperation.

LEMOA will enable increase in India's outreach to areas that were not typically within its reach. With one aircraft carrier in operations, India's capacity to undertake far sea operations has been fairly limited. Signing LEMOA opens up opportunities such as gaining access to US military bases in Djibouti and Diego Garcia and these are indeed significant gains.

## What is in it for the US?

The US has already made strategic plans for rebalancing its forces between the Atlantic and the Pacific Oceans. This strategy is one part of the much larger "pivot" to Asia intended by President Obama to meet a rising China. The US Navy plans to deploy 60 per cent of its surface ships in the Indo-Pacific region. Instead of having to build new facilities, as in Afghanistan and Iraq, the US has the benefit of simple arrangements for the substantial Indian facilities.

Maritime collaboration between India and the United States has been increasing. The commander of US Pacific Command Admiral Harry B. Harris went on record to say that Beijing was building "a great wall of sand" in the South China Sea. At the Raisina Dialogue in India in March this year Admiral Harris floated the idea of cooperation between India, Japan and Australia in the maritime realm. This is similar to the earlier 'Quadrilateral Initiative,' which was rolled back in the light of protests from Beijing. In the meanwhile, India's ties with US allies in the region, like Japan and Australia, have also improved substantially since then.

ISIS recently carried out a terror bombing in Bangladesh. There is always a danger of ISIS making a substantial ground effort in this region, not on the scale of their 'caliphate' in Syria and Iraq, but perhaps similar to their effort in Egyptian Sinai and Libya? Having LEMOA makes it much simpler for American naval and air forces to refuel, resupply and so forth. The US does not have actual bases in India. But LEMOA is a simple way to use India's bases without stationing any troops on the ground.

Defense Secretary Carter, in the joint news conference on August 29, 2016, after signing the agreement, said the agreement would make joint operations between their militaries logistically easier and more efficient. "What it does is make possible and make easier operating together when we choose to. It doesn't by itself — those agreements — those are the things that the two governments would have to agree on a case by case basis. But when they do agree, this is an agreement that makes it all go so much more smoothly and efficiently," he said. He further stated: "It is fully mutual. In other words, we grant one another completely equal access and ease under this agreement. It's not a basing agreement of any kind, but it does make the logistics of joint operations so much easier and so much more efficient".

It does not give the US automatic access to Indian military bases or to logistical support, but simply smoothen existing practices. The advantage is that though the US does currently use Indian military bases and logistics — for example, during joint military exercises — this is managed on a case by case basis, which is simply more cumbersome. LEMOA makes the process more regularised. SP

**By signing the LEMOA, New Delhi comes closer, strategically, to the US which will have a number of spin-offs in terms of technology transfer and modern weaponry that India is looking for apart gaining access to US military facilities and closer military cooperation**



AIR MARSHAL  
B.K. PANDEY (RETD)

## A pioneering initiative!

*LEMOA is a document that establishes basic terms, conditions and procedures for reciprocal provision of logistic support, supplies and services between the armed forces of India and the United States*

**O**n August 29 this year, India and the United States took a big step forward towards strengthening their relationship, especially in respect of ties in the regime of defence, by successfully concluding the Logistics Exchange Memorandum of Agreement (LEMOA). This historic agreement that was signed at the Pentagon by Manohar Parrikar, the Indian Minister of Defence, and Dr Ashton Carter, the US Secretary of Defense, would facilitate the provision of logistical support, supplies and services between the militaries of India and the US on a reimbursable basis. Specifically, the LEMOA would include provisioning of food, water, billeting, transportation, petroleum, oils, lubricants, clothing, communication services, medical services, storage services, training services, provisioning of spare parts and components, repair and maintenance services, calibration services and port services. The agreement will allow the armed forces of India and the US to operate closely by using each other's bases for logistics support. For India, the signing of LEMOA is likely to provide unprecedented opportunities such as gaining access to US military bases in Djibouti and Diego Garcia, something that was not possible without the involvement of the US in a documented mutual agreement.

Quite expectedly, the signing of LEMOA was objected to by the political parties in India opposed to the government who invariably have a negative view of policy decisions solely on account of political compulsions. These agencies described the step using various bizarre expressions characterised with sheer negativity such as "fundamental departure from India's time-tested policy of strategic military neutrality", "compromised Indian sovereignty" and "surrendered strategic autonomy".

Be that as it may, the agreement in fact ratifies an informal and ad hoc arrangement that had already been in place between the armed forces of the two nations. Converting it to a formal agreement will help enhance Indo-US military cooperation. It would not only significantly enhance the operational capability of the Indian armed forces but also make it easier for them as also for armed forces of the US, to carry out joint activities such as training and exercises. It will also reduce the response time of the Indian armed forces deployed for the humanitarian assistance and disaster relief (HADR) missions across the globe.

LEMOA is actually a modified version of Logistics Support Agreement (LSA) that was proposed by the US for the first time in 2004.

Unfortunately, the UPA Government remained opposed to the proposal during its tenure up to 2014 as, in their perception, it would have been regarded by the world as India entering into a military alliance with the US. In fact, providing military logistics support to the US armed forces has always been a politically contentious issue in India. Whether it was the case of permitting American military aircraft to land at Indian airfields for refuelling during the first Gulf War or the proposal to send a Brigade of the Indian Army to fight together with the US Army in the second Gulf War, the political establishment in India was understandably divided. However, the global geopolitical scenario has been evolving over the last few years bringing India and the US closer to each other driven primarily by congruent national security interests. The growing belligerence of China not only in the South China Sea and in the Asia-Pacific region, but the increasing presence and activities of the Chinese military along the borders with Tibet and in Pakistan occupied Kashmir have inspired the strategic option on the part of India to collaborate with the US to counter new threats to national security in the future.

Earlier this year, India and the US came to an 'in-principle' agreement on the LSA proposed by the US. Although, the US has already entered into LSA with more than 60 nations across the world, most of whom are not allies of the US. The LSA was based on a standard format, but the Indian Government insisted on a number of changes essentially to address concerns of unfettered access

by the US military to Indian military establishments as also apprehensions the possibility of the US seeking to set up military bases in India. The government of the day did not want India to be seen as becoming an ally of the US. With the changes proposed by India incorporated, the document was renamed as LEMOA. The LEMOA is thus a version of the standard US Logistics Support Agreement tailored for India and is formally described as "a document that establishes basic terms, conditions and procedures for reciprocal provision of logistic support, supplies and services between the armed forces of India and the US".

In the recent past, both India and the US have indicated the intent to strengthen ties and enhance defence cooperation. Signing of the LEMOA is clearly a positive step in that direction. Besides, success of LEMOA will help set a precedent for other future military pacts between the two countries. **SP**

**The agreement in fact ratifies an informal and ad hoc arrangement that had already been in place between the armed forces of the two nations. Converting it to a formal agreement will help enhance Indo-US military cooperation.**



LT GENERAL  
P.C. KATOCH (RETD)

# Triple whammy for Indian bureaucracy

**I**f one hallmark of US Secretary of State John Kerry's recent visit to India was targeting Pakistan for exporting terrorism, the second was Kerry lambasting the Indian bureaucracy, the joke circulating on social media being that both these entities (Pakistan and our bureaucracy) have the hide of a rhinoceros. Speaking at IIT Delhi, Kerry noted that India's economy will only be able to maintain its impressive growth if its bureaucracy ceases to be "an expert in setting up roadblocks".

Kerry made the following points in his speech: red tape and a lack of transparency continue to deter entrepreneurs and foreign investors even though India is now the world's fastest-growing economy; even though impressive gains in India's economic growth are witnessed, there is still a real question as to whether this is being done quickly enough for India to create jobs for the 13 million people who enter the labour market every year. Indian entrepreneurs urgently need the freedom to pursue new ideas, the ability to start up new businesses without a lot of red tape, and access to infrastructure that makes it easier to translate fresh concepts into successful companies; India must have sensible regulations and the bureaucracy needs to be streamlined and effective – a partner in making decisions, not an expert in setting up roadblocks.

Kerry's observations came at a time when Prime Minister Modi had promised to rid India of its reputation as one of the world's hardest places to do business, but India continues to be ranked 130th in the world for doing business by the World Bank. Just before Kerry's visit were the 'Transforming India' Lecture Series organised by NITI Aayog on August 26, 2016. Prime Minister Modi delivered the inaugural address in presence of Union Ministers, Chief Ministers of States and Tharman Shanmugaratnam, Deputy Prime Minister of Singapore. Knowing India's penchant for cricket, Shanmugaratnam was quoted in the media saying that India cannot afford to continue scoring singles but instead must go for sixes. His obvious reference was the need to go for radical change rendered impossible with the existing bureaucracy.

If this was the second whammy, the third came from Modi himself delivering the inaugural address at the "Transforming India" Lecture Series, wherein Modi said: "We cannot march through the 21st century with the administrative systems of the 19th century." His call hinted at rapid transformation of the administrative systems. But what exactly has happened in the two years plus of the present government notwithstanding odd reports of some bureaucrats being retired – band aid where major surgery is needed? Accountability and corruption became a bigger casualty during Manmohan Singh's (himself a bureaucrat) premiership who lavished all political office-bearers and bureaucrats with perks like going abroad themselves or the spouse for medical treatment with one attendant – all expenses of travel, stay, treatment borne by the government. No one questioned it and a public query (post revelations that ₹14 crore had been spent

on treatment of just one spouse) what was the overall burden to the government, the lame response came that such cases were being screened scrupulously – so convenient. In his speech Prime Minister Modi had said that "administrative tradition has served India well in many ways. Above all, it has preserved democracy and federalism, unity and integrity, in a country of glorious diversity."

But looking closely, it is this very tradition that has crippled the defence of India, with bulk of the British era ICS officers remaining back in the Ministry of Defence (MoD) simply changing into the mantle of IAS and following the legacy of Nehru who opined that he did not need the Army, and that police was sufficient to guard the country. Unfortunately, nothing has been done to restructure the MoD and induct military professionals. No move has been made to integrate HQ IDS with MoD either. MoD should be manned by military professionals. Posting of a former CISC as 'advisor' to Defence Minister is a face-saving measure but the biggest joke going around is that the oncologist who is the current Minister of State for Defence Dr S.R. Bhamre, who as per media reports is not being sent any files on the Defence Minister's instructions, has been posted to MoD to cure the cancer in the bureaucracy. Whether this is the transformational cure that the Prime Minister has in mind is anybody's guess but the fact is that the prestige and allowances of the soldier have been severely hit under the present dispensation whether by design or default, grant of partial OROP notwithstanding.

In his speech, Prime Minister Modi had reflected on an exercise he has undertaken which has revolved around what he described as "structured" brainstorming sessions with bankers, police officers, secretaries to government and others. Does this imply that the military is nowhere in his priority? The fact remains that the defence sector remains the most neglected, 'Make in India' notwithstanding. Are there no compunctions about denying the foot soldier proper small arms, bullet proof jackets, night vision equipment and the like? The indigenous private sector other than some big business houses is exasperated. Foreign firms are equally exasperated with excessive bureaucracy, corruption and an onerous tax regime which can leave firms fighting for years in the courts to avoid crippling bills. If the US has accorded us 'Major Defence Partner' status and we have access to about 90 per cent state-of-the-art US technology, we can only capitalise on it by integrating indigenous private industry.

There is talk that caste, reservations and quota system has brought in mediocrity in the bureaucracy, but where do you see a stop to it? The question remains whether Prime Minister Modi can transform the administration, because perhaps no one else can, where the bureaucracy is part of the mafia that serves as conduit for providing the essential financial muscle for elections, or will the bureaucracy have the last laugh? **SP**

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



# Chief of the Army Staff inaugurates the Army Design Bureau



Chief of the Army Staff General Dalbir Singh formally announcing the establishment of the Army Design Bureau

[ By Rohit Goel ]

**C**eneral Dalbir Singh, the Chief of the Army Staff (COAS), along with Lt General M.M.S. Rai, Vice Chief of Army Staff, and Lt General Subrata Saha, Deputy Chief of Army Staff (P&S), formally announced the establishment of the Army Design Bureau during an Army Seminar on Make Projects organised in partnership with the Confederation of Indian Industry (CII) in New Delhi on August 31, 2016. Secretary Defence Production A.K. Gupta was the guest of honour at the event, which was attended by a large number of dignitaries and senior representatives of Indian industry, academia and leading research agencies. The COAS also

launched the 'Make in India Army Website' which was hosted live during the inaugural session of the seminar.

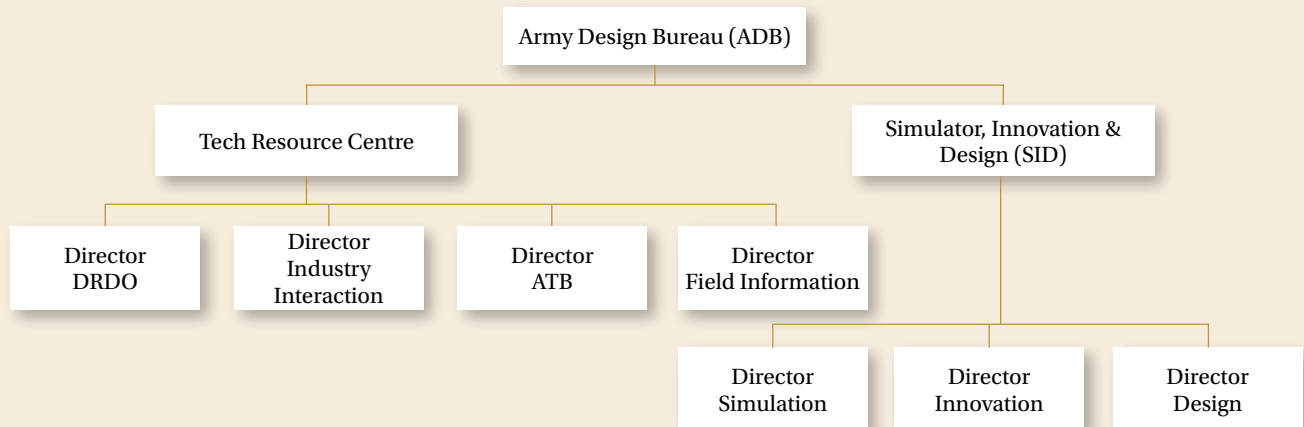
In his opening address R.S. Bhatia, Chairman of CII Land Systems Sub-committee, applauded the Army's initiatives to reach out to industry for 'Make Projects'. He emphasised that the Ministry of Defence (MoD) can make successful use of 'Make Projects' in import substitution as with increasing levels of import substitution, India will be closer to its goal of self-reliance. General Dalbir Singh also highlighted the need for government to handhold the industry, especially MSMEs, and assist them to actively participate in the defence procurement programmes.

A.K. Gupta spoke about the initiatives taken by MoD during the last two years to facilitate larger participation of the Indian defence



## Role and Outline of Army Design Bureau

Role of the organisation is to be the facilitator for research and development efforts and initiation of procurements of weapons and equipment required by the Indian Army. The organisation of ADB is as shown below:



Source: Indian Army

industry in meeting the requirements of the Indian armed forces. He also expressed satisfaction that the Army Design Bureau has finally been setup to be a repository of all technological information of Army's war-fighting assets and also act as a catalyst and facilitator for participation of industry, academia, R&D organisations to fulfill the "dream of self-reliance".

Addressing the gathering, General Dalbir Singh emphasised the need for the Army Design Bureau as this will enable faster trials, quicker induction of equipment as well as fast-track the procurement process and the modernisation of the Indian Army. Referring to the Ordnance Factory Board (OFB), COAS said that the requirements of the Indian Army are large and only one agency cannot meet all the requirements. Industry involvement is a must as the ultimate security of a nation is self-reliance. He congratulated all in making the Army Design Bureau a reality.

Earlier, during the annual press brief on the occasion of Army

Day 2016, the COAS had announced that the Indian Army was soon going to have its own Design Bureau. Rapid changes in technology and consequent changes in war-fighting techniques, requires the user, i.e. the Army, to be constantly involved at every stage from conceptualisation, design, development, trials, and production to sustenance. To facilitate the same, the Army Design Bureau shall be the interface of the Army with the Defence Research and Development Organisation (DRDO), academia, defence public sector undertakings (DPSUs), OFBs and private industry paving the way for high quality research and development of defence products.

In the run-up to the establishment of Army Design Bureau, the Indian Army undertook series of Army-industry-academia interactions since January this year. Lt General Subrata Saha and his team of senior officers carried out extensive interactions with a view to promoting awareness on Army's modernisation needs, discovering capabilities of the industry and encouraging long-term research in the academia at various regional industrial hubs across the country. Twenty such interactive sessions have been carried out till date. Industry captains of major defence industries, MSMEs, start-ups have participated in these sessions. In addition, the team has carried out interactions with a number of leading institutes like the Indian Institute of Technology at Delhi, Mumbai, Chennai and Gandhinagar and PSG Institute of Technology and Applied Research of Coimbatore. These events provided an exclusive opportunity to industry and academia representatives to understand the requirements and interact with the Indian army to seek clarifications directly from the user. The Indian Army will soon be publishing a comprehensive compendium giving out specific problem definitions which shall help the R&D fraternity in developing indigenous solutions for the Army's modernisation needs. In order to streamline the procurement process further, the Army has also initiated a number of other steps to include structural changes in the procurement organisations and issue of compendium of revised SOPs in line with the Defence Procurement Procedure (DPP) 2016.

Following the formal announcement of establishment of the Army Design Bureau and launch of the website, a detailed deliberation on the Army's 'Make Projects' was carried out in the second session of the seminar. The Army has identified 10 projects under 'Make' category for manufacturing by domestic defence industry. Indian Army is considering more projects to be taken up in 'Make' category, for which the preliminary process is already on. SP

## Charter of Army Design Bureau

- Act as a central repository of technical know-how for the Indian Army.
- To collate operational requirements from the field formations and bring it forward for deliberations with DRDO, OFB, DPSUs, defence industry and academia.
- To assist in formulation of GSQRs and Statements of Case in respect of Indian Army.
- To collate and bring to fruition the innovations undertaken by the field formations.
- Subsume Army Technology Board and Simulator Development Division in its organisation and adopt their charter.
- Act as a nodal point to integrate and synergise the efforts of various Category 'A' establishments having domain-specific centres of technological excellence.
- Generate long-term research requirements for the Indian Army and share the same with the DRDO and academia.
- Assist in identifying various projects for the DRDO and be the single-point contact with it.

## Maiden Annual Joint Disaster Relief Exercise Prakampana inaugurated

**T**he maiden Joint Disaster Management Exercise named Prakampana ('Cyclone' in Sanskrit) aimed at synchronising resources and efforts of all agencies involved in disaster management has been inaugurated at Visakhapatnam on August 30, 2016. The three-day-long exercise was conducted by the Eastern Naval Command in liaison with concerned Centre and State authorities. Vice Admiral H.C.S. Bisht, Flag Officer Commanding-in-Chief, Eastern Naval Command, delivered the opening address while Satya Prakash Tucker, Chief Secretary to the Government of Andhra Pradesh, delivered the opening address during the inaugural ceremony of Ex Prakampana held at Samudrika Naval Auditorium. Ganta Srinivasa Rao, HRD Minister, Andhra Pradesh, also addressed the gathering and later visited the disaster management camp set up to give an insight into the nuances of disaster relief operations.

The inaugural session had presentations by all concerned agencies which were aimed at highlighting their existing capabilities in dealing with such natural disasters and was followed by a Table Top Exercise (TTX) at Maritime Warfare Centre, inside Naval Dockyard on a simulated scenario of a super cyclone hitting an urban city akin Hudhud. All stakeholders were tasked to formulate a comprehensive disaster management plan to cater for the pre-event action and post-disaster action plan. The TTX enabled better understanding of each other's peculiarities so as to bring all agencies to a common understanding of disaster management for better synergy and coordination in planning relief operations.

The second day of exercise witnessed humanitarian assistance and disaster relief (HADR) capability demonstration beginning with display of air assets of the Indian Navy and IAF at Naval Air



Station INS Dega followed by demonstration of HADR operations from Indian Navy ships at Naval Dockyard, and a static demonstration of HADR assets of all participating stakeholders at HADR campsite near Samudrika grounds. All participants of the exercise visited the three sites and were given an insight into the nuances of disaster relief operations.

The air assets demonstration included An-32 aircraft involved in airlifting relief material and air ambulance and two Mi17 heavy-lift helicopters of the Indian Air Force in addition to Dornier, Seaking, UH3H and Chetak helicopters of the Indian Navy. Demonstration inside Naval Dockyard included Indian Navy ships Jalashwa and Gharial loading/unloading of HADR relief material while INS Nirupak demonstrated the role of a hospital ship. Indian Coast Guard Ship Samudra Paheredar demonstrated the pollution response capabilities. **SP**

## Lt General Bipin Rawat takes over as the VCOAS



**L**t General M.M.S. Rai retired on August 31, 2016, relinquishing the appointment of the Vice Chief of the Army Staff (VCOAS) of the Indian Army. The General Officer hung his uniform after an illustrious military career spanning four decades. Lt General Rai was commissioned in the Corps of Engineers on December 15, 1976. Apart from the regimental service, the General Officer had tenanted

various key staff, instructional and command appointments including that of GOC-in-C, Eastern Command.

Lt General Bipin Rawat took over as the VCOAS of the Indian Army on September 1, 2016. He was commissioned in the Fifth Battalion of the Eleven Gorkha Rifles in December 1978, from IMA, Dehradun, where he was awarded the 'Sword of Honour'. The General Officer has vast experience in high altitude warfare and counter-insurgency operations. He commanded an Infantry battalion, along the line of actual control in the Eastern Sector; a Rashtriya Rifles Sector and an Infantry Division in the Kashmir Valley. He has tenanted instructional appointments at the Indian Military Academy, Dehradun, and at Army War College, Mhow. Lt General Rawat has held important staff appointments at the Directorate General of Military Operations and Military Secretary's Branch at Army HQ. He has also been Major General, General Staff, at HQ Eastern Command. The officer commanded a Multinational Brigade, in a Chapter VII mission in the Democratic Republic of Congo (MONUC).

An alumni of Defence Services Staff College, Wellington, the Higher Command & National Defence College Courses, the General Officer, during the span of over 35 years service in uniform, has been awarded for gallantry and distinguished service with the UYSM, AVSM, YSM, SM, VSM, COAS Commendation on two occasions and the Army Commander's Commendation. Whilst serving with the United Nations, he was twice awarded the Force Commander's Commendation.

Prior to taking over as the VCOAS, Lt General Bipin Rawat tenanted the appointment of the GOC-in-C, Southern Command. **SP**

## Indian warships visit Port Louis, Mauritius



**I**n a demonstration of India's commitment to its ties with Mauritius and to promote maritime security in the Indian Ocean region, Indian naval ships Kolkata and Aditya under the Command of the Flag Officer Commanding Western Fleet, Rear Admiral Ravneet Singh, NM have arrived on September 1 at Port Louis on a three-day visit. INS Kolkata is commanded by Captain Rahul Vilas Gokhale and INS Aditya is commanded by Captain Vidyanshu Srivastava. The ships are part of the Indian Navy's Western Fleet based at Mumbai under the Western Naval Command and are on a two-month-long deployment in the Western Indian Ocean.

The visit would contribute to further strengthening of maritime security cooperation between the Indian Navy and the Mauritius National Coast Guard towards ensuring a secure and stable regional maritime environment for unhindered economic development in the region. During the visit, professional interactions for enhancing cooperation and sharing the nuances of naval operations, includ-

ing disaster management and combating maritime threats of terrorism and piracy, would be undertaken by the two forces. Calls on senior government and military authorities, training and technical cooperation measures with NCG, sporting and cultural interactions, aimed at strengthening ties and mutual understanding between the two forces, are also planned.

India and Mauritius have ratified a wide range of bilateral agreements with defence cooperation being a very significant component. Mauritius Coast Guard ships Barracuda and Guardian, vessels built at GRSE Kolkata and 11 fast intercept boats built at Goa Shipyard Limited are examples of India's commitment to capability development programme of Mauritius National Coast Guard and the deep rooted bonds between the two countries. Defence cooperation is also undertaken in the fields of training, hydrography and maritime domain awareness. **SP**

## Regional Maritime Security Course commences at Naval War College

**I**n continuation of the Indian Navy's foreign cooperation initiatives, a Regional Maritime Security Course (RMSC) for officers of the rank of Colonel/equivalent of maritime security agencies from friendly foreign countries (FFCs) at Naval War College in Goa commenced on August 16 for a duration of eight weeks. The module includes International Relations Theory, International Maritime Law, UNCLOS, Energy and Natural Resources Security, Maritime Domain Awareness, Indian Ocean Studies as well as a table top humanitarian assistance and disaster relief/out-of-area contingency exercise.

The course would provide a concrete forum for developing common understanding of regional maritime security issues, disseminate the Indian Navy perspective on the subject, as well as provide an opportunity for Indian Navy officers undergoing the Naval Higher Command Course to interact with the foreign participants, and understand the perspectives of regional navies, on issues of common concern. **SP**

## Rear Admiral R.S. Laswai, Commander of Tanzanian Navy, visits India

**R**ear Admiral R.S. Laswai, Commander of Tanzanian Navy, was on an official visit to India from August 29 to September 1, 2016. His visit was to consolidate bilateral naval relations between India and Tanzania and to explore new avenues for naval cooperation.

He held bilateral discussions with Admiral Sunil Lanba, Chief of the Naval Staff, and other senior officials of the Indian Navy. The Indian and the Tanzanian navies cooperate with each other in training, hydrography as well as interact at multilateral forums like IONS and MILAN. Indian naval ships visit Tanzanian port of Dar es Salaam regularly to build 'bridges of friendship'. Indian Navy ship Trikanth is scheduled to visit Dar es Salaam in early September 2016.

Hydrographic cooperation between the two maritime nations has increased post signing of a MoU on hydrography in June 2015. High level exchanges are regularly undertaken between both navies. The maritime relations between the two countries received particular emphasis during the visit of the Prime Minister Narendra Modi to Tanzania in July 2016 and the visit of Rear



Admiral R.S. Laswai, Commander of Tanzanian Navy, to India therefore assumes significance. **SP**





LT GENERAL  
P.C. KATOCH (RETD)

# China: Self-appointed NSG policeman caught cheating

**C**hina, the self-proclaimed Nuclear Suppliers Group (NSG) policeman, has been caught, what may be described as with her pants down, violating NSG rules herself. China blocked India's entry into NSG on grounds that India was not signatory to the Nuclear Non-Proliferation Treaty (NPT), continues to hail NPT as the cornerstone of global non-proliferation regime, has herself been caught violating the rules of NSG by transferring nuclear reactors to Pakistan – a country which is not under the IAEA (International Atomic Energy Agency) safeguards.

The Arms Control Association, a leading authority on nuclear weapons and disarmament, in its latest report, 'Assessing Progress on Nonproliferation and Disarmament updated report card 2013–2016', assessing progress on non-proliferation says, "Despite progress on its export controls China continues to supply Pakistan with nuclear power reactors, despite objections that the sale of the reactors did not receive a consensus exemption from the NSG. Pakistan, which is neither an NPT member nor under full-scope IAEA safeguards, is therefore ineligible to receive such assistance under NSG rules."

The report further says that China continues to sell nuclear reactors to Pakistan and lacks comprehensive lists for controlling the transfers of ballistic missile materials and technologies, adding, "Beijing's decision to continue selling nuclear reactors to Pakistan in contravention of the NSG and its sales of missile technologies to countries of concern earns China a failing grade." Ironically, China had blocked India's NSG bid on grounds that participation of a non-NPT signatory in the group will weaken the international non-proliferation regime. This once again conclusively proves that China is a cheat and a bully. Prior to the NSG meet in Seoul, Beijing orchestrated numerous ambiguous statements from the state-controlled media grouping Pakistan with India in saying both must join NPT.

China was actually highly strung when India was admitted to the Missile Technology Control Regime (MTCR) while China was not. Post India's admission into MTCR, a senior US official had stated that it [MTCR] "permits India to continue to advance its non-proliferation leadership in the world and contribute to that regime, to limit missile proliferation in the world". This obviously raised the hackles of China more especially when she is eyeing India getting closer to the US little realising her own actions in concert with Pakistan are principally responsible for many developments in recent times. China also wanted to snub the US

which was supporting India's inclusion into NSG. Therefore China actively lobbied before the meeting to make sure India was denied the membership, despite Prime Minister Narendra Modi discussing the issue with President Xi Jinping and China signaling that it will play constructive role on the issue.

In 1986, Chinese scientists began assisting Pakistan with the enrichment of weapons-grade uranium. China not only transferred tritium gas to Pakistan for 10 nuclear weapons but also provided nuclear technology and co-opted Pakistani scientists in a nuclear test at its Lop Nor test site in 1989. The most significant proliferation activity involved China Nuclear Energy Industry Corporation (CNEIC) providing 5,000 specially designed ring magnets to Pakistan.

In his book *The Nuclear Express: A Political History of the Bomb and its Proliferation*, Thomas Reed, former US Air Force Secretary, pointedly states that China has intentionally proliferated nuclear technology to risky regimes, particularly Pakistan. In his interview with *US News*, Reed explained that China under Deng Xiaoping, decided to proliferate nuclear technology to communists and radical muslims in the third world based on the strategy that if the West started getting nuked by radical muslim terrorists or another communist country without Chinese fingerprints, it would be good for China. China trained Pakistani scientists and gave them the design of the CHIC-4 device, which was a weapon that was easy to build a model for export.

There is evidence that A.Q. Khan used Chinese designs in his nuclear designs. Notes from his lectures later turned up in Libya. China dealt with Saudis, North Koreans and the Algerians similarly. China tested Pakistan's first bomb for her in 1990. What reinforces Chinese lies is that while China raised a host of objections to exposures in Reed's book, all were withdrawn subsequent to Reed pointing out facts were based on discussions with Chinese scientists.

As for North Korea, not only has China actively assisted the former's nuclear programme, she apparently wants North Korea to fire at least one nuclear weapon against another country (US, Japan, South Korea?) just to displace the US claim of being the sole country to have nuked another country. As per Israeli defence forces, Pakistan now wants to take its land-based VLS nuclear deterrent to sea on stabilised surface ships and underwater in Chinese submarines. China of course will gleefully oblige as it helps keep India boxed in further. **SP**

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

**The most significant proliferation activity involved China Nuclear Energy Industry Corporation (CNEIC) providing 5,000 specially designed ring magnets to Pakistan.**



## Delhi poised to get new Air Force Aerospace Museum

**D**elhi will soon have a sprawling new Aerospace Museum close to the international airport focused mainly on nation's rich aviation history. New Aerospace Museum is not only meant to preserve the glorious tradition of the Indian Air Force (IAF) but also to create awareness in general public about India's rich aerospace heritage.

The IAF believes that the museum would be a popular tourist attraction and a landmark in India's capital city. A proposal for new Air Force Aerospace Museum was cleared by the Ministry of Defence and final financial sanction on the detailed project report is awaited. After the approval, the new museum would be ready for the tourists in five years.

Spread over 17 hectares, the new Aerospace Museum would have extensive indoor and outdoor displays

including huge aircraft parked and hanging in flying attitude with mural depicting the golden era. A dedicated children's area would be part of the museum where children could enter cockpits of displayed aircraft and get the feel of flying controls. A video arcade would also be created. As per the plan, the internal displays would have a history section in which all IAF Squadrons' history would be displayed along with aviation legends, major campaigns and wars fought by the IAF. Along with this history, major humanitarian

assistance and disaster relief operations undertaken by the IAF would also be highlighted.

The IAF presently has a museum near the technical area of Air Force Station Palam, which was established in 1967. The museum has an average footfall of 500 tourists daily and exhibits details about combat operations undertaken by the IAF depicting its rich history since its formation in 1932 to present date, along with the display of various aircraft and equipment on the IAF's inventory since its inception. **SP**



## Pasighat advanced landing ground gets operational



**T**he upgraded Advanced Landing Ground (ALG) at Pasighat in Arunachal Pradesh was inaugurated by Kiren Rijiju, Minister of State for Home Affairs, in the presence of Air Marshal C. Hari Kumar, Air Officer Commanding-in-Chief (AOC-in-C), Eastern Air Command.

A flypast by a formation of three Sukhoi Su-30MKI air dominance fighter aircraft that took off from one of the forward EAC airbases was a highlight of the event. This was followed by a Su-30MKI also landing at the ALG. The touchdown by a frontline fighter jet of the IAF at the ALG is a 'historic first' in the predominantly hilly state of Arunachal Pradesh, which has several ALGs at varying altitudes.

The new runway surface and other infrastructure built are similar to the other

upgraded ALGs that have been inaugurated in the recent months. Replete with facilities such as aprons for ground manoeuvring, Air Traffic Control Tower, perimeter road and a security wall, the ALG will facilitate operations of fixed-wing aircraft as well as helicopters of both civil and military operators.

The ALG at Pasighat will facilitate air connectivity with rest of the country and give a huge fillip to tourism in the state of Arunachal Pradesh. The pristine and picturesque landscape of Pasighat, on the banks of river Siang, will become accessible to the rest of the world. The unspoilt natural beauty of the area is sure to attract many a tourist, which in turn will usher in a new round of prosperity and happiness for the local population. The Airports Authority of India (AAI) is in the process of setting up a civil terminal, the construction of which has yet to commence. Now the need of the hour is for all agencies to get together and make it happen. **SP**

## Air Marshal H.S. Arora is Director General Air (Operations)

**A**ir Marshal Harjit Singh Arora, AVSM, has been appointed as Director General Air (Operations) on August 22, 2016. Commissioned in the Indian Air Force (IAF) as a fighter pilot in December 1981, he has over 2,600 hours of operational flying on MiG-21, MiG-29 and other variants

of aircraft in IAF inventory, including helicopters. He has served as Directing Staff at Tactics and Air Combat Development Establishment (TACDE) and as a Flying Inspector in the Directorate of Air Staff Inspection (DASI). He was deputed as Defence Attaché in the Embassy of India at Bangkok, Thailand, from 2006 to 2009.

He commanded 45 Squadron - 'The Flying Dagger' - as a Wing Commander and as a Group Captain he was ADDC Cdr and Station Commander at 33 SU - 'The Scanners'. As an Air Commodore he commanded Air Force Station Adampur in Punjab and as Air Vice Marshal he was Air Defence Commander at Headquarters of Western Air Command as well as Easter Air Command.

He is a meritorious graduate of TACDE, Defence Services Staff College and the National Defence College. He is also master of philosophy in defence and strategic studies.

In recognition of his meritorious service he was commended by the AOC-in-C in 1997 and was awarded Ati Vishist Seva Medal on January 26, 2011, by the President of India. He is married to Mrs Baljeet Arora and have two sons. His interests include reading, music and travelling. **SP**



## L-3 to supply electro-optical and infrared designating systems to Middle East

**L**-3 Communications recently announced that its Integrated Sensor Systems (ISS) sector within its Electronic Systems segment has been selected under a US foreign military sales (FMS) contract to provide eight WESCAM MX-10D electro-optical and infrared (EO/IR) designating turrets to a Middle Eastern nation's Ministry of Defense.

L-3's MX-10Ds will be used by the customer in support of counter-terrorism operations from its newly acquired UH-60 Black Hawk helicopters. Turret deliveries to Sikorsky, the integrator for the programme, began in June 2016 and will continue through February 2017.



"This is a key win in an important and emerging international market," said Steve Kantor, President of L-3's Electronic Systems business segment. "L-3 WESCAM has a well-established record of providing innovative technologies that give our customers the distinct advantage needed for their security operations."

"We are proud to provide our end-user with a powerful and affordable designating solution that will work in conjunction with legacy systems to deliver a unique and essential integrated EO/IR system," added Paul Jennison, Vice President of Government Sales and Business Development for L-3 WESCAM, a unit of L-3's ISS sector.

L-3's imaging systems range in size from 8 inches to 25 inches in diameter and provide high-resolution, stabilised full-motion intelligence in support of low-level tactical to high-altitude, ultra long-range persistent missions. **SP**

## US Marine Corps receives 50th KC-130J Super Hercules aerial refueller



**T**he US Marine Corps accepted delivery of its 50th KC-130J Super Hercules aerial refueller at the Lockheed Martin facility on August 18. This KC-130J is assigned to Marine Corps Air Station Miramar, California. The Marine Corps has the distinction of operating the largest KC-130J fleet in the world.

As a member of the proven C-130J Super Hercules family, the KC-130J is battle-tested and delivers unmatched tanking capabilities – delivering fuel to a multitude of platforms, from helicopters to the F-35B Lightning II, the world's most advanced fifth-generation multi-role fighter.

"The US Marine Corps is one of the most visible KC-130J operators in the world, providing vital support where it's needed most," said George Shultz, Vice President and General Manager, Air Mobility & Maritime Missions at Lockheed Martin. "We value our partnership with the Marine Corps and know that much of the success of the KC-130J platform is due to the multiple missions carried

out by marine crews on this aircraft. Congratulations to the US Marine Corps on delivery of this milestone KC-130J!"

The KC-130J aerial refuelling tanker is the latest in a long lineage of combat proven KC-130 Hercules aerial refueller technologies. The new KC-130J builds on proven aerial refueller designs while taking full advantage of tremendous technological and performance improvements inherent in the basic C-130J aircraft. Several international operators also fly the KC-130J. **SP**

## A400M demonstrates sand runway capability



**A**irbus Defence and Space has successfully demonstrated the capability of the A400M new-generation airlifter to operate on a sand runway – the last of three unprepared types of surface on which it will be certified.

The tests using the development aircraft MSN2 took place over a three-week period in August on a specially constructed airstrip at Woodbridge, UK. A final week of tests will include operations at increasingly higher heights.

The A400M demonstrated excellent performance in taxiing manoeuvres, such as

U-turns, and during take-off and landing on the 1,600-metre strip. These tests followed earlier successful results on the gravel surface at Ablitas in Spain and a grass runway at Écurey in France. **SP**

## Japan's first F-35A makes first flight



**T**he first Japan Air Self-Defense Force (JASDF) F-35A successfully completed its maiden flight August 24, 2016. The flight was piloted by Lockheed Martin's F-35 test pilot Paul Hattendorf.

Japan is on record to purchase 42 F-35A conventional take-off and landing (CTOL) aircraft, acquired through the US Government's foreign military sales programme. The first four aircraft are in assembly in Fort Worth and are anticipated to be delivered before the end of 2016.

The remaining 38 aircraft will be assembled at the Mitsubishi Heavy Industries final assembly and check-out facility in Nagoya, Japan. Aircraft assembly is also underway at the Nagoya facility. Maintenance training for the first Japan maintainers has already begun at Eglin AFB, Florida, and training of the first JASDF F-35 pilots will begin at Luke AFB, Arizona, in November 2016. **SP**

## Boeing awarded \$2.8 billion for KC-46A tanker initial production



**T**he US Air Force awarded Boeing \$2.8 billion on August 18 for KC-46A tanker low-rate initial production. The award includes the first two “production lots” of seven and 12 planes respectively, as well as spare parts. Including future options, Boeing plans to build a total of 179 of the 767-based refuelling aircraft for the Air Force to replace their KC-135 fleet.

“The KC-46 tanker will provide the Air Force unprecedented refuelling capabilities, operational flexibility and combat readiness,” said Leanne Caret, Boeing Defense, Space & Security President and CEO. “It’s an important day for the company and programme. We’re excited about building low-rate initial production aircraft, and it’s only

possible because of the hard work of the joint Boeing-Air Force team.”

This step forward follows a Defense Acquisition Board review and announcement that the KC-46 programme completed “Milestone C” – a set of required ground- and flight-test – and is approved for initial production. Those tests included refuelling flights with F-16, F/A-18, AV-8B, KC-10, C-17 and A-10 aircraft and a cargo handling demo.

Boeing received an initial contract in 2011 to design and develop the US Air Force’s next-generation tanker aircraft. As part of that contract Boeing built four test aircraft – two configured as 767-2Cs and two as KC-46A tankers. The test aircraft have completed more than 1,000 flight hours to date.

The KC-46A is a multi-role tanker that can refuel all allied and coalition military aircraft compatible with international aerial refuelling procedures and can carry passengers, cargo and patients. Boeing is assembling KC-46 aircraft at its Everett, Washington, facility. The company will begin delivering tankers to the Air Force in 2017. **SP**

## C-17 exchanged broadband data over 2,400 km via HF

**I**n an industry first, Rockwell Collins completed the complex data transfer from a C-17 airborne aircraft to a ground station over a Wideband High Frequency (WBHF) channel. Rockwell Collins collaborated with the US Air Force to prove the viability of WBHF data transfer over the duration of a two-day flight, between Dover AFB Delaware and Joint Base Lewis-McChord, Wash-

ington, using a Wideband HF Receiver-Exciter configured for airborne operation.

“WBHF is a highly reliable solution for the transfer of data, including video, and the perfect complement to traditional SATCOM communications in denied environments,” said Mike Jones, Vice President and General Manager, Navigation & Electronic Warfare Solutions. “The result is a low-cost replacement that leverages the platform’s current HF system infrastructure to create an HF solution with performance never before available.”

During the demonstration, the transfer included streaming video, real-time chat, file transfers and digital voice audio. By testing the capabilities over the course of two days, teams were able to prove performance and reliability with changing variables such as environment, geographical position and time of day. During this demonstration communication links were made, and data passed over a distance of more than 2,400 km.

WBHF offers the highest data throughput in comparison to legacy HF and complements satellite communications, moving information quickly with the highest fidelity as possible, even in satellite-limited or denied environments. WBHF upgrades can greatly increase performance and capacity of current HF infrastructure.

Military commanders, tanker operators, agencies and the Department of Defense services can benefit from WBHF in several ways such as uninterrupted, large file transfer with speeds up to comparable to narrowband SATCOM systems, elimination of vulnerability and availability issues, and enhanced voice capabilities with cellular quality communications. **SP**

## Successful testing of ISRO’s Scramjet engine technology demonstrator

**T**he first experimental mission of ISRO’s Scramjet engine towards the realisation of an air-breathing propulsion system was successfully conducted on August 28, 2016, from Satish Dhawan Space Centre SHAR, Sriharikota.

The important flight events, namely, burn out of booster rocket stage, ignition of second stage solid rocket, functioning of Scramjet engines for 5 seconds followed by burn out of the second stage took place exactly as planned. After a flight of about 300 seconds, the vehicle touched down in the Bay of Bengal, approximately 320 km from Sriharikota. The vehicle was successfully tracked during its flight from the ground stations at Sriharikota.

With this flight, critical technologies such as

ignition of air-breathing engines at supersonic speed, holding the flame at supersonic speed, air intake mechanism and fuel injection systems have been successfully demonstrated.

The Scramjet engine designed by ISRO uses hydrogen as fuel and the oxygen from the atmospheric air as the oxidiser. The test was the maiden short duration experimental test of ISRO’s Scramjet engine with a hypersonic flight at Mach 6. ISRO’s Advanced Technology Vehicle (ATV), which is an advanced sounding rocket, was the solid rocket booster used for the test of Scramjet engines at supersonic conditions. ATV carrying Scramjet engines weighed 3,277 kg at lift-off.

India is the fourth country to demonstrate the flight testing of Scramjet engine. The successful technology demonstration of air-breathing Scramjet engines in flight by ISRO is a modest yet important milestone in its endeavour to design and develop advanced air-breathing engines including engines for ISRO’s future space transportation system. **SP**





## Phantom flies final unmanned mission

**T**he QF-4 Phantom flew its final unmanned mission in the skies above White Sands Missile Range on August 17. During the flight, the unmanned aircraft served its primary mission as an aerial target and was shot at by an F-35 Lightning II from Edwards Air Force Base, California.

“Our mission is to provide those airplanes as targets for our Department of Defense and foreign military sales customers to test the next-generation of weapons,” said Lt Colonel Ronald King, the 82nd Aerial Targets Squadron, Detachment 1 commander. “Sometimes, that is a missile, sometimes a surface-to-air missile. For the final unmanned flight, we flew in support of an F-35 mission.”

This flight served as the final unmanned mission before the QF-4 programme ends later this year, and the 82nd ATRS, Det. 1 transitions to flying QF-16s.

“The QF-4 has been flying for about 15 years, and it has been instrumental in testing next-generation weapons and radar systems,” said King. “We’ll continue to fly them as manned aircraft until the end of the programme, which is through December, but this is the last time we are flying it unmanned before we transition to the QF-16.” **SP**



## Elbit Systems introduces Skylark C



**E**lbit Systems has developed the Skylark C, a new highly autonomous mini-UAS specifically designed and built for maritime applications.

Based on the Skylark I mini UAS – which is fully operational and in use by dozens of customers around the world – the new Skylark C transforms and extends the operational capabilities of its land-based counterpart into an organic maritime intelligence, surveillance, target acquisition and reconnaissance (ISTAR) asset.

As a maritime vessel organic asset, Skylark C provides the capabilities to inspect maritime activities from a safe distance, observe targets from a bird’s-eye view, perform reconnaissance over coastal areas and

perform continuous covert surveillance, thus extending the vessel’s ISR capabilities with respect to range, rate and quality of information obtained.

Mission effective, with highly autonomous flight capability, Skylark C incorporates an electrically-propelled air vehicle with a very low visual and acoustic signature, making it an ideal solution for covert operations such as special naval operations, border security, anti-terrorism and anti-piracy operations. The aerial vehicle utilises Elbit Systems’ industry-leading UAS technology and know-how, featuring an advanced inertial navigation system (INS) and a stabilised electro-optical (EO) payload with a high resolution thermal imager and colour daylight camera that enables continuous day/night monitoring in diverse weather conditions. **SP**

## United Kingdom orders additional Zephyr

**T**he United Kingdom’s Ministry of Defence has announced its intention to exercise an option for the manufacture and operation of a third Airbus Zephyr S High Altitude Pseudo-Satellite (HAPS) unit.

Flying at some 65,000 ft, the ultra-lightweight Zephyr S is uniquely capable of providing persistent surveillance or communications over the same area of land or sea for weeks at a time without landing. The



precise purposes for which the UK MoD will use its Zephyrs have not been disclosed. The Zephyr S will be delivered ready for flight trials in summer 2017.

“Zephyr is a highly cost-effective complement to satellites and conventional aircraft with the potential to bring unique communication and surveillance capabilities to the UK and other nations,” said Sophie Thomas, HAPS Programme Manager.

Running exclusively on solar power and flying above the weather and civil air traffic, the latest generation Zephyr S has a wingspan of 25 metres, is 30 per cent lighter and can carry 50 per cent more batteries than its predecessor. This enables the Zephyr S to carry heavier payloads for its surveillance and communications roles. The Zephyr S HAPS is designed to fly continuously for over a month if required before landing, being refurbished, and flying again. **SP**



## Swedish firms eyeing 'early bird' advantages in liberalised defence environment in India

**I**n a bid to deepen Indo-Swedish defence and aerospace cooperation, the Government of India has urged Swedish companies to forge large-scale partnerships with Indian manufacturers and reap the 'early bird' advantages from the amended defence procurement rules. The policy gives priority to indigenously designed, developed and manufactured defence equipment.

To take the process forward, FICCI in collaboration with SOFF and the Swedish Embassy, organised the India-Sweden Defence & Aerospace Industry seminar on August 31, 2016, which were followed by B2Bs and B2G on September 1, 2016.

While addressing the seminar, Sanjay Garg, Joint Secretary (DIP), Ministry of Defence, the policy focus was not just on pure manufacturing. He said that the Government of India, on its part, in the last two years has approved 85 per cent of the capital acquisition proposals under the new category called 'Buy Indian-Indigenously Designed, Developed and Manufactured' (IDDM) and 'Buy and Make (Indian)'.

He said that the time was ripe for Swedish companies to find the right partner from the Indian defence manufacturing industry.

Josa Karre, Counsellor in Embassy of Sweden, in her remarks,

pointed out that both Sweden and India have a strong industry base and India had now become an attractive place for investors, adding that "we have the expertise and know-how in the defence and aerospace sector to support your success."

Ambassador Anders Bengtson, Ministry of Foreign Affairs, Sweden, said that there was tremendous scope for collaboration between Swedish and Indian companies in aviation, maritime security and combat training and simulation for army personnel. "Swedish companies are here for a long haul and this was possible because of the trust and reliability that they enjoy," he added.

Jayant D. Patil, Chairman, FICCI Defence & Aerospace Committee and Senior Vice President and Member of the Board, L&T Heavy Engineering & L&T Shipbuilding; Sudhakar Gande, Vice Chairman, AXISCADES Aerospace & Technologies Ltd and Chairman, FICCI Task Force on Aerospace; and Dr A. Didar Singh, Secretary General, FICCI, shared their perspectives on Indo-Swedish cooperation in defence and aerospace sectors, stating that the policy framework had been streamlined and was extremely supportive of building strong partnerships between Swedish and Indian companies. **SP**

## Saab inaugurates new office in Denmark

**D**efence and security company Saab inaugurated the company's new office in Sønderborg, Denmark. Saab is growing in Denmark and acts as a hub for high technology communication systems.

Saab in Denmark is going from being a product supplier to a solution provider. Providing full system integration of highly advanced communication systems (TactiCall) for both the civil and military domains – both domestically and internationally. Systems that increase flexibility and manoeuvrability for the customer to pursue its core tasks, such as for defence forces to keep people and society safe or for actors in the oil and gas industry to have a safe work environment.

"We want to expand our overall presence in Denmark and to provide Saab's innovative and high—technological systems and solutions within defence and security to the Danish market," says Heino Lundgren, CEO of Saab in Denmark and head of Saab business unit Communication Solutions within business area Support and Services.

Over the past four years Saab Denmark has more than doubled its turnover and recruited more than 30 new employees – increas-



ing staffing with more than one-third in total. Saab's plan is to continue to grow in Denmark going forward.

"Sønderborg is one of the major engineering hot spots in Denmark. Several of Denmark's leading technology companies have their headquarters in the area, and this helps attracting the right talent and skills, which will build the foundation for our growth. To Saab, Sønderborg is the ideal location to build for the future, which we firmly believe we have done here at our new offices," says Heino Lundgren.

Saab in Denmark is the company's hub in terms of military communication systems. The expertise within the area is extensive and goes many years back. The communication technology Saab is offering is called TactiCall and is a very robust system for both military and civil use. One of the advantages is that the system can connect all kinds of different communication systems a customer might have in one interface. **SP**

## India to invest over \$300 million in Su-30MKI spare parts supply centre

**I**ndia is planning to invest more than ₹20 billion (\$300 million) in setting up a spare parts supply centre for the Sukhoi Su-30MKI fighter jet with the help of Russia, according to a news agency report.

The report says the spare parts supply centre is planned to be set up on the premises of the Hindustan Aeronautics Limited.

The agreement is likely to be signed at a regular Russian-Indian summit that will take place in October 2016 in India.

India expects the agreement to guarantee that the aircraft will be able to perform more sorties and reduce the time needed to provide maintenance for them. The new centre will order, deliver and distribute all spare parts required to maintain the technical condition of Russian-made fighter jets at a high level. **SP**

## Top Gun actress Kelly McGillis attacked at North Carolina home

**I**n June this year, *Top Gun* actress Kelly McGillis was attacked by a woman in her North Carolina home. The actor was heard on a recorded 911 call screaming about a woman who broke into her home, saying the woman attacked her and claimed to know her.

The 58-year-old actress, who appeared in *Top Gun* and *Witness*, wrote on Facebook that she returned to her Hendersonville home June 17 to find a light on and her front door unlocked. She says she was soon confronted by a woman who attacked her when she ran outside to call 911 and took her cellphone.

Authorities in Henderson County said 38-year-old Laurence Marie Dorn of Clinton, Illinois, was arrested and faces charges including stalking and assault and battery. Dorn was released after posting a \$60,000 bond. Online records don't say whether she has a lawyer. **SP**



## Fixing Pokémon GO security issues

**P**okémon GO has taken America and other countries by storm – but may have led millions of iPhone users to inadvertently give away access to their Google account, according to reports. Experts have warned that iOS users of Pokémon GO are putting themselves at risk by signing up using Google, as the game requests access to all of their information – from e-mail to search history.

Niantic, the maker of the game, recently apologised over the security gaffe, and admitted it was a programming mistake as it released an updated version fixing the issue.

“We recently discovered that the Pokémon GO account creation process on iOS erroneously requests full access permission for the user’s Google account,” the firm has said. “However, Pokémon GO only accesses basic Google profile information (specifically, your user ID and e-mail address) and no other Google account information is or has been accessed or collected.”

The firm is also working with Google on a fix, it confirmed. “Google has verified that no other information has been received or accessed by Pokémon GO or Niantic. Google will soon reduce Poké-



mon GO’s permission to only the basic profile data that Pokémon GO needs, and users do not need to take any actions themselves.” **SP**

## Nigeria tightens airport security

**T**he Managing Director of the Federal Airports Authority of Nigeria (FAAN), Saleh Dunoma, has said that the agency has made significant efforts to fortify security at the airports and beef up intelligence, after attacks in airports in Turkey and other places. Dunoma, who made this known to journalists in Lagos, said with the efforts of the federal government, FAAN has developed efficient security infrastructure, which is being built on in response to new challenges and advancement in security equipment.

“Security is already in place, the only thing is that once things happen you need to beef it up to a certain level above what we already have on ground. Such measures have been put in place. All the airports have been advised through a circular that they should improve security intelligence in all the airports, especially on the landside,” he said. **SP**

## Frankfurt Airport security breach

**F**rankfurt Airport got a scare when there was a security breach at Terminal 1 recently. However, after coming the airport resumed operations. The airport authorities evacuated passengers and others from Terminal 1 following reports of security breach.

Airport operator Fraport said that part of the terminal at Europe’s fourth largest airport had to be cleared of passengers after a person passed into the departure area without completing the security check. Federal police said the evacuation had been completed and there was no danger. This resulted in delays in planes taking off or landing, but then operations resumed soon after. **SP**



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