

SP's



AN SP GUIDE PUBLICATION

MAI

ISSN 2230-9268



Vol: 7 Issue 11-12 ■ June 1-30 • 2017

www.spsmai.com

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



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[**SP's @ 53** PURSUING EXCELLENCE OVER FIVE DECADES SINCE 1964]

Defence Minister dedicates Aeronautical Test Range to the nation

The Defence Minister Arun Jaitley recently inaugurated the newly built Aeronautical Test Range (ATR) of the Defence Research & Development Organisation (DRDO) at Chitradurga in Karnataka. Addressing a gathering of eminent scientists and other defence personnel on the occasion, the Defence Minister said facilities such as the ATR will help in creating conditions for research, which will in turn develop the type of human resource in the country required in the field of aeronautical testing.

Complimenting the vital role of the DRDO towards self-reliance and promoting 'Make in India' efforts, Jaitley said the development of the test range will cater to the needs of DRDO for testing of indigenously developed aeronautical systems. He said the facility would also contribute to the development of the region in which Chitradurga is located.



The ATR is the first of its kind range in the country exclusively meant to conduct flight-tests of indigenous unmanned and manned aircrafts, developed by the DRDO including the naval and trainer versions of the Light Combat Aircraft, the unmanned air vehicles- Rustom-I and Rustom-II (Tapas); the Airborne Early Warning & Control Systems (AEW&C), Air-to-Ground weapons, parachutes and aerostats, etc. This outdoor testing and evaluating facility has been set up by the Aeronautical Development Establishment (ADE), one of the premier laboratories of the DRDO.

Spread across 4,029 acres, the 28 km perimeter strategic test range envisages a 2 km runway besides other tracking and control equipment where a rail link to the facility has also been planned. The State-of-the-Art Range Control Centre (RCC) houses the air traffic display system with remote control of radar operations, ATC RF voice communication system, ground telemetry system, mission video distribution and display system and range operational communication system. **SP**



Cover:

India-Israel bonding is reaching new heights, thanks to the global leadership qualities of the Indian Prime Minister, Narendra Modi and his Israeli counterpart, Benjamin Netanyahu.

Cover images: Twitter @narendramodi, PIB, Rockwell Collins

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SUBSCRIPTION/CIRCULATION

Annual Inland: ₹1,320 • Foreign: US\$ 325

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Historic meetings of Modi with Trump and Netanyahu

The Indian Prime Minister, Narendra Modi deserves all the accolades for showing amazing global leadership qualities by engaging with leaders of big and small nations alike, from the US to neighbouring Nepal. His recent visits to Israel and the United States of America is a highpoint in the three year old NDA Government, with both countries laying out the red carpet. Prior to his US visit, Prime Minister Modi had embarked on a four-nation tour to Germany, Spain, Russia and France, the focus being enhanced bilateral cooperation in defence, science and technology and nuclear fronts, besides seeking increased foreign direct investment (FDI). Importantly, Modi has been talking about the need to increase global cooperation to fight terrorism, including cross-border terrorism.

In this issue, we have extensive coverage of the Prime Minister's overseas visits. In a first, Modi became the first Indian Prime Minister to visit Israel in a path-breaking move. There was more than camaraderie between Modi and Israeli Prime Minister, Benjamin Netanyahu, indicating of the strong bonding that is likely to evolve. India, as such, has deep defence trade ties with Israel, but with this visit it is going beyond that.

The visit to US was marked by visible bonhomie between the two heads of States. In fact, the unpredictable President Trump hailed Modi's achievement and termed himself as a 'true friend' in the White House and that the ties between the two countries were never stronger and better than now. The good news is that, just prior to the Prime Minister's visit, the Indian delegation had firmed different deals, including an agreement between Lockheed Martin and Tata Advance Systems to produce F-16 Block 70 fighters in India; Sale of 22 Predator drones from General Atomics; the US designating Syed Salahuddin, Hizb-ul Mujahideen (HuM) as a 'global terrorist'. Lt General P.C. Katoch (Retd) and Air Marshal B.K. Pandey (Retd) in two separate analysis have talked about the impact of Prime Minister Modi's visit to the US and other nations, not just on India's economy but also on global markets.

This historic meeting between the two leaders is expected to propel the relationship between the two to greater heights. Rightly, the Chief Executive of US and International Strategic Development, General Atomics, Dr Vivek Lall has said 'Given the Sea Guardian's capabilities such a US offer demonstrates a major change in US policy because this type of aircraft capability is only exported to a very select few of America's closest defense partners. Such an offer represents tangible implementation of United States Congress' designation of India as a 'Major Defense Partner.'

In this issue, we have an exclusive interview with Rockwell Collins Senior Vice President, International & Services Solutions, Colin R. Mahoney who talks about how the company is strategising its plans to expand its footprint in India and other markets.

We also have an appeal to all sane thinking people by Lt General V.K. Kapoor (Retd) not to drag the Indian Army in to politics and controversy. This comes in the backdrop of the Army Chief being criticized by a few political outfits and pseudo liberals on the handling of terrorism and law and order in Kashmir.

Happy reading on a happy note !

Jayant Baranwal
Publisher & Editor-in-Chief



Prime Minister Narendra Modi and the Prime Minister of Israel, Benjamin Netanyahu in Tel Aviv, Israel, on July 5, 2017

'India-Israel bonding – The 'I' square equation

India-Israel bonding is reaching new heights, thanks to the global leadership qualities of the Indian Prime Minister, Narendra Modi and his Israeli counterpart, Benjamin Netanyahu

[By **R. Chandrakanth**]

India and Israel relationship has taken on a new meaning, new dimension and new depth, even as the Indian Prime Minister, Narendra Modi became the first Indian Prime Minister to visit Israel in 70 years. Narendra Modi who received a red carpet welcome, usually reserved for the Pope, rightly stated that this was a 'pathbreaking journey' while the Israeli Prime Minister, Benjamin Netanyahu acknowledging the historic visit said "Aapka swaa-

gat hai mere dost, we have waited for you 70 years." The Israeli Prime Minister also said "You are a great leader of India and a great world leader: PM@netanyahu to PM @narendramodi"

Modi said "I begin a historic visit to Israel, a very special partner of India's... As the first Indian prime minister to do so, I am greatly looking forward to this unprecedented visit that will bring our two countries and people closer." He also tweeted "I look forward to holding extensive talks with my friend, @IsraeliPM @netanyahu, who shares a commitment for vibrant India-Israel ties."



Prime Minister Narendra Modi delivering his press statement on arrival in Tel Aviv, Israel, on July 4, 2017

Modi and his delegation signed seven agreements – three on space, two on water and one on innovation and one other on Mashav, Israel's Agency for International Development Cooperation. The two leaders signed cooperation on satellite technology, water and agriculture, as well as the creation of a \$40 million innovation fund. The agreements are part of efforts to extend relations in civilian areas between both countries, with Israel already selling India an average of \$1 billion per year in military equipment.

The joint statement was preceded by anecdotes to indicate their personal friendship. Israeli Prime Minister Netanyahu said a long-ago date at an Indian restaurant was followed by a marriage that has lasted 26 years.

India and Israel have strong defence partnership with the latter supplying key arms and ammunition, though on this visit defence is not the primary focus of the trip. Israel is recognized as a trustworthy partner in defence research and development, having supplied weapon systems, missiles and unmanned aerial vehicles such as the Heron, in the past. The Indian Air Force operates about 180 Israeli-made UAVs, including 108 IAI-made Searchers and 68 unarmed Heron 1s for surveillance and intelligence

gathering. According to the President and CEO of Israel Aerospace Industries (IAI) Joseph Weiss, "India is one of IAI's leading markets." Thus, defence cooperation has been one of the main pillars of bilateral engagement between the two nations, with defence trade having average annual sales of over \$1 billion.

The Israeli Prime Minister said Israel endorsed India's plan of 'Make in India' and accordingly the theme in Israel is 'Make with India'.

Calling visiting Indian Prime Minister Narendra Modi "a great world leader", Israeli Premier Benjamin Netanyahu said ties between the two countries were perfect to mathematical precision and described the friendship formula as the square of I and of T if multiplied equalled "Israel, India Ties for Tomorrow". Prime Minister Modi said "I for I, India for Israel and Israel for India," while being greeted with a warm hug by President Rivlin.

In the months leading up to Indian Prime Minister Narendra Modi's historic visit to Israel, India signed two arms deals, spending \$2.6 billion on Israeli missile defense systems. However, defence trade took a back seat during the visit, instead the two leaders and delegations firmed up deals to do with medical devices, hi-tech and water systems.

The Minister of State for Defence, Subhash Bhamre has stated that seven of the 37 contracts signed by India for the procurement of weapons and military platforms over the past two years were with Israel, thus making Israel the second biggest source for weapons after the United States.

Giving the partnership further boost is the visit of Prime Minister, Modi who emphasized on common challenges and the aims to defeat forces of terror. "We must resolutely oppose the evils of terrorism, radicalism and violence that plague our time." He said about the future challenges lying ahead of both countries, "Common objectives of economic prosperity, strong technology and innovation ties and the need to secure our societies define the space for convergent action between us."

After visiting the Yad Vashem Memorial museum to remember and honour over six million Jewish lives that were lost in the horror of the holocaust, Prime Minister Modi said "Yad Vashem tells us that those who believe in humanity and civilized values must come together and defend it at all costs. As such, we must resolutely oppose the evils of terrorism, radicalism and violence that plague our time."

Extending his hand of friendship, Prime Minister Modi said "In modern times, our ties have seen rapid growth since the establishment of our full diplomatic relations a quarter century ago. Common objectives of economic prosperity, strong technology and innovation ties and the need to secure our societies define the space for convergent action between us. Over coming decades, we want to frame a relationship that transforms the landscape of our economic engagement. India is the world's fastest growing large economy.

Our focus on using technology and innovation to meet our development priorities provides productive scope to expand our academic, scientific & research, and business links. We also want to put in place a robust security partnership to respond to shared threats to our peace, stability and prosperity. I will work with Prime Minister Netanyahu to craft and build a clear action agenda to realise these objectives." Prime Minister Modi tweeted "My talks with @IsraeliPM @netanyahu focussed on #IndiaIsraelFriendship as well as how our ties can help further world peace & stability." SP

Calling visiting Indian Prime Minister Narendra Modi "a great world leader", Israeli Premier Benjamin Netanyahu said ties between the two countries were perfect to mathematical precision and described the friendship formula as the square of I and of T if multiplied equalled "Israel, India Ties for Tomorrow".



Prime Minister Narendra Modi meeting the President Donald Trump at the White House in Washington DC, USA, on June 26, 2017



AIR MARSHAL
B.K. PANDEY (RETD)

A historic meeting

The historic meeting between Prime Minister Narendra Modi and President Donald Trump is expected to propel the relationship between India and the US to greater heights

On June 26 this year, Prime Minister Narendra Modi heading the largest democracy in the world and Donald Trump, President of the oldest, scripted history of sorts when they had a historic meeting at the White House in Washington DC in the United States (US) of America.

In the last three years since assuming charge, Prime Minister Narendra Modi has paid visits to 48 different countries which included five visits to the US alone. This is despite the fact that the US had not treated him with due respect when he was the Chief Minister of the state of Gujarat. The US administration had denied him Visa to visit the US holding him responsible as the head of the state for sectarian

violence in Gujarat in 2002. However, the Obama administration quietly removed the restriction of issue of Visa to him when the BJP scored a landslide victory in the national elections in 2014 and their leader Narendra Modi was elevated to the post of Prime Minister of India. Thereafter, there was a high degree of rapport between President Barack Obama and Prime Minister Narendra Modi leading to improvement in the regimes of trade and defence. In the last three years that Prime Minister Narendra Modi has been in office, only one other nation from amongst the total number of 48, was visited by him twice. This clearly reflects the importance that the relationship of India with the US holds for Prime Minister Narendra Modi.

Backdrop of Uncertainty

The June-end meeting between the two heads of state was to take place in the backdrop of an environment plagued with a degree of uncertainty created by some developments as also on account of the policy announcements by the mercurial Donald Trump soon after he took over as the President of the US. These included the policy changes on the issue of H-1B visa that would restrict entry into the US of software professionals from India, a decision that is particularly worrisome for the Indian IT industry, the rising anti-immigrant sentiment in the US leading to spike in hate crime against the Indian community there, ban on travel from select countries, anti-globalisation and isolationist statements, somewhat cynical assessment of the utility of NATO, withdrawal of the US from the Trans-Pacific Partnership as also from the Paris Climate Change Agreement that paved the way for China to assume leadership.

However, there were some positive vibes as well though confined to the regime of defence. A few days before the meeting, US defence and aerospace major Lockheed Martin Corporation entered into an agreement with the Hyderabad-based Tata Advanced Systems Limited (TASL), an Indian company in the private sector involved in manufacturing of components for both fixed and rotary-wing aircraft. The agreement was for manufacturing in India the F-16 Block 70 combat jets in large numbers under the Make in India programme of the Government of India, for the Indian Air Force (IAF) as also for the global market. This proposal was mooted by Lockheed Martin in August 2016 but unfortunately, had gone slow after President Donald Trump on taking over in January 2017, had ordered a review of the proposal by Lockheed Martin Corporation to relocate the F-16 production line from Fort Worth, Texas in the US to India. Inking of the agreement between the original equipment manufacturer (OEM) Lockheed Martin and TASL has rekindled hope for the IAF of getting a combat platform in the numbers required and soon enough. The other development was the message from the state department to the Indian Government as also the OEM that the requirement of 22 Guardian Unmanned Aircraft System (UAS) from General Atomics, for the Indian Navy for intelligence, surveillance and reconnaissance, had been accepted by the US Government. However, the final word in both these cases is yet to be said.

The task for the meeting before Prime Minister Narendra Modi was to understand President Donald Trump's policy toward Asia as also to convince him that India's rise as a regional power would ultimately be in the interest of the US. Since this was the very first meeting with President Donald Trump, it was important for Prime Minister Narendra Modi to create the right conditions for the forward movement and strengthening of the relationship between India and the US. It was reasonable to expect that Prime Minister Narendra would avoid contentious issues during this very first interaction with President Donald Trump and ensure an atmosphere of extreme cordiality that would help create an environment conducive for further dialogue and action.

In the Aftermath of the Meeting

By all accounts, the first meeting between Prime Minister Narendra Modi and President Donald Trump in Washington on June 26 this year, is regarded as eminently successful. As described by President Donald Trump, the relationship between India and the US had never been stronger or better than it is now. In the meeting, the two leaders resolved to expand and deepen the strategic partnership between the countries and advance common objectives. The major issues of common concern that the leadership of the two nations focussed on were the menace of terrorism, the need for promoting stability across the

Indo-Pacific region, increasing free and fair trade and strengthening energy linkages. The two leaders resolved to jointly confront global challenges and work for the well being and prosperity for their people.

While the post-meeting announcements were laced with mutually laudatory pronouncements from both sides, what is of critical importance for India is the clear focus of both the leaders on combating and rooting out the menace of terrorism from the region. While the two leaders committed to strengthen cooperation against threats from terrorist groups operating in the region including the Middle East, quite understandably, Pakistan was the primary target of this thrust as the joint statement issued at the conclusion of the meeting called upon the Pakistani leadership to ensure that its territory is not used to launch terrorist attacks on other countries. The joint statement went on to demand that Pakistan bring to justice perpetrators of the terrorist attacks on Hotel Taj in Mumbai and against the Indian Air Force Station, Pathankot. Another measure announced to address the problem of terrorism was to enhance cooperation to prevent entry of potential terrorists through selective ban on travel and to disrupt global recruitment efforts by terrorist organisations by expanding intelligence-sharing networks and cooperation in counterterrorism at the operational level.

With the aim of addressing regional security concerns, the two leaders highlighted the importance of collaborative effort between the US and India in combating the menace of terrorism through military operations in Afghanistan. Both India and the US have strategic partnership with Afghanistan and the two leaders have resolved to continue close consultations and cooperation in support of the country. The aim is to nurture democracy, stability, prosperity and security in the nation afflicted by terrorism believed to be sponsored by Pakistan. What is relevant is that the US may call upon India to commit ground forces in Afghanistan to fight alongside the US forces there. While this may indeed create a difficult situation politically apart from being a logistical nightmare, this will help the request by the IAF for 100 Unmanned Combat Aerial Vehicles that has been pending since 2015. Involvement of Indian forces in Afghanistan will help overcome the legal impediment as US laws do not permit sale of unmanned combat platforms to nations whose troops are not engaged in operations alongside US forces.

Moving away from the region, the two leaders strongly condemned continued provocations by the Democratic People's Republic of Korea (DPRK) and its pursuit of nuclear and ballistic missile programmes that pose a grave threat to regional security and global peace. The leaders called on DPRK to strictly abide by its international obligations and commitments. The leaders pledged to work together to counter the DPRK's weapons of mass destruction programmes. The reference to China and her activities in the South China Sea has been relatively mild, the statement reading "The importance of respecting freedom of navigation, over flight, and commerce throughout the Indian Ocean region". The two leaders pledged to enhance cooperation in defence and security

regimes especially as India is now a "Major Defence Partner" of the US. As virtual allies, the two nations would collaborate in the development of advanced technologies and expand their maritime security cooperation. The sale of Guardian UAS would enhance India's capabilities and promote shared security interests of the two nations.

The historic meeting between Prime Minister Narendra Modi and US President Donald Trump which hopefully is not the last, is expected to propel the relationship between India and the US to greater heights. **SP**

As described by President Donald Trump, the relationship between India and the US had never been stronger or better than it is now

LT GENERAL
P.C. KATOCH (RETD)

Modi-Trump meet – Amidst Modi's three-nation tour



Prime Minister Narendra Modi greets President Donald Trump during the Joint Press Statement at the White House in Washington DC, USA, on June 26, 2017

P rime Minister Narendra Modi met US President Donald Trump on June 26. Modi's US trip starting June 25 was part of his three-nation tour commencing with Portugal. In Lisbon, Modi held discussions with Portugal Prime Minister Antonio Costa on a host of international issues including terrorism, while both the Prime Ministers launched a unique startup portal India-Portugal International StartUp Hub (IPIH) which is expected to tap into the strong complementarities between India and Portugal in the startup sector; mutually supportive entrepreneurial partnership. Ahead of Modi's fifth visit to the US, Foreign Secretary Jaishankar and NSA Ajit Doval visited Washington to prepare the grounds. Expectations from the Modi-Trump meet were kept low because of issues like unpredictability of Trump, H1B visa and report of US plans to halt development funds to India in FY18 while keeping US aid to Pakistan of \$200 million untouched. However, few developments took place before the Modi-Trump meet;

- Lockheed Martin signed agreement with India's Tata Advance Systems to produce F-16 Block 70 fighters in India amidst plans to shift all future production from US to India;
- US cleared sale of 22 Predator drones to India (manufactured by General Atomics) costing some \$2 to \$3 billion – hailed 'game-

changer' in Indian media even though deal is not for 'armed' version;

- In a report titled 'Transforming India from a Balancing to Leading Power', US think tank Atlantic Council urged the Trump administration that US will need India to counter Beijing's growing influence in the world;
- Bill seeking to revoke Pakistan's status as major non-NATO ally (MNNA) to the US introduced in the House of Representatives and;
- US designated Syed Salahuddin, Hzb-ul Mujahideen (HuM) as 'global terrorist'.

There was visible bonhomie between Prime Minister Modi and President Trump with latter hailing Modi's achievements and terming himself as India's 'true friend' in the White House. Both leaders had wide-ranging talks. During the joint press conference, main points mentioned by President Trump were: relationship between India and the United States has never been stronger and better; US is working on creating new opportunities for Indians; both countries can help chart optimistic future, unleashing new technology, new infrastructure, and the enthusiasm of hardworking people; important that barriers be removed to export of US goods to Indian



“We are extremely pleased President Trump and Prime Minister Modi have had excellent deliberations and the path forward for a game changer in US India defense relations has been charted. Given the Sea Guardian’s capabilities such a US offer demonstrates a major change in US policy because this type of aircraft capability is only exported to a very select few of America’s closest defense partners. Such an offer represents tangible implementation of United States Congress’ designation of India as a ‘Major Defense Partner.’”

—Dr Vivek Lall, Chief Executive, US and International Strategic Development, General Atomics

markets, and reduce bilateral trade deficit; happiness over Indian Airlines recent order of 100 new US planes that will support thousands and thousands of American jobs; looking forward to export more energy to India; happiness over Prime Minister Modi inviting Ivanka (Trump’s daughter) to lead US delegation to the Global Entrepreneurship Summit in India; both US and India having been struck by terrorism, are determined to destroy terrorist organisations and the radical ideology that drives them – we will destroy radical Islamic terrorism; both militaries working to enhance cooperation and next month will join together with Japanese navy in the largest maritime exercise ever conducted in Indian Ocean; thanked India people for contributions to the effort in Afghanistan, and joining US in applying new sanctions against North Korean regime.

Prime Minister Modi responded by highlighting following: mutual trust, convergence of values, priorities, concerns and interests focused on achievement in cooperation, mutual support and partnership, both countries being global engines of growth; top priority for both is to protect society from global challenges like terrorism; both nations committed to bilateral architecture for taking strategic partnership to new heights; US considered primary partner for India’s social and economic transformation in all flagship programs and schemes; common priorities for both will be development of trade, commerce, and investment links involving technology, innovation, knowledge-economy sectors, expansion and deepening of cooperation, further strengthening digital partnership; mutual agreement to enhance cooperation in fighting terrorism including eliminating sanctuaries, and safe havens; increasing instability, due to terrorism, in Afghanistan is common concern – US to enhance coordination between our two nations; common interest to maintain peace, stability, and prosperity in Indo-Pacific; appreciation of US strengthening of India’s defence capabilities; strengthening bilateral defence technology and trade and manufacturing partnership.

Prime Minister Modi invited President Trump to visit India. The US is already India’s largest arms supplier; arms worth ₹28,895 crore (\$4.35 billion) were contracted with the US during 2013-14, 2014-15 and 2015-16. This is only set to grow as India’s arms need to proliferate even under the clause of joint production. Considering the US recent leaning towards Saudi Arabia because of defence deals, itself is rea-

son for the Trump administration to warm up more to India. However, how much the US will act against Pakistan exporting terror remains to be seen. Designating Sayed Salahuddin global terrorist is unlikely to matter much, given that US had done so for Hafiz Saeed too. All that has happened is that post the US announcement, Pakistan has reportedly shifted Salahudeen to safe confines of Islamabad. Of the 98 US-designated terrorist groups globally, 20 are in Af-Pak region anyway and Pakistan has free-hand in exporting terror. The need of the hour is physical action against ISI-protected terrorist sanctuaries and infrastructure in addition to sanctions and other measures.

The Indo-US strategic partnership nevertheless is set to grow, with Prime Minister Modi’s visit being very productive. Michael Kugelman, Deputy Director and Senior Associate for South Asian Program at the Wilson Centre in Washington DC, says ‘We’re going to see a defence relationship that really takes off – now that India is a major defence partner of the US, the sky is the limit for arms sales. The economic partnership will lag behind the security relationship, but the meeting and joint statement give cause to believe that it will progress more robustly than many of us would have expected.’ Prime Minister Modi addressed a group of Indian-Americans and Indians in US at the Ritz Carlton in Virginia on June 25. He also had a round table discussion with top CEOs in the US including global giants like Apple, Microsoft, Google, Walmart, Caterpillar, etc. The Netherlands was the last leg of Prime Minister Modi’s three-nation tour where held bilateral talks with his counterpart Mark Rutte. Addressing a joint press meet with Rutte, Prime Minister Modi called Netherlands as India’s natural partner, and that bilateral ties between the two countries will grow rapidly. Both countries signed three MoUs in the fields of social security, water cooperation and cultural cooperation. Modi thanked Netherlands for backing India’s Missile Technology Control Regime (MTCR) membership, adding that the Netherlands is the fifth largest investment partner globally and in the last three years it has emerged as third largest source of FDI in India. Rutte commended Modi’s new initiatives in India and said that Netherlands is a key partner of India which is world’s second biggest economy, and that for India, the Netherlands is the entry point for Europe; Europe is India’s biggest trading partner and 20 per cent of India’s export to Europe enters through the Netherlands. **SP**



(Left) Prime Minister Narendra Modi and the German Chancellor Dr Angela Merkel at the Joint Press Statements in Berlin, Germany, on May 30, 2017; (right) Prime Minister Narendra Modi meeting the President of Spain Mariano Rajoy at La Moncloa Palace in Madrid, Spain, on May 31, 2017.



LT GENERAL
P.C. KATOCH (RETD)

Prime Minister Modi's four-nation tour

Before Prime Minister Narendra Modi embarked on his four-nation tour to Germany, Spain, Russia and France on May 29, it was reported that his main focus would be bilateral cooperation on economic (in backdrop of India having passed the Goods and Services Tax (GST) Bill and record foreign direct investment (FDI) inflows of \$43.5 billion during 2016-17, defence, science and technology, and nuclear fronts, parleys on European Union-India Free Trade Agreement, and fight against terror.

The visit was in the backdrop of Europe dealing with Brexit and the United States wanting NATO members to pay more, besides, US pulled out from the Paris Climate Deal while Modi was in Russia. Recently, German Chancellor Angela Merkel had announced Europe could no longer completely depend on others – read US and UK. Berlin was Modi's first port of call, where he met German President Frank-Walter Steinmeier and Chancellor Merkel, jointly heading with latter the fourth biennial Inter-Governmental Consultations (IGC) begun in 2011.

Germany supports India's stand on the One Belt, One Road (OBOR) and India's bid for the Nuclear Suppliers Group (NSG) membership. During Modi's visit, both countries vowed to take strong measures against those who encourage, support and finance terrorism. Modi said, "Pace of development of our relations is fast, direction positive and destination clear. Germany will always find India as powerful, prepared and capable partner."

The two sides signed 12 memorandums of understanding (MoUs) and agreements in fields like the cyber policy, development initiatives, sustainable urban development, continued development

of cluster managers and skill development, digitalisation, railway security and promoting vocational training. Modi called for unity of EU and said India would play positive role for it through Germany.

Modi and Merkel later also met senior business leaders before inaugurating the Indo-German Business Summit 2017. Germany is the largest trade partner for India in EU and has made \$2 billion FDI in India during past two years. The Indo-German Chamber of Commerce, with 25 joint working groups, is the biggest German bilateral chamber outside Germany having more than 7,000 German and Indian member companies. Over 1,800 German companies are doing business in India. As for the free trade agreement (FTA) with EU, Modi and Merkel agreed on the need to resume free-trade talks between India and EU soon.

Modi's visit to Spain was 29 years after last Indian Prime Minister Rajiv Gandhi had visited that country in 1988. Modi held talks with the Spanish President Mariano Rajoy with emphasis on fighting terrorism, particularly in the light of recent attacks in Manchester. The two leaders called on the international community to end selective or partial approaches to combating terrorism and jointly called for early finalisation and adoption of a Comprehensive Convention on International Terrorism by the UN General Assembly. Modi thanked Rajoy for Spain's support for India's membership of the Missile Technology Control Regime (MTCR), while Rajoy affirmed Spain's support for India's membership of NSG, Wassenaar Arrangement and Australia Group.

Five MoUs were later signed between the two countries for cooperation in organ transplantation, cyber security, renewable energy, civil aviation and one between India's Foreign Service Institute and



(Left) Prime Minister Narendra Modi and the President of Russian Federation, Vladimir Putin in St. Petersburg, Russia, on June 1, 2017; (right) Prime Minister Narendra Modi with the President of France, Emmanuel Macron, in Paris on June 3, 2017.

Diplomatic Academy of Spain. In addition were two acts on transfer of sentenced persons and visa waiver for diplomatic passport holders. Modi invited Spanish companies to invest in India. Spain is the 12th largest investor in India and seventh largest trading partner in EU. More than 200 Spanish companies are actively involved in road construction, railways, wind power, defence and smart cities in India.

Modi's visit to Russia was for attending the annual bilateral summit between the two nations, as also attend for the first time the St. Petersburg International Economic Forum (SPIEF). The visit was at a time when Russia has stepped up sales of advanced weaponry to China and has increased political and military overtures to Pakistan including the sale of offensive weapons, military exercises and accorded political legitimacy to Taliban despite Pakistan's manipulating them for geostrategic aims in Afghanistan that include limiting India's role in that country.

Prime Minister Modi and President Vladimir Putin had wide ranging discussions that covered issues like terrorism and increasing trade and investment. Among the major outcomes of the summit meeting and seven agreements signed was the agreement on setting up of Units 5 and 6 of the Kudankulam Nuclear Power Plant (KNPP) with Russian help in Tamil Nadu. The reactors will be built by India's Nuclear Power Corporation of India Limited (NPCIL) and Russia's Atomstroyexport company, a subsidiary of Rosatom, the regulatory body of the Russian nuclear complex. Each of the two units will have a capacity to produce 1,000 MW of power.

The two nations have also agreed to give new direction to defence cooperation; hold the first tri-services exercises, named 'Indra 2017' this year, and; commence joint manufacturing of frigates, adding on to the co-production of Kamov 226 military helicopters. India and Russia were celebrating the 70th anniversary of their relations this year. A joint declaration issued after the talks said that "the Indian-Russian special and privileged strategic partnership is a unique relationship of mutual trust between two great powers." President Putin asserted that Russia's "trust-based" relations with India, which he described as one of its "closest friends," will not be diluted by Moscow's growing ties with Pakistan and other countries.

The joint statement issued during Modi's visit included: need to reform the UN and UN Security Council (UNSC); Russia reaffirming support for India's permanent seat at UNSC; cooperation within BRICS (Brazil, Russia, India, China and South Africa), multilateral forums and organisations, including the World Trade Organisation (WTO), G-20 and the Shanghai Cooperation Organisation; Russia-India-China cooperation; strong Russian support for India's mem-

bership in the NSG and Wassenaar Arrangement; condemnation of all forms of terrorism, call for early conclusion of Comprehensive Convention on International Terrorism, and cooperation in counter-terrorism. The statement also said that India and Russia were looking to expand trade from the current \$7.7 billion level to \$30 billion by 2025.

In France, Prime Minister Modi met newly elected President Emmanuel Macron for the first time. India and France pledged themselves to a successful implementation of the Paris accord on climate change, and vowed to jointly fight the scourge of terrorism, the two challenges that are stalking the world at large. Prime Minister Modi said, "India is with the Paris accord, and even beyond that we will walk together and work together in the interest of future generations. In this direction India and France are taking several measures."

Prime Minister Modi and Macron discussed terrorism extensively; how to save the world from terror and radicalisation and how to counter it. Referring to climate change and terrorism as two major challenges before the world, Modi said, "We cannot see the danger of climate change but we can see the horrific effects of terrorism, we can feel it. Innocent people, women, children lose their lives to terror. Every child in France knows the face of terror." He also said, "Be it trade and technology, innovation and investment, energy, education and enterprise, we want to give a boost to India-France ties."

Macron has accepted Modi's invitation to visit India. This was Modi's third visit to France in the last three years. In 2015, France was the first European country that Modi visited as Prime Minister. Last year, he was in Paris to attend the UN Climate Change Conference. His meeting Macron now will keep India-France ties on the upswing. Bilateral ties between India and France have grown steadily: From €5.13 billion in 2006 to €8.5 billion in 2015. France is the ninth largest foreign investor in India. Today, more than 1,000 French companies across a wide range of sectors are in India and employ around 3 lakh people. Around 75 Indian companies operate in France, employing around 7,000 people. France was the first country to sign a civil nuclear agreement with India, even before the US Senate had approved the India-US nuclear agreement. India and France signed a strategic partnership in 1998 and has a High Committee on Defence Cooperation. All in all, the four-nation tour of Prime Minister Modi has promoted Indian interests at the geopolitical level, even as the main focus remained on terrorism, environment and trade. In terms of trade and investments, it is now up to India how we can cut the red tape and climb up in the ease of business ranking. SP

Building virtual integrated aircraft

A distinctive approach to break development cost curve and to enhance aircraft program delivery efficiency

Environmental and regulatory constraints as well as fierce international competition are putting the aerospace industry under high pressure. Aerospace companies must take actions today to reduce fuel consumption, noise, CO₂, and NO_x emissions over the aircraft mission. They constantly interface new technologies to offer better passenger comfort, to improve safety and to contain the development costs. The increasing complexity of the design of modern aircraft calls for advanced methods to assess systems interactions as early as possible in the design cycle and for a flexible platform for collaborative work within organizations.

Virtual integrated aircraft (VIA) is a set of methods that enables the virtual integration of complex systems since the early stages of the aircraft design process. It combines model-based systems engineering (MBSE), modeling and simulations, verification and validation procedures, and a thorough comprehension of aircraft and manufacturer organizational breakdown structures. To enhance aircraft program delivery efficiency, Siemens PLM Software champions VIA distinctive approach and offers the LMS Imagine.Lab™ software suite. The multi-domain system simulation platform has proven its efficiency at multiple major aerospace companies throughout the world. For instance, Russian aircraft manufacturer IRKUT Corporation reduced the time of development of their most complex models by a factor of five.

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LMS Imagine.Lab Amesim™ software enables modeling, simulation and analysis of multi-domain systems. The adaptation of the level of refinement of each model supports faster answers to precise questions from high-level representations of aircraft systems to sub-model levels. It improves system engineers' efficiency through the use of validated components without need for writing code, fast simulation and extensive post-processing capabilities.

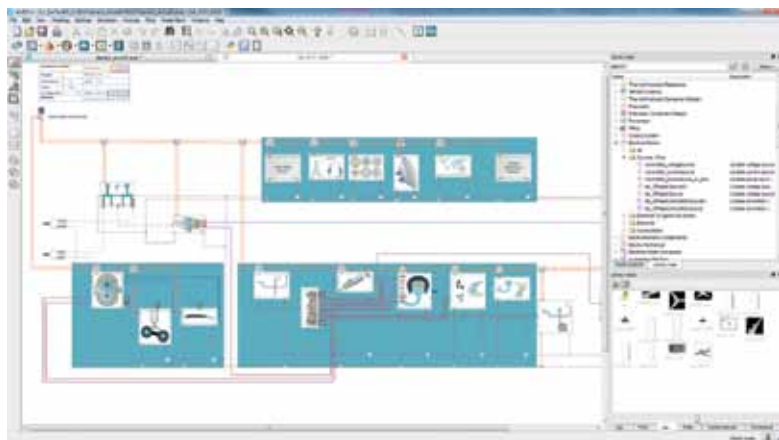
LMS Imagine.Lab™ Sysdm software facilitates collaborative engineering in the current extended-enterprise context. It simplifies the organization



of models and data originating from LMS Amesim or other simulation tools. Therefore, LMS Sysdm becomes a cornerstone for traceability and knowledge capitalization.

Finally, our portfolio includes the LMS Imagine.Lab™ System Synthesis software, which enables synthesizing and tradeoffs of architectures made of heterogeneous system models. It also allows the deployment of pre-defined multi-criteria analysis to engineers who are not experts in modeling and simulations techniques.

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SIEMENS
Ingenuity for life



Rockwell Collins: Future is with innovations

*In the background of Paris Air Show 2017, Neetu Dhulia, Deputy Managing Editor of SP's M.A.I., in exclusive interview with **Colin R. Mahoney**, Senior Vice President, International & Services Solutions, Rockwell Collins, discusses the company's plans for future of aviation.*

Neetu Dhulia (Neetu): Which all programmes are being showcased at the show (Paris Air Show)?

Colin R. Mahoney (Colin): Paris is a very diverse show for us. We are talking in terms of the future of the aviation. What are we doing in the cockpit of the aircraft and in the cabin of the aircraft, how are we connecting these and communicating the eco structure of aviation. The whole world is changing around and we are looking at what we can do with systems on the airplane, systems on the ground and putting that big picture together is what we are focusing from an innovation point of view. We are highlighting how the investments in innovative solutions for cockpit, cabin, communication and connectivity are unleashing the potential of the rapidly changing aviation ecosystem and that is what we are showcasing at the Paris Air Show.

Neetu: What is the most crucial futuristic technology Rockwell is working towards these days?

Colin: We are taking another leap towards transforming the aircraft to be more digitally connected. This connectivity is on the early phase of adoption. We have seen examples of cutting edge type of approach to using the connected environment. One of these examples is what we have done with ACAS communication with our ARINC IMS (Information Management Service). We are doing the communications, data network and landing system avionics packages for the Airbus A350. The communications system includes next generation VHF and HF systems, a satellite communications system with low profile antenna and dual Swift broadband capabilities, an avionics communications router with datalink for services such as FANS-B and a 'gatelink' cellular technology system that links the aircraft with low-cost ground networks once it has landed. The system tracks and probes the aircraft and when something doesn't go right it automatically increases the frequency of that system that is tracked by end services.

Then there is FOMAX (flight operations and maintenance exchanger), digitally connecting A320 aircraft and operators. The solution keeps operators connected to their aircraft by deploying the infrastructure for secure wireless connectivity; the box speaks to everything on the aircraft aggregates the transmission and automatically sends it to ground-based operations. The unit also sends

data automatically to the growing number of mobile applications that are being used by flight crews, as well as into efficiency applications such as weather, flight planning, logbooks, and maintenance prediction and performance calculators, all of which bring new levels of productivity and value to airline operations. As the modern traveller evolves, so do airports. Airports must adapt, innovate and envision how to meet the needs of an industry where passenger traffic is growing by about 5 per cent each year. Rockwell Collins has a global presence at more than 150 airports, including half of the 20 largest in the world. As a leading provider of self-serve solutions, and with a reputation as a master communication network integrator, we understand that the flow of an airport is the flow of an industry. We have the responsibility, that, when that passenger turns to the airports, boards a flight, does whatever connectivity wise and then lands, we maximise how to make the entire process efficient and make most out of it.

Neetu: What has been the vision behind the acquisition of B/E Aerospace?

Colin: How do you expand a company like Rockwell Collins, which has done significantly well in all domains? We have looked at what other capabilities could be. B/E Aerospace is number one in the market and with that number one; Rockwell Collins has an access to all those markets for expansion. The acquisition strengthens Rockwell Collins' position as a leading provider of cockpit and cabin interior solutions, offering diversified product offerings for aerospace and defense. With the acquisition, Rockwell Collins expands its portfolio with a wide range of cabin interior products for commercial aircraft and business jets including seating, F&B preparation and storage equipment, lighting and oxygen systems and modular galley and lavatory systems.

Neetu: Can you give us the breakup of the turnovers and the business contributions attributed to the broad areas such as military and civil?

Colin: The company mix now is 75 (government): 25 (commercial). In commercial we now have B/E Aerospace, one nice note to make around the acquisition is that the capabilities inside our interior system business have historically been extremely focused on airlines and business aviation, we can

take those capabilities to most channels seating, lighting, oxygen, gallery, etc. We bring the channel knowledge so we can take those opportunities to our government channels, to our customers and that's one revenue synergy.

Our government business is in three areas: Airborne – everything we do on the aircraft platforms, avionics platform and taking the commercial technology that we have developed through very large markets such as fusion flight deck and putting around in the aircrafts such as KC-390 and even beyond that, using elements of fusion to expand in parallel domains that are new for us. We are using the technology with elements of fusion for cargo handling systems and Embraer trusts us to do that on edge. And then there is – communications, navigation and electronic warfare, the whole network-centric operation tend to keep our forces communicate effectively, offering collaboration with effective partners. Third of our government business is – Simulation and Training, which is growing from strength to strength, leveraging our strengths in avionics systems development and training systems design, we deliver integrated solutions that cover the entire training gamut, from instructional systems design through fully integrated, high-fidelity simulators. Of all the F35s going around the world, we have huge stimulation and training opportunity and we are doing very well with it. We unveiled the first certified 737 NG stimulator in China with our joint venture. We are obviously growing and positioning for next-generation training in live virtual constructor which is combining virtual assets with live, creating an environment. Trained as we fight, we are making sure that we maximise effectively and minimising cost.

Neetu: What is the overall size of Rockwell Collins in terms of order book/balance sheet?

Colin: We are going to conclude this year at \$6.7 billion+ and that's not a full year that includes the B/E's revenue half way, post the acquisitions. We operate on government fiscal cycles.

Neetu: What are the contributions of domestic (US) and export markets (outside US)?

Colin: Now with B/E Aerospace, we are about 51 per cent when we get FY 18, we will be 50:50 i.e. 50 per cent international and 50 per cent domestic.

Neetu: Which region/s contributes the most?

Colin: Our regions are divided in three; we have got international, India, Europe, Middle East and Africa then Asia-Pacific. We look down from India way down to New Zealand and then the Americas and which is Canada and everything from Mexico and below. EMEA has got almost developed western economies in them and Airbus is there and that's the predominance of what we are doing in international. So half of our international would be in that EMEA region and next would be Asia-Pacific with next huge growth commercially now India itself, with SpiceJet, IndiGo and Jet Airways. Every King Air that goes into the country is equipped with our equipment and we are doing well with the big airlines as well. Big airlines are huge customers of ours from day one. Then America will be the third region.

Neetu: How do you find the Asian market vs. the developed markets?

Colin: Asia-Pacific is our biggest, if we look at the percentage growth year on year that is the biggest growth. Growth in India, in China, in Southeast Asia, North East power house and Australia is already a developed

market. We see most growth coming out of Asia-Pacific. Middle East is part of our EMEA region and also a good market. We are doing well within avionics and interiors. When you fly Etihad, Emirates or Qatar it is our systems and B/E seats on those carriers.

Neetu: What are your ongoing programmes that you are pursuing in countries such as India and China?

Colin: In China you have seen us talk about the Head-up Guidance System (HGS), that allows pilots of light- or mid-sized business aircraft to benefit from the tremendous safety and operational gains previously only available to large aircraft, which is a very successful. We are working with the Chinese Civil Aviation Authority (CAAC) for long time, given their traffic concerns; growth of traffic airspace is getting busier and busier. HGS make lot of sense. CAAC essentially mandated publishing an application road map whereby end of 2020, 50 per cent of the airplanes have to be equipped and we are already over that, and we are not even close to 2020. Whole connectivity side has been a big deal in China as well lots of companies are popping up accentuated by passenger value added services. In India, commercial is growing strength to strength, we have talked about those the big airlines, bizav is also growing. With the current DPP and 'Make in India' philosophy around defense, there is a place into our strategy where we partner in country to achieve something. In India, it's a big component on how we are going to carry our government business. So relations with the Tatas, Zen is imperative and with these alliances, we aim to emerge in the near future, as key partners to the Indian armed forces.

Neetu: You have a design centre in India. What are your futuristic plans for this?

Colin: We have the India Design Center (IDC) which has been an absolute jewel; we love what we do in India. It has expanded significantly; we are currently about 1,000 people in the IDC and have two locations Hyderabad and Bengaluru. With the acquisition of B/E Aerospace, we have more to come. From these centers we can operate with great access to talent, because it is, 'aerospace' and aerospace is it is exciting, the talent gravitates what is exciting. We offer round the clock nature of support for our customers and it is really powerful, each of our businesses are pulling on that capability and It is really going well. We will take this journey forward to interior systems.

Neetu: Would you like to elaborate on any specific activity in context to India touching upon military and/or civil markets' potentials?

Colin: Growth of airline business is solid because of the access to economical travel for the masses; middle class in India, the traffic will continue to grow. And, with all those airlines growing, there is good fortune for us! We are involved with all of them pretty much exclusively that is a great environment. In regard to the military environment, the budgets are increasing, the DPP is still accretive to customers/suppliers like us and the country like US is doing business in India through partnership. The environment is still good news for defense business through partnerships. It is the speed of execution sometimes that we have to be patient about for a bright future. Patience and persistence are the key constituents for success. **SP**

'We are taking another leap towards transforming the aircraft to be more digitally connected'



LT GENERAL
VK. KAPOOR (RETD)

Indian Army in limelight

The Indian Army continues to be an institution that is loved and respected by the nation and its people. Let us not drag this fine institution in to politics and controversy.

Since the past one year plus the Indian Army has been in the news for some good and some not so good reasons. Unlike most of the other institutions the Army is held in high regard by the general public. What is disturbing is the remarks by individuals who consider themselves “intellectuals”, even though they sound more confused than the others, and some self centered politicians. The former use their academic and other credentials and the latter use their political status, shady though it may be, to criticise the Army and its leadership when they are actually totally ignorant of the situations faced by the Army in Jammu and Kashmir, its operational and institutional culture and its methods with the limited tools available to it, to normalise such situations.

Notwithstanding the above let us examine some of the broad events and activity that has caused the emergence of controversial and contentious views from certain quarters.

Surgical Strikes

Indian Army carried out surgical strikes across the line of control in September 2016 which was widely reported by the national and international media. From disbelief initially by some political leaders of opposition parties in India and even the international media to the imaginary versions of the strikes put out by some TV channels and print media; the surgical strikes by the army did manage to excite the India public who were bored with the passive responses by the over cautious UPA government earlier. Pakistan continued to be in the denial mode that the Indian operation had caused heavy casualties to terrorists and some Pakistan Army personnel in Pakistan occupied Kashmir (PoK). Among the international media the UK *Telegraph* reported that the Indian ground troops crossed a few hundred metres inside PoK to destroy six to eight terrorist “launch pads” – structures close to the border used by militants preparing to infiltrate into India; the BBC said in its report said that the operation was “aimed at preventing attacks being planned by Pakistan-based militants”. It also quoted unnamed Pakistani Army officials as saying that the fighting started in the early hours of Thursday, September 29, 2016, and continued for about six hours. The *New York Times* termed the Indian army operation as a ‘precedent setting’ one.



Indian Army Chief General Bipin Rawat

The Aftermath

While the Director General Military Operations (DGMO) in a press conference on September 29, announced the Army’s actions on night September 28/29, no further statements were made by the Army, however that did not prevent the ruling party from taking advantage of these strikes to convince home audiences regarding their tough and proactive stance against the proxy war by Pakistan. The Congress, however, claimed that such strikes had taken place earlier also and the only difference was that it was not publicised at that time and kept a secret. Seeing BJP take political advantage of the strikes, it prompted some opposition parties, out of fear, to express doubts about the veracity of the surgical strikes. The political bickering dragged the Army needlessly into the midst of their meaningless controversy.

Sahayak Controversary

The long-simmering controversy over the use of ‘Sahayaks’ by officers of the Army was raked up once again when two videos surfaced on social media in March 2016. The first, a sting video published by a news website, showed Lance Naik Roy Mathew complaining about being made to do personal chores for his superior officer; in the second video, which also went viral a jawan named Sindhav Jogidas accused “some officers” of treating jawans as “slaves”.

Lance Naik Mathew was found hanging at Deolali Cantonment in march 2017 — the Army, while ordering an inquiry, said he may have been driven by the “guilt factor of letting down his superiors or conveying false impression to an unknown individual”. This matter is also now in the court against the journalist who carried out the so called sting operation. In the latter case the Army has rejected Jogidas’s allegations as baseless, and said he had never been employed as a Sahayak.

The above incidents led the Indian Army Chief, General Bipin Rawat, to warn personnel from using social media to air their grievances and to cut the long story short, the Government defended the Sahayak System and told the Parliament “Sahayaks are combatants and provide support to officers and JCOs in the Army when serving with units or HQ functioning on War Establishments.” While the matter was settled by the Governments statement in the Parliament, however it did bring Army in to this controversy once again.

Higher Casualties

On February 17, the media reported the Indian Army Chief General Rawat saying that security forces in Jammu and Kashmir were facing higher casualties due to the manner in which the local population was preventing them from conducting the operations and “at times even helping the terrorists to escape.” He said “We would now tell the local population that people who have picked up arms, and they are the local boys, if they want to continue with the acts of terrorism, displaying flags of ISIS and Pakistan, then we will treat them as anti-national elements and go for them. They may survive today but we will get them tomorrow. Our relentless operations will continue,” the Army Chief told reporters here, sending out a stern message to those who support militants. While the Army Chief is to be applauded for his open warning to those who interfere with military operations, it however gave rise to some nasty comments and observations of the human rights activists and opposition political leaders in Jammu and Kashmir.

Action by Major Leetul Gogoi

The Army Chief's award of Commendation Card to Gogoi, who had tied Farooq Ahmed Dar to an army jeep and used him as a human shield from stone throwers in April to save a large number of security and other personnel who were trapped by a large mob of stone pelters, was criticized by human rights activists, Kashmiri groups and by a few retired army generals. A video of the incident had gone viral on the Internet triggering a row with many condemning it. The Army clarified that Gogoi in fact saved the day by using his presence of mind to avert what could have been a disaster.

Stoutly defending the actions of the officer, the Army Chief in an interview said “People are throwing stones at us, people are throwing petrol bombs at us. If my men ask me what do we do, should I say, just wait and die? I will come with a nice coffin with a national flag and I will send your bodies home with honour. Is it what I am supposed to tell them as Chief? I have to maintain the morale of my troops who are operating there”. Talking about the complexity of the security challenge in the state, he suggested it would have been easier for the armed forces if the protesters were firing weapons instead of throwing stones. He further stated that “Adversaries must be afraid of you and at the same time your people must be afraid of you. We are a friendly army, but when we are called to restore law and order, people have to be afraid of us”. At the same time, he asserted that maximum restraint is being maintained while handling the situation in the Valley.

Criticism of Army Chief by CPI(M)

The CPI(M) criticised the Army Chief Bipin Rawat for backing the use of a “human shield” against stone-pelters by Major Gogoi. The Left party also hit back at the BJP for accusing it of being a “mouthpiece of China and Pakistan”, saying the Kashmiri man used as a “human shield” was an Indian and the episode had nothing to do with China. Senior CPI(M) leader Prakash Karat the former CPI(M) General Secretary also sought to clarify that the party had criticised the Army chief and not the armed forces.

Criticism by Main Stream Politicians and the Hurriyat

Mainstream politicians as well as separatists in Kashmir have criticised the Army Chief General Bipin Rawat's statement warning local youth against creating hurdles during anti militancy

operations even as the government came to his defence. Both the camps said that such a statement would fuel a spurt in militancy in the state. The opposition National Conference expressed disappointment and dismay over the “belligerent remarks” of the army chief and said such posturing would compound the situation and increase the hostility in the Valley.

Referring to the statement of the Army Chief, hardline Hurriyat Chairman Syed Ali Geelani said “India's arrogance and stale thinking is the basic reason for continuous bloodshed and political uncertainty in state”. He further stated that people of state and particularly the youth are up against this hegemony and suppression. Chairman of Jammu and Kashmir Liberation Front (JKLF) Yasin Malik termed the statement of Army Chief as a case of “political immaturity”.

Changing Trends

Killing of Burhan Muzaffar Wani, also known as Burhan Wani, by Indian security forces on July 8, 2016, was perhaps a turning point in bringing about a new trend of resistance in the Kashmir valley. Widespread protests erupted after his death, causing unrest in valley for nearly half a year in which more than 90 people died while over 15,000 civilians and more than 4,000 security personnel were injured. The unrest after a lull for a few months is continuing. The new trend has brought about a situation in which the armed police, and the army at times, find themselves facing mobs of young school and college students pelting stones at them while they are not at liberty or in a position to take any drastic action against them. This a different dimension of militancy in which the new threats and challenges that are arising or may well arise in the future which are not easy to predict.

Statements by military and political leaders no matter how well intended fuel the existing situation and therefore could be more damaging in the long run. It is difficult to prevent political leaders from making statements because that is how they remain relevant among the masses and their existence is dependent on their relevance. However as far as military leaders are concerned our advice would be to show patience and restrain our vocal abilities as these qualities would benefit us in achieving our mission in such situations with least cost to our selves.

The Army should also gear up its PR to deal with changing trends and reorganise its Sadbhavna machinery along with the elements of state administration at the formation as well as at unit and subunit levels to see how we could together reach out once again and create positive impact on the public in Kashmir while conducting military operations without alienating them further. The intelligence network of informants must be able to pick up anti nationals from their hide outs. The moment success is gained in a region, administration must establish itself.

New operational situations in counter insurgency affected areas demand new methods and new technologies to cater for the new trends and we have to rise to these occasions to confront the new trends. The Army has the mental and physical abilities to achieve this and it must place its genuine requirements in front of the government so that these are met in time. The Army continues to be an institution that is loved and respected by the nation and the people. Let us not drag this fine institution in to politics and controversy. **SP**

The author is former Commandant of Army War College, Mhow in Madhya Pradesh, India.

As far as military leaders are concerned our advice would be to show patience and restrain our vocal abilities as these qualities would benefit us in achieving our mission in such situations with least cost to our selves



Joint Indo-Thailand Military Exercise – Exercise Maitree 2017

Indo-Thailand relations are multifaceted and founded on historical linkages. Both countries have a history of extensive cooperation. Taking it forward, Armies of India and Thailand have been conducting the yearly Joint Training Exercise named Ex Maitree. This year the Exercise is being conducted from July 3 to 17, 2017, at Bakloh, Himachal Pradesh.

Approximately 50 troops from Royal Thailand Army and an equal number of Indian soldiers from the Northern Command will participate in the exercise. The aim of the exercise is to build and promote bilateral Army-to-Army relations and enhance interoperability between the two armies.

The two week long exercise is scheduled to be conducted in multiple modules in order to achieve complete integration between the two contingents at every stage. As part of the exercise the two Armies will jointly plan and execute a series of well developed drills for neutralisation of likely threats that may be encountered in counter terrorism environment. Conduct of Ex



Maitree 2017 would go a long way in enhancing defence cooperation between the two countries.

The contingent from the Royal Thailand Army landed at Gaggal Airport on July 2, 2017. The exercise is designated to enhance multiple level cooperation between the two armies and improving understanding of each other's tactical drills and actions for countering insurgency and counter terrorism.

Maintenance of enhanced military to military contact will be mutually beneficial. Maitree series of bilateral exercises have been one of the major defence cooperation initiatives between India and Thailand.

So far, since the start of the Exercises, they have held display of unarmed combat, and modus operandi of establishing mobile check posts, to neutralize the terrorists escaping in a vehicle. After the above demonstrations, troops from both the armies rehearsed the drills jointly and shared each other's minor tactical drills. In addition, the Royal Thailand Army troops were also familiarized with the handling of INSAS Rifle before commencing the live firing which is scheduled to be organised in the coming days of the exercise. On July 4, 2017, in the evening evening, troops from Royal Thailand Army enjoyed learning Cricket from their Indian counterparts. **SP**

Admiral Sunil Lanba, Chairman COSC & Chief of Naval Staff visits Israel

The visit to Israel by Admiral Sunil Lanba, Chairman COSC and Chief of the Naval Staff from June 12-15, 2017 is in continuation of such high level defence exchanges between the two countries.

Admiral Sunil Lanba held bilateral discussions with Lt Gen Gadi Eisenkot, Chief of the General Staff, Israeli Defence Force, to explore avenues for greater cooperation between the two Armed Forces. He also met the Commander-in-Chief of Israeli Navy, Commander of Israeli Air Force, Commander of Israeli Ground Forces and other MoD officials. In addition, the Admiral visited Haifa Naval Base and other Israeli Air Force and Army establishments. The visit by Admiral Sunil Lanba, Chairman COSC & CNS further consolidate the Armed Forces Cooperation between the two countries. **SP**



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Identify your company
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Lockheed Martin, Tata announce F-16 India partnership

Lockheed Martin and Tata Advanced Systems Limited (TASL) signed a landmark agreement affirming the companies' intent to join hands to produce the F-16 Block 70 in India. The F-16 Block 70 is ideally suited to meet the Indian Air Force's single-engine fighter needs and this unmatched US-Indian industry partnership directly supports India's initiative to develop private aerospace and defense manufacturing capacity in India.

This unprecedented F-16 production partnership between the world's largest defense contractor and India's premier industrial house provides India the opportunity to produce, operate and export F-16 Block 70 aircraft, the newest and most advanced version of the world's most successful, combat-proven multi-role fighter.

F-16 production in India supports thousands of Lockheed Martin and F-16 supplier jobs in the US, creates new manufacturing jobs in India, and positions Indian industry at the center of the most extensive fighter aircraft supply ecosystem in the world.

"This agreement builds on the already established joint venture between Lockheed Martin and Tata and underscores the relationship and commitment between the two companies," said N. Chandrasekaran, Chairman of Tata Sons.

"Lockheed Martin is honored to partner with Indian defense and aerospace leader Tata Advanced Systems Limited on the F-16 programme," said Orlando Carvalho, Executive Vice President of Lockheed Martin Aeronautics. "Our partnership significantly strengthens the F-16 'Make in India' offer, creates and maintains



numerous new job opportunities in India and the US, and brings the world's most combat-proven multi-role fighter aircraft to India."

The Lockheed Martin-TASL F-16 partnering agreement builds on TASL's proven performance manufacturing airframe components for the C-130J airlifter and the S-92 helicopter. With more than 4,500 produced and approximately 3,200 operational aircraft worldwide being flown today by 26 countries, the F-16 remains the world's most successful, combat-proven multi-role fighter ever produced. The F-16 Block 70 is the newest and most technologically advanced F-16 ever offered. **SP**

Defence Minister witnesses flying display at HAL



Defence Minister Arun Jaitley witnessed a spectacular flying display of the Hindustan Aeronautics Limited (HAL) products at HAL Airport in Bengaluru on May 29, 2017.

HAL products in fixed wing segment Light Combat Aircraft (LCA), Hindustan Turbo Trainer (HTT 40), Hawki took part in the display. The rotary wing segment participated in the formation display of HAL made helicopter prototypes led by LUH (PT2) and LCH (II and IV); and the helicopter in service Cheetal, ALH Mk III (Dhruv) and ALH Mk IV (Rudra).

The Defence Minister also visited HAL facilities light combat aircraft (LCA Tejas division) and advanced light helicopter (ALH) flight hangar (Helicopter Division) during his visit. **SP**

CAS visits Air Force Station Bhisiana



Air Chief Marshal B.S. Dhanoa, Chief of the Air Staff, led a four aircraft, MiG-21 'Missing Man' formation flypast recently, at Air Force Station Bhisiana, to honour the valour and supreme sacrifice of Kargil martyrs. The 'Missing Man' flypast is an aerial salute accorded to honour the fallen comrades-in-arms. The Arrow Formation of MiG-21 Bison, with a gap between two aircraft in the formation depicted the - Missing Man. Later,

in a simple, yet poignant ceremony, he laid a wreath at the Memorial to honour martyrs who made the supreme sacrifice in the line of duty.

Air Chief was on a three day visit to the station. It is here, while commanding the 17 Squadron Air Chief Marshal BS Dhanoa had flown the MiG-21 T-96 aircraft, currently the oldest fighter in the IAF inventory. On this day in 1999, Squadron Leader Ajay Ahuja VrC (Posthumous) attained martyrdom during Kargil conflict. He was at that time the Flight Commander of 17 Squadron. Mrs. Alka Ahuja wife of Late Squadron Leader Ajay Ahuja VrC (Posthumous) was also present and the CAS presented her a plaque of 'Missing Man' formation. **SP**

Indian Navy P-8I fleet achieves 10,000 hours

Boeing congratulates the Indian Navy and Indian Naval Air Squadron 312A's P-8I fleet on achieving 10,000 flight hours since induction in 2015 and for receiving the Chief of the Naval Staff's unit citation for outstanding operational performance. The Indian Navy operates eight P-8I aircraft for long-range maritime reconnaissance and anti-submarine warfare missions and has ordered four additional P-8I aircraft, for which deliveries will begin in 2020. **SP**

Modernisation of India's Internal Security Mechanism

[By Neetu Dhulia]

The ninth edition of the Homeland Security programme was organised by FICCI on May 24 to 25, 2017, in association with Vivekananda International Foundation on the theme 'Modernisation of India's Internal Security Mechanism'. The conference aimed at bringing together experts from the Government, Central Armed Police Forces, State Police Forces, foreign governments, industry, academia and think tanks to discuss solutions for numerous challenges for procurement by Internal Security forces, in the areas of polices and regulations, processes, technological advancements and capacity building. On the occasion, the dignitaries released the FICCI & EY Report, 'Roadmap for Public Procurement in Internal Security'.

In his Keynote Address, General N.C. Vij, Director, Vivekananda International Foundation (VIF), Former Chief of the Army Staff & Founder Vice Chairman, NDMA, raised pertinent issues related to internal security of the country and highlighted the ground conditions in Jammu and Kashmir and North East and the rising of Left Wing Extremism and the looming threat of radicalisation. He added that India's maritime border and cyberspace were also in need of attention to beef-up the internal security.

Anil Bajjal, Lieutenant Governor of Delhi and Former, Union Home Secretary, Government of India, had emphasized that to strengthen and modernise India's internal security mechanism and the police force it is essential to re-engineer and adopt processes and procedures and at the same time leverage technology and ICT to remain connected with the people. He also said that there is a need to create a cadre of specialised and expert police personnel who are skilled and well-equipped to cope up with specialised crimes such as accounting frauds, cyber-crime and homicide. It is also necessary to upgrade the skills of the law enforcers continuously to outwit the criminals who are making use new technologies at a fast pace.

Highlighting various initiatives of the Government of India undertaken to augment India's security, Sambit Patra, National Spokesperson, Bharatiya Janata Party said that the policy for national security clearance for certain sensitive sectors of the economy, which codifies all existing practices was one of the major steps of the government. The new policy aimed at bringing about a healthy balance between meeting the imperatives of national security and facilitating ease of doing business and promoting investment in the country.

Alok Joshi, Chairman, National Technical Research Organisation (NTRO), Government of India, outlined the evolution of home-

land security in India from the baton days to the present high-tech contemporary era. Joshi deliberated upon the relevance of high end technologies and the challenges faced by the Central Armed Police Forces (CAPFs) and law enforcing agencies. He said that there was a need for clear articulation of problems to get a precise resolution. High end technology demands customised, speedy and handy technology which could be delivered as per the customised requirement of agencies working in their respective domains. Besides, the emerging challenges posed due to possible dual use of technology needs to be studied and analysed in greater depth for the readiness of the law enforcing agencies.

Praveen Jaiswal, Co-Founder & Director, Vehere Interactive, said that encryption was the new challenge facing law enforcement not just in India but around the world, which makes it impossible to engage in legitimate monitoring of communications by terrorists and criminals. He added that traditional methods of TECHINT need to be overhauled with a combination of meta data analysis, decryption, active and passive monitoring.

In his Closing Address, G.K. Pillai, Chair, FICCI Committee on Homeland Security and Former Union Home Secretary, Government of India, said that there was need for the government, police and industry to work in tandem for economic growth of the country. He added that the government and police needed to trust business to create an environment of security and for business to flourish. Pillai said that this is a disruptive age and rapid advancements in technology demanded upgrading of skills of the police at a faster pace. Earlier, the skills became obsolete in 15 to 20

years but now the time has come down to 3 to 5 years; thus there was a need to reinvent the processes continuously.

Meenakshi Lekhi, Member of Parliament and National Spokesperson, Bharatiya Janata Party, felicitated the winners of FICCI SMART Policing Awards 2017 on the second day of Homeland Security conference. She also commended the Jury Members of FICCI SMART Policing Awards. Lekhi also unveiled the FICCI Compendium on Best Practices in SMART Policing 2017. This intervention brings together, in a single publication, different SMART Policing initiatives and practices undertaken by various security and law enforcement agencies across India. This compendium documents the entries felicitated with 'FICCI SMART Policing Awards 2017', and list the entries that were received in the course of the selection process. The best practices documented here could be replicated by other institutions across the country. **SP**



Forging alliances in defence and aerospace

Industry urges to put in place the right ecosystem to take cooperation between France and India in civil and military aerospace to the next level

FICCI and GIFAS organised “France Makes With India – Session on Forging Alliances in Defence and Aerospace” at the Paris Air Show with the support of Embassy of India, Paris.

The Inaugural Session was addressed by Rajiv Nayan Choubey, Secretary, Ministry of Civil Aviation, India. He highlighted the huge opportunity that India offers in the civil aviation sector. He further shared that India is the third largest domestic market and the fastest growing market in terms of passengers. He highlighted the initiatives of his ministry of converting 400 unused airstrips built during World War II to usable airports thus promoting regional connectivity. He further emphasised that to facilitate passenger traffic at these remote sites Government of India is assisting by keeping low air fares through viability gap funding.

Surina Rajan, Additional Secretary (DP), Department of Defence Production, Ministry of Defence, India in her address shared the policy reforms in the recent past by the Department of Defence Production in providing a level playing field to the Private Sector in terms of taxation and exchange rate variation. She highlighted the details of recently announced Strategic Partnership (SP) Model and urged the French OEMs to take the opportunity of participating in the four identified sectors currently on offer.



Manish Prabhat, Deputy Chief of Mission, Embassy of India, France elucidated the historical relationship between India and France in strategic areas like space, defence and civil nuclear. He was very optimistic of deeper engagement of B2B interactions in the strategic sectors thereby taking this relationship to higher levels.

In his address General De Garidel, Director Asia Pacific, Ministry of Armies, DGA, France highlighted the current engagement of French majors like DCNS with the MDL and the purchase of Rafale Aircrafts by the Indian Air Force as major successes in this area.

This was followed by a Roundtable Industry Session addressed by S.P. Shukla, Group President, Aerospace & Defence, Mahindra Group and Co-Chairman, FICCI Defence Committee; Pierre de Bausset, President and Managing Director, Airbus India; Richard Lavaud, Director for India, Dassault Aviation; K. Soundhar Rajhan, President – Machine Tool, Foundry Divisions & Advanced Technology Centre, Lakshmi Machine Works Ltd. and Udit Jalan, Executive Director, Nucon Aerospace Pvt Ltd.

The speakers emphasised on the synergies and nurturing the ecosystem for the integration of SMES in the global supply chain of OEMs. Without any facilitating ecosystem, no major system integrator will succeed. **SP**

Lockheed Martin Ventures announces investment in Terran Orbital

Lockheed Martin Ventures is making a strategic investment in Terran Orbital, an expert in nanosatellite design, development, manufacturing, testing and launch. The investment will create opportunities for the companies to share their expertise and customer relationships to advance this emerging technology.

“Terran brings established customer relationships across a broad range of civil, military, commercial and classified customers,” said Chris Moran, Executive Director and General Manager of Lockheed Martin Ventures. “The opportunity to invest in a nanosat leader allows us to address our customer’s increasing interest in rapid, responsive and cost-effective technology missions and demonstrations.”

The agreement includes cash and in-kind investments for an equity stake in Terran. Lockheed Martin has partnered with Terran in the past on Department of Defense and NASA missions. This investment will allow for an expansion of that relationship.

“An equity investment by Lockheed Martin allows us to grow our business while further solidifying our relationship with the leader in aerospace and defense to provide a broader range of innovative solutions to our customers,” said Tony Previte, CEO of Terran Orbital.

While Lockheed Martin has provided funding to venture stage companies since 2007, it refocused in 2016 to longer term, strategic investments in technology innovations that could drive growth in

existing, adjacent and new markets for Lockheed Martin. The fund invests primarily in early-stage companies, and its technology priorities include autonomous systems and robotics, cyber security, artificial intelligence, advanced electronics and sensor technologies. **SP**

Leonardo DRS completes acquisition of Daylight Solutions

Leonardo recently announced that its US subsidiary, Leonardo DRS, completed the acquisition of Daylight Solutions, Inc., a leading developer and supplier of quantum cascade laser based products and technology.

The acquisition received the approval of the stockholders of Daylight Solutions and all the required regulatory approvals, including review by U.S. antitrust authorities and the Committee on Foreign Investment in the United States.

The integration of Daylight Solutions will position Leonardo DRS as a world leader in advanced laser technology, electro-optical, and infrared systems for defense.

“Innovation is at the core of Leonardo DRS and Daylight Solutions brings an exceptional record of technology advancements in the growing field of infrared laser systems,” said William J. Lynn, CEO of Leonardo DRS.

The acquisition will also expand technology solutions for medical and industrial customers. **SP**



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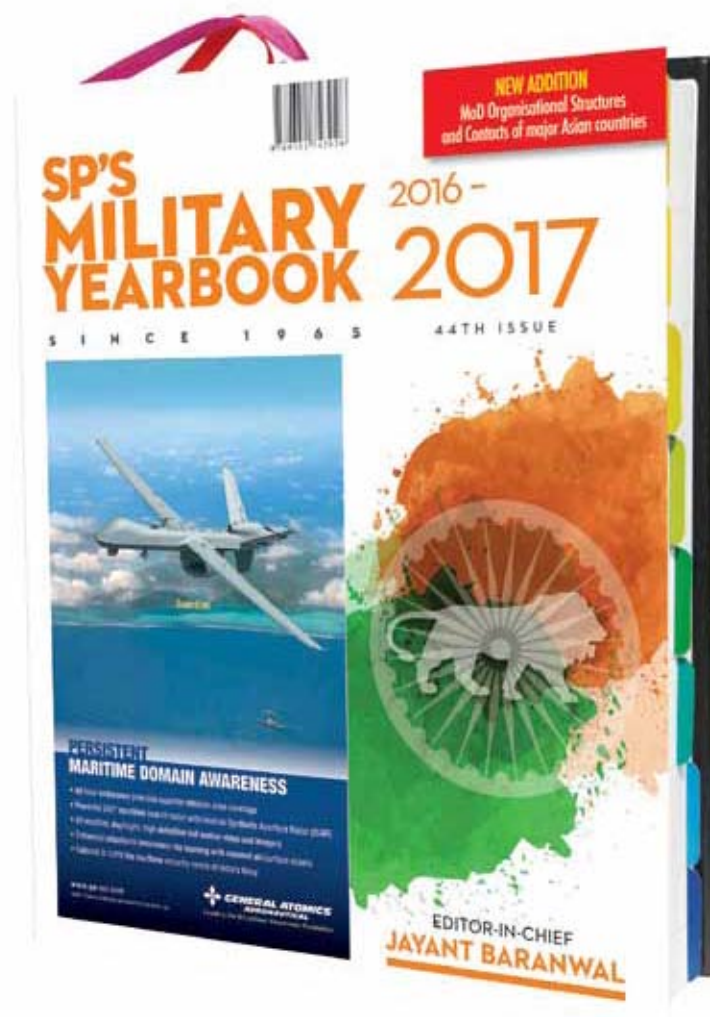


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