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Narendra Modi, Hon'ble Prime Minister of India



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Air Chief Marshal Arup Raha visits Malaysia

The Chairman Chiefs of Staff Committee (COSC) and the Chief of the Air Staff (CAS) Air Chief Marshal Arup Raha visited Malaysia for the SASEAN Defence Chiefs dialogue.


Air Chief Marshal Raha addressed the gathering of fellow Defence Chiefs from ASEAN, SAARC and the observers from China, Russia and the United States. The topic of the talk was on 'Addressing Dynamic Challenges' from the perspective of Indian armed forces.

The Air Chief said a broad scan of the evolving geopolitical environment clearly indicates a pre-eminent shift in global strategic centre of gravity to the Asian-Pacific regions. As India is strategically located in South Asia the Air Chief said, "We hope to see increased cooperation and collective action to exchange information, build infrastructure and



strengthen capabilities. In this manner, we would gain from each other's strengths and understand each other better towards lasting peace, stability and prosperity in the ASEAN region".

Speaking on the challenges the Air Chief highlighted on exploitation of technology by the armed forces mentioning that the DRDO is working towards self-reliance in defence systems and strategic independence. While talking on promoting affordable and cogent military solutions, India has decided to accelerate indigenous defence manufacturing through its 'Make in India' initiative. He continued to say that it has already given a boost to the Indian defence industries for manufacture of ships, artillery guns, aircraft, repair and overhaul, radars, sensors, communication system, etc.

"We wish to collaborate and engage effectively with SASEAN nations to enhance the security of our region and further our mutual interests of economic development and progress". 



Cover:

The Indo-Japan defence and strategic relations have been put on a higher pedestal during the visit of Prime Minister Shinzo Abe for the annual summit in New Delhi from December 11 to 13, 2015.

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Indo-Japan ties on a firm footing

As mentioned in our earlier editorials, India is engaging many countries at different levels with renewed enthusiasm. Japan is one of them. The meeting of the two top leaders, Prime Minister Narendra Modi and Prime Minister Shinzo Abe, reflects these sentiments.

The trilateral maritime exercise Malabar which saw India, US and Japan participate points to the strategic engagement India is getting into. We are just hoping that the Indian Government decides soon on the acquisition of amphibian aircraft from Japan's Shin-Maywa. It is imperative to do that at the earliest, considering the surveillance and search and rescue roles that the amphibian aircraft is known for. Heightened maritime surveillance requires different approaches and varied equipment and if you see the ongoing debate in the world – it is complete border control to prevent not just terrorists getting in but also all other illegal immigrants.

The US is currently engaged in a major debate stricter immigration laws and enforcement. And there is a lot that needs to be done in terms of cooperation, defence/security or otherwise. India's intensified engagement with the US is becoming a talking point. When the Indian Minister of Defence, Manohar Parikkar, visited the US recently at the invitation of the Defense Secretary Ashton Carter, the writing was on the wall that the two are going to find synergies in different realms of defence and internal security. The heartening aspect of Parikkar's visit was that he was taken on board the USS Dwight D. Eisenhower, one of America's top nuclear-powered aircraft carriers. The tour of the sophisticated aircraft carrier is said to be rare for a foreign leader and it was conducted by none other than the US Defense Secretary Ashton Carter himself. This speaks volumes of the Indo-US engagement that is taking place.

Around the same time, Prime Minister Narendra Modi is keeping alive the historic relations with Russia and to reassure them he will be in Moscow participating in the annual India-Russia summit. In his fortnightly viewpoint Lt General P.C. Katoch (Retd) mentions that Indo-Russian strategic partnership goes much beyond mere sale-

purchase of military hardware. Russia's growing closeness to Pakistan is not an aberration arising out of India's proximity to the US but a calculated move that it would also be able to benefit from China's gigantic strategic and economic investments in Pakistan and Af-Pak.

As regards engagement with Pakistan, the External Affairs Minister Sushma Swaraj was in Pakistan recently and at Heart of Asia conference she focused on increased connectivity, regional trade and openness with Afghanistan and also 'extended India's hand towards Pakistan.' Peace and stability in the region are crucial if the emerging markets have to consolidate on the economic momentum that is happening. In another viewpoint, Lt General Katoch has welcomed the breakthrough in Indo-Pak relations. However, he wonders whether the Pakistani military is on board with regard to the Indo-Pak dialogue. If the Pakistani military wants, it can easily shut down the anti-India infrastructure and stop all infiltration into Jammu and Kashmir. We all hope that saner sense will prevail across the borders.

We look forward to your feedback as to improve our content.
Wishing You a Happy and Pleasant New Year 2016!

Jayant Baranwal
Publisher & Editor-in-Chief



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India-Japan defence cooperation on higher pedestal

[By Ranjeet Kumar]

The Indo-Japan defence and strategic relations have been put on a higher pedestal during the visit of Prime Minister Shinzo Abe for the annual summit in New Delhi from December 11 to 13. Though India and Japan have been confabulating over measures to strengthen defence and strategic relations since early years of the last decade, domestic political compulsions due to the sensitivity of the Japanese people over nuclear non-proliferation, forced the Japanese leadership to move slow.

However, over a decade ago the Japanese leadership had expressed its resolve to strengthen defence relations with India during the visit of the then Defence Minister Pranab Mukherjee to Tokyo during which a wide ranging defence cooperation agreement was signed that committed Japan to jointly work on sensitive technology and transfer them to Indian defence firms for manufacture. A decade later some ground level activity has been cleared. During the 2006 December Tokyo summit of the Prime Ministers the two sides had said, "The two leaders welcome the Joint Statement issued following talks between the Defence Minister of India and the Minister of State for Defence of Japan in May 2006 and reiterate their commitment to enhance defence cooperation to achieve the common goal of promoting the security, stability and prosperity in Asia and in the world at large as well as in tackling regional and global security challenges. They urge their concerned agencies to develop an annual calendar of cooperation and exchanges relating to defence and security and to progressively enhance cooperative activities, including high-level exchanges and consultation between services. The two leaders appreciate the recent developments in service-to-service cooperation. The two sides will also undertake a goodwill exercise between the Japan Maritime Self-Defense Force and the Indian Navy in 2007."

A decade later the two sides had raised the level of bilateral naval interaction to trilateral under the umbrella of the Indo-US Malabar naval exercises. This has naturally evoked strong reaction from China. A Chinese Foreign Ministry spokesperson reacted to this decision by stating, "Our position is very clear. It is hoped that the relevant country will not provoke confrontation and heighten tensions in the region." Japan and India have always been conscious of the possible Chinese reaction and they have refrained from making strong bilateral moves in the defence arena. However, continued belligerent behaviour from China towards both India and Japan forced the two Asian giants to come closer during the visit of Shinzo Abe to India. Hence it was not surprising to the diplomatic and strategic observers when during the New Delhi summit India agreed to

invite Japan to the Malabar exercise on a regular basis. The two governments had earlier concluded an agreement to transfer of technology and defence equipment and also the agreement concerning security measures for the protection of classified military information, which further strengthens the foundation of deep strategic ties. Both the Prime Ministers reaffirmed their commitment to continue discussions to deepen the bilateral defence relationships including through two-way collaborations and technology cooperation, co-development and co-production.

In this context a significant mention was made regarding the US-2 amphibian aircraft. The two sides committed themselves to explore potential future projects on defence equipment and technology cooperation such as US-2 amphibian aircraft. Defence sources later said that the Indian Government has already decided to directly purchase 15 US-2 and later manufacture the aircraft in India under the 'Make in India' programme through technology transfer.

The spokesperson of the Japanese Foreign Ministry Yasuhisa Kawamura told this writer, "Defence related agreements are indeed the most important part of this particular visit by Prime Minister Shinzo Abe to India." The Japanese Prime Minister Abe had earlier said during the joint press interaction, "We have created a new chapter in India-Japan relationship with important defence initiatives."

Wary of China's reaction, the Japanese diplomatic sources emphasised that India-Japan defence partnership is not directed at any third country. Talking to this writer, the Japanese official said, "As far as the Malabar exercise is concerned, Japan plans to work with India and the US for peace, security, freedom of navigation in the South China Sea and the important trade and

energy lanes of Indo-Pacific region."

However, it is the actual cooperation in the sensitive defence technology that worries China most as Japan is said to be most advanced in cutting-edge defence electronics. Sources said that both Indian and Japanese officials would soon work out the nitty-gritties of the US-2 acquisition and technology transfer under the 'Make in India' programme. It would be for the first time that a nuclear sensitive Japan has agreed to transfer of technology and actual sale of defence platform to a third country in view of its pacifist tradition which does not allow the sale and transfer of equipment and technology to a third nation. However, after an intense debate in the Japanese Diet and among Japanese public, the Japanese Government reformed its defence export policy, which permitted the Japanese Government to allow the sale and transfer of US-2 amphibian aircraft. It is expected that this will pave the way for more robust engagement in high technology defence production, which will prove to be a source of envy to the neighbouring rival nations. **SP**



Prime Minister of Japan Shinzo Abe and Prime Minister Narendra Modi at the signing ceremony in New Delhi



LT GENERAL
PC. KATOCH (RETD)

Abe's visit – Special strategic partnership goes more special



Prime Minister Narendra Modi and the Prime Minister of Japan Shinzo Abe at the Joint Press Statement in New Delhi on December 12, 2015

The hallmark of Prime Minister Abe's visit was signing of landmark Indo-Japanese deal on peaceful use of civil nuclear energy

PHOTOGRAPH: PIB

The strategic significance of Japanese Prime Minister Shinzo Abe's visit to India comes not because it is in the following year as Prime Minister Modi's visit to Japan, but also since Japan is a vital anchor for India's 'Act East' Policy and both India and Japan are faced with a deceptively aggressive China that is also shrouding her strategic designs under the garb of her maritime silk route.

Doubts are also being raised about future US presence in Asia-Pacific region in the backdrop of US defence budget cuts and whether the US, with its own interests in mind, can be relied upon by Japan should a conflict situation arise between China and Japan. In an interview to *Japan Times* last month, Clyde Prestowitz, President of Economic Strategy Institute, a Washington-based think-tank, said that Japan should stop relying on the US and instead Japan should have

mutual security treaties with South Korea, India and Vietnam to cater for a possible failing of US presence. The Modi-Shinzo rapport is famous and Modi's five-day visit to Japan in August-September last year culminated in the 56 point Tokyo Declaration focused on upgrading India-Japan relations to 'Special Strategic Global Partnership'; Japan promising \$35 billion to India over five years for development projects; five pacts covering defence, clean energy, roads and highways, health care, women; Japan lifted the ban on six Indian entities including the Hindustan Aeronautics Limited (HAL) in aftermath of 1998 nuclear tests; speeding up negotiations on civil nuclear deal; Varanasi to be developed on the pattern of Kyoto 'smart city' by Japan; financial, technical and operational support to introduce bullet trains, and cooperation in heritage conservation, city modernisation and cooperation in the fields of art, culture and academics.



US-2 amphibian aircraft

Japan's participation in Indian Navy's annual Malabar exercise is a significant development. Just prior to Abe's arrival in India, Japan secured the ₹98,000-crore bullet train project connecting Mumbai to Ahmedabad over China, which may be extended to Delhi later. In an article in Indian media on December 11, Abe stressed on his belief that "strong India is in the best interest of Japan, and strong Japan is in the best interest of India" and that it is his intention to make the potential of Japan-India relations fully bloom and dramatically develop. The hallmark of Prime Minister Abe's visit was signing of landmark Indo-Japanese deal on peaceful use of civil nuclear energy. Highlighting the importance of India-Japan relations, Prime Minister Modi said "no other strategic partnership can exercise a more profound influence on shaping the course of Asia and our interlinked ocean regions." The annual summit meeting between the Prime Ministers also paved the way for India getting Japanese defence technologies and equipment, and coordinating their shared position on the contentious South China Sea issue.

The nuclear deal will help India realise plans to quadruple its present 5,000 MW nuclear power to 20,000 MW by 2020. US firms GE and Westinghouse can now invest in India because their strategic Japanese partners like Hitachi and Toshiba weren't allowed to trade with countries that do not have civilian nuclear agreement with Japan. China has already reverse engineered the Westinghouse AP1000 nuclear power plant, renamed it CAP1000, and will probably give it to Pakistan. Japan has committed \$12 billion of soft loans on highly concessional rates to build India's first bullet train, for which the total cost is estimated to be \$15 billion. Japan also pledged \$12 billion Japan-India fund for the 'Make in India' initiative and would look at setting up Industrial townships in the country.

Prime Minister Abe attended the Ganga Aarti at Varanasi. India will extend 'visa-on-arrival' to Japanese citizens including for business purpose from March 1, 2016. The joint statement indicates comprehensive approach to cooperation, highlights of which are: shared commitment to

democracy, tolerance, pluralism and open society; commitment to peaceful, open, equitable, stable and rule-based order in the Indo-Pacific region and beyond; expand cooperation with other partners, to enhance connectivity in Indo-Pacific region, work to strengthen regional economic and security forums and coordinate actions to tackle global challenges including reform of the UN, climate change and terrorism; understanding that stronger bilateral strategic partnership require deep and broad-based cooperation and concrete actions in defence, security, economic and cultural fields; raise level of collaboration in infrastructure, manufacturing and high technology, including advanced transportation systems, civil nuclear energy, solar power generation, space, biotechnology, rare earths and advanced materials; boost cultural ties, youth exchanges, educational opportunities and tourism; develop comprehensive medium and long-term action plan for India and Japan Vision 2025; deepen the bilateral defence relationship including through two-way collaboration and technology cooperation, co-development and co-production including exploring future projects on defence equipment and technology cooperation such as US-2 amphibian aircraft.

Further cooperation in the security and defence fields, including through full utilisation of '2+2 Dialogue', Defence Policy Dialogue, Military-to-Military Talks and Coast Guard-to-Coast Guard Cooperation, while welcoming the decision to begin Air Force-to-Air Force Staff Talks; closer cooperation with major partners in the region in humanitarian assistance and disaster relief, regional connectivity as well as maritime security, and welcoming the inaugural Japan-India-Australia Trilateral dialogue; develop and strengthen reliable, sustainable and resilient infrastructures that augment connectivity within India and between India and other countries in the region; signing of MoU on technological cooperation, and R&D collaboration in the railways sector; MoU for introducing high speed railway on Mumbai-Ahmedabad route; recognition for more investments in initiatives like 'Make in India', 'Digital India', 'Skill India', 'Clean India' and 'Smart City' with Prime Minister Abe signalling active mobilisation of Japanese public and private sector involvement, including Official Development Assistance (ODA); importance of expansion of two-way investment between Japan and India-Japanese side expressing intention of establishing "Japan-India IoT Investment Initiative," to promote investment in Internet of Things (IoT) related area from India to Japan.

Japan had already pledged 3.5 trillion yen over five years under the Japan-India Investment Promotion Partnership in 2014, under which projects like Western Dedicated Freight Corridor (DFC) is coming up and the Delhi-Mumbai Industrial Corridor (DMIC) is planned.

The Chennai-Bengaluru Industrial Corridor (CBIC) project is to go to next stage implementation including by using ODA. Total Japanese ODA yen loan to India in FY 2015 may reach around 400 billion yen, the highest ever provided to India including some 100 billion yen for metro projects in Chennai and Ahmedabad. Japan also intends to provide ODA loans for improvement of road network in Northeast India, peripheral ring road surrounding Bengaluru and horticulture irrigation in Jharkhand. In view of critical importance of the sea lanes of communications in the Indo-Pacific, the India-Japan Special Strategic Global Partnership is undoubtedly one of the most important in the region. Since the India-Japan Summit is an annual feature, the partnership is bound to accelerate to the benefit of the population of both countries, as well as for the region. SP

In view of critical importance of the sea lanes of communications in the Indo-Pacific, the India-Japan Special Strategic Global Partnership is undoubtedly one of the most important in the region



US Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar conduct a joint press conference at the Pentagon on December 10, 2015

Maiden visit of Parrikar to US

[By **Ranjeet Kumar**]

Indian Defence Minister Manohar Parrikar paid a landmark visit to the United States at the invitation of the US Secretary of Defense Ashton Carter in the second week of December this year. The highlight of the visit was the four-hour guided tour on the nuclear powered US aircraft carrier USS Dwight D. Eisenhower, given by US Defense Secretary Carter himself and if the bonhomie displayed by the two Defence Ministers during the guided tour was any indication, it can be said easily that the two countries are now geared to long-term strong partnership, which would have global ramifications especially in Asia. This was the first visit of an Indian Defence Minister to the US nuclear-powered carrier. The US side has two-pronged aim behind arming and equipping India with modern weapon systems like the Apache attack helicopters and modern anti-tank and long-range air-to-surface missiles. First, this will help bring new businesses to US defence companies and second, this will advance US strategic interests in the Asia-Pacific region. The US had earlier supplied the long-range maritime surveillance aircraft P-8I, called Poseidon in the US Navy. It was for the first time that this modern maritime and lethal surveillance aircraft in the world has been supplied to any navy outside US.

However beyond the traditional weapon systems and platforms, the Pentagon is ready to help India indigenously develop and produce the latest class of weapon systems and platforms. To enable this the Pentagon has for the first time created for any country a special cell

for India called the India Rapid Reaction Cell (IRRC) which falls under the purview of the International Cooperation Office of the Under Secretary of Defense for Acquisitions, Technology and Logistics. The IRRC will assist in promoting the initiatives of the DTTI (Defence Technology and Trade Initiative) which is intended to jointly develop and manufacture in India next-generation military technology.

The Defence Minister Parrikar was accompanied by a very high level defence industry delegation from India which included the doyens of Indian industries like the L&T, Tata, Reliance, Dynamic Technologies, Sun Group, etc. The delegation also included the Indian Defence Secretary and Vice Chiefs of the three services besides other senior officials.

After the talks, the two sides issued a joint statement which also indicated an evolving long-term partnerships which will be a subject of envy for India's neighbours. According to the joint statement Manohar Parrikar and Secretary Carter discussed the India-US defence relationship and broader India-US strategic partnership and focused on ways to maintain the strong momentum of security and defence engagement, including means to further move the DTTI forward. Both expressed satisfaction with progress achieved under DTTI and committed to identify additional projects for possible co-development and co-production of high technology items that meet the transformational intent of DTTI.

Both the Defence Ministers took note of the positive progress during the recent meeting of the Joint Working Group on Aircraft Carrier Technology (ACTC), especially in the area of Aircraft Launch

Both the Defence Ministers took note of the positive progress during the recent meeting of the Joint Working Group on Aircraft Carrier Technology, especially in the area of Aircraft Launch and Recovery. Under this programme Indian engineers will participate in the development of Electromagnetic Launch Systems for the future aircraft carriers on government to government basis under the DTTL.



Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar at the Pentagon on December 10, 2015

and Recovery (ALRE) and expected the progress to continue during the second meeting of the ACTC to be held in February 2016. The meeting will be held this time in New Delhi. Under this programme, Indian engineers will participate in the development of Electromagnetic Launch Systems (EMALS) for the future aircraft carriers on government to government basis under the DTTL.

The two sides also commended the progress achieved in the Jet Engine Technology Joint Working Group, which met in the first week of December in Bengaluru. The meeting resulted in terms of reference and had productive discussions on cooperation in this area. According to sources under this cooperation, Indian and US experts will jointly develop a jet engine for India's decade-old proposal to develop advanced medium combat aircraft (AMCA). This will be a significant part of the DTTL. It is worth mentioning that India could not finally develop the jet engine Kaveri for the light combat aircraft (LCA) Tejas, even after two decades of effort. India had to ultimately order F-404 engine for the LCA from the United States. Now India's AMCA project has been designed in a very ambitious manner. Indian planners want to develop an indigenous engine for the AMCA project which may be India's answer to the fifth-generation fighter.

During the meeting Secretary Carter also informed Parrikar that in the light of the strengthening relationships between US and India the US Department of Defense has updated its policy on gas turbine engine technology transfer to India. Due to this policy update the US Defense Secretary expressed the confidence that US will be able to expand cooperation in production and design of jet engine components. The US companies will further work with Indian counterparts to submit transfer requests that will benefit from this updated policy.

During the meeting Parrikar also informed Secretary Carter Indian decision to participate in the Rim of the Pacific (RIMPAC) multilateral naval exercises in 2016. India will also participate in multilateral Red Flag exercise in April-May 2016. Both the Ministers also expressed support for greater air-to-air interaction in the coming years. US side also confirmed the participation of the US naval ships in the International Fleet Review being hosted by the Indian Navy in February 2016.

Both the Defence Ministers also expressed appreciation for the progress achieved last month at the Defence Policy Group meeting which focused attention on defence capability development for humanitarian assistance and disaster relief.

However, according to sources, in spite of lot of goodies to Indian armed forces, Indian side is not convinced about the need to adhere to US defence laws like the LSA, CISMOA and BECA. It has been reported that the US side raised this issue and told Parrikar that adhering to these foundational US laws will easily facilitate transfer of technology and weapon systems without crossing the bureaucratic barriers. US officials contend that of all the LSA is the most easier one and will facilitate easy exchange of goods mid sea in case of emergency. However, due to Indian political sensitivities it would be difficult for the Modi Government to agree to these US laws. The CISMOA (Communication Interoperability and Security Memorandum) and BECA (Basic Exchange and Cooperation agreement for Geospatial Cooperation) are considered to be surrendering to US laws and it would be difficult for the Indian Government to sign on this.

According to sources, Parrikar also raised the issue of US supply of defence systems like the F-16 fighter aircrafts and associated weapon systems to Pakistan in the name of fighting terrorism. But the US gave a standard reply that it will not create any imbalance in the region and it is necessary for US to keep Pakistan in good humour. Interestingly the US side is interested in manufacturing the F-16 fighters in India under the 'Make in India' programme. On the other hand the US side offered to manufacture F-18 multi-role fighters in India under the 'Make in India' programme. Indian political and domestic economic environment has changed so drastically that US companies have been vying among themselves to manufacture their top category weapon systems and platforms in India. Not only this if India moves forward in developing the advanced medium combat aircraft US has decided to assist India in this ambitious venture. The US' willingness to cooperate with India in jointly developing the next-generation jet engine with Indian experts is very significant. **SP**

Indo-US Joint Statement outlines defence cooperation



US Defense Secretary Ashton Carter and Defence Minister Manohar Parrikar before meeting at the Pentagon, December 10, 2015

[By R. Chandrakanth]

The official visit underlined the strategic importance of the defence relationship and the personal priority that the Minister and Secretary place on the bilateral partnership

The Minister of Defence Manohar Parrikar made an official visit to the United States at the invitation of US Secretary of Defense Ashton Carter from December 7 to 10, 2015, that included visits to multiple US facilities— the US Pacific Command (PACOM), the Pentagon, and a visit with Secretary Carter to observe flight operations aboard the aircraft carrier USS Dwight D. Eisenhower (CVN-69).

First, Parrikar participated as a guest of honour in a Pearl Harbour commemorative ceremony at PACOM. He also met with Admiral Harry Harris, the PACOM Commander, and visited various facilities in Honolulu, Hawaii.

At the Pentagon, Parrikar and Carter held their third meeting. They discussed the India-US defence relationship and broader India-US strategic partnership, and focused on ways to maintain the strong momentum of security and defence engagement,

including means to further move the Defence Technology and Trade Initiative (DTTI) forward. The two expressed satisfaction with DTTI progress to date. They committed to identifying additional projects for possible co-development and co-production of high technology items that meet the transformational intent of DTTI.

At the joint press conference, Carter said, “For instance, today, Minister Parrikar and I discussed the progress that’s been made towards cooperation on jet engines and aircraft carrier design and construction [and] opportunities to collaborate on additional projects of interest.”

They commended positive discussions at the Joint Working Group on Aircraft Carrier Technology Cooperation (JWGACTC), especially in the area of Aircraft Launch and Recovery Equipment (ALRE), and look forward to continued progress to be achieved at the second meeting of the JWGACTC in February 2016 in India. They further expressed satisfaction that the Jet Engine Technology Joint Working Group (JETJWG),

Parrikar tours USS Dwight D. Eisenhower



An F-18 Hornet performs a fly-by on the USS Dwight D. Eisenhower as Secretary of Defense Ashton Carter and Defence Minister Manohar Parrikar tour the aircraft carrier

The Defence Minister Manohar Parrikar was given a rare insight into USS Dwight D. Eisenhower, one of America's top nuclear powered aircraft carriers, signalling the emerging close Indo-US defence ties. The tour of the sophisticated aircraft carrier – a rare for a foreign leader – was given by the US Defense Secretary Ashton Carter himself.

The two leaders, accompanied by senior defence officials and diplomats from both sides, spent nearly four hours on the ship itself, wherein Parrikar was given a detailed first-hand experience of the top aircraft carrier which in recent years has played a key role in support of American military operations in Iraq and Afghanistan. Parrikar described the experience as “fantastic”.

“We could experience the technology and the speed at which things can be done,” said Parrikar after spending time with Carter on the deck watching the take-off and landing of fighter jets. He also visited the control room on the top floor and hanger at the bottom of the ship.

When Parrikar arrived at the Andrews Air Force base aboard Defence One – the personal plane of the Defence Secretary, Carter gave a big hug to his guest. Before seeing him off, the two leaders had spent nearly nine hours together.

At a time, when Pentagon is experiencing hectic activities in view of the crisis in the Middle East, a senior defence official described Carter spending so much time with Parrikar as “very significant” and reflective of how much importance US attaches to its defence relationship with India.

In an interaction with a group of Indian media later, Parrikar refrained from giving an insight into what the two leaders talked throughout the day. “I will put it in one line, when you gel well, you do not remember what you discussed,” the Minister said as he dismissed the question.

“The most important is trust building, which I think is happening for the first time after Prime Minister Modi had good discussions with President Barack Obama,” he said. SP

which met in Bengaluru, had concluded its terms of reference and had productive discussion on cooperation in this area.

Secretary Carter informed Parrikar that in light of the strengthening relationship between the United States and India, the Department of Defense (DOD) has updated its policy on gas turbine engine technology transfer to India. As a result of this policy update, the Secretary is confident that the United States will be able to expand cooperation in production and design of jet engine components. The two now look forward to US companies working with their Indian counterparts to submit transfer requests that will benefit from this updated policy.

Minister Parrikar informed Secretary Carter about the ‘Make in India’ initiative, under which several reforms have been taken in the Indian defence sector. Secretary Carter welcomed Indian initiatives in this regard and hoped that this would pave the way for even greater participation of US companies in the defence sector.

The Secretary welcomed India's participation in the Rim of the Pacific (RIMPAC) multilateral naval exercise in 2016 as well as participation by the Indian Air Force in the multilateral Red Flag exercise in April-May 2016, and expressed support for greater air-to-air interaction in the future. Minister Parrikar welcomed announcement of US participation in the International Fleet Review of the Indian Navy at Visakhapatnam in February 2016.

The two leaders expressed satisfaction at the level of maritime cooperation between the two navies and resolved to further expand the same in coming years. They announced their intention to soon complete a memorandum of understanding between their navies

on ‘white shipping’ information sharing. They also welcomed the renewal of the Fuel Exchange Agreement.

They commended the progress achieved in November at the Defence Policy Group (DPG), including the re-establishment of a working group on humanitarian assistance and disaster relief (HADR) cooperation under the Military Cooperation Group and focused discussions on defence capability development.

They also discussed a wide range of regional security issues, including the threat posed by ISIL and entities such as Al Qaeda and its affiliates, Lashkar-e-Taiba, Jaish-e-Mohammad, D Company, the Haqqani Network, and other regional terror groups. They discussed ways to implement the defence-related aspects of Prime Minister Modi and President Obama's Joint Strategic Vision for the Asia-Pacific and the Indian Ocean region.

The official visit underlined the strategic importance of the defence relationship and the personal priority that the Minister and Secretary place on the bilateral partnership. During his visit, Minister Parrikar also met with senior National Security Council officials and members of Congress.

The defence partnership between India and the United States “reflects shared values and interests,” Parrikar said. “Relationship is stronger. Defence and security cooperation is a vital component of this partnership.”

“Terrorism has become a global phenomenon, and requires a comprehensive response,” he said. “All affiliations must be countered without any differentiation.” SP


 LT GENERAL
 PC. KATOCH (RETD)

Indo-Russian bonds remain strong

P rime Minister Narendra Modi is scheduled to visit Russia later in the month to attend the annual India-Russia Summit. Indo-Russian strategic partnership goes much beyond mere sale-purchase of military hardware, remaining strong even when geopolitical realities made India switch to diversify its weapon import base to include other countries. Russia's growing closeness to Pakistan is not an aberration arising out of India's proximity to the US but a calculated move that it would also be able to benefit from China's gigantic strategic and economic investments in Pakistan and Af-Pak as a whole.

Hence, further strengthening of Russia-Pakistan relationship is very much on the cards with Pakistan's regional pre-eminence and Chinese backing post-US exit. But Russia has signalled unequivocally that this would not be at the cost of Russia-India strategic partnership and Indian interests. Russia places India next to US and China and perceives US, China and India would mould global geopolitics. Significantly, it was Russia that had put across the idea of the Russia-China-India tripartite talks. However, the latter have not made much headway because of China's lukewarm interest. China could also have given a push to the North-South Corridor with its influence over Pakistan to open the India-Afghanistan land corridor but has refrained from doing so in a bid to keep India constrained.

Ahead of Defence Minister Manohar Parrikar's recent visit to Russia, the Defence Acquisition Council (DAC) had cleared two projects for the upgradation of engines and avionics of IL-76 and IL-78 aircraft from Russia for ₹4,300 crore. Parrikar, who met his counterpart Sergei Shoigu for the intergovernmental commission on military and technical cooperation, primarily discussed joint military projects like the medium transport aircraft (MTA) and the fifth-generation fighter aircraft (FGFA) that India and Russia are to co-produce. He is believed to have also shared India's concerns on Russia's recent arms sales to Pakistan including Mi-35 helicopters. According to the Federal Service for Military-Technical Cooperation, in 2013, Russia supplied \$4.78 billion worth of arms and military equipment to India. In 2014, Russia's deliveries of arms and military equipment to India amounted to \$4.7 billion.

The eighth edition of 'Indra' exercises involving Indian and Russian navies was held in the Bay of Bengal from December 7-11, 2015. It included live-firing, air defence and anti-submarine operations. A modified Russian Yasen class submarine, Russia's latest nuclear sub, could be built specially for India as per Russian analyst Zachary Keck. According to Keck, India has been interested in leasing a multi-

purpose attack submarine for quite a long while. This time, the Russian Government has taken this interest onboard and is developing a separate submarine for India though the final details are yet to be discussed. The Yasen class submarine is equipped with eight vertical missile silos, four 650mm torpedo tubes and four 533mm torpedo tubes. The Yasen is also likely to be armed with the high speed underwater Shkval torpedo, which has a radius of 7-13 km and a speed of up to 200 knots. Russia's Deputy Prime Minister Dmitry Rogozin who visited India this month, told journalists in New Delhi that Russia is offering Indian companies a chance to replace Turkey in the Russian market. He also referred to the agreement signed by the Indian Space Research Organisation (ISRO) with their Russian counterpart

for increased cooperation in space this July, saying this could lead to development of satellites constellations and earth remote sensing systems. This may also involve the creation of ground-based infrastructure, including navigational constellations. Rogozin also said that should India join the MTCR, Russia is ready to help India build their own satellite delivery mechanisms to place satellites into the earth's orbit, meaning missile technologies, and that Russia has high-quality export potential associated with rocket engine manufacturing.

The final agreement for the joint development and production of the FGFA could be signed during Prime Minister Modi's forthcoming visit to Russia. The agreement



Prime Minister Narendra Modi with the President of Russian Federation Vladimir Putin

on the fighter aircraft has been stuck because of differences. So far, both sides have invested \$295 million for the preliminary design. As per initial plans, India planned to induct 144 fighters with the entire project costing over \$30 billion, and the first batch of aircraft handed over in 2017. There has also been some talk of India going for the Sukhoi PAK FA instead or a mix of both. Possible purchase of two new Kilo class submarines and the S 400 air defence system is also on the cards. Signing of a landmark Indo-Russian deal for joint production of Kamov 226 helicopters in India under 'Make in India' is to be signed during Prime Minister Modi's visit. While the intergovernmental contract for producing over 200 of the Kamov 226 choppers will be inked, other details, including the selection of the Indian partner for the \$1 billion deal are to be decided later. The initial helicopters will be produced from Russian supplied kits but would be progressively indigenised. France, which supplies the engines for the chopper, is already on board for technology transfer. India-Russia strategic partnership is historic with both countries always having stood by each other. There is convergence of views on many contemporary issues including Syria, Afghanistan and Central Asia. **SP**



LT GENERAL
P.C. KATOCH (RETD)

Heart of Asia – Will Pakistan withdraw the knife?

The Heart of Asia conference in Islamabad was the fifth in the series of ministerial level meetings that have been ongoing since 2011, in continuation of the Istanbul Process. The Istanbul Process is the latest of numerous international initiatives of the last few decades to restore peace and development in and around Afghanistan. At December 4, 2014, London Conference co-hosted by UK and Afghanistan, 59 countries agreed to help make Afghanistan a viable state. However, the world has actually not done enough to help Afghanistan, the US-NATO thin out perpetuating the situation.

Heart of Asia brought together senior representatives of a number of countries of the region in discussions aimed at enhancing security around Afghanistan and promoting economic development in that country. India was represented by External Affairs Minister Sushma Swaraj. Afghanistan President Ashraf Ghani spoke of Pakistani military operations that have forced Afghanistan to host close to 3,50,000 to 5,00,000 Pakistani refugees. Though he used the cliché “unintended consequences” of Pakistan’s military operations, the message was loud and clear. He added, “We are fighting on behalf of all of you but we are the ones who are daily suffering some of the worst atrocities, including the butchering of our children and elderly who are totally innocent.” He mentioned that the Afghan Taliban have become a regional phenomena and the Tehrik-e Taliban, Al Qaeda, ISIS and terrorists from China, Russia, Uzbekistan, Tajikistan, the Middle East are all present on Afghan soil.

Ghani called for a mechanism of regional cooperation to examine “how the networks of terror coordinate, co-finance, what is their linkage with the criminal economy, how is radicalism shaping and maligning our holy religion and our opportunities for global engagement and dialogue. He added notably there had been “considerable uncertainty whether Pakistan would truly acknowledge a sovereign Afghan state with its legitimate government and constitution.”

In her speech, External Affairs Minister Sushma Swaraj focused on increased connectivity, regional trade and openness with Afghanistan, and also “extended India’s hand towards Pakistan” in this regard. Swaraj said, “India will extend its cooperation at a pace Pakistan is comfortable with...but let us direct our help to Afghanistan for now.” She stressed that connectivity lies at the Heart of India’s efforts to push for regional economic cooperation and that nothing can benefit Afghanistan more immediately than full and direct access to India’s markets to enable it to take advantage of the zero-duty regime. She said that the Heart of Asia cannot function if arteries are clogged, adding, “If Afghan trucks could carry Indian products to markets in Afghanistan and Central Asia, that would be the best way to make trucking from Afghanistan cost-effective and

viable and bestow benefits to the whole region. India is willing to receive Afghan trucks on its territory at Attari and create necessary facilities for Afghan products there.” She conveyed India’s willingness to join the Afghanistan-Pakistan trade and transit agreement, also referring to the historic Grand Trunk (GT) road constructed by Sher Shah Suri 450 years ago, connecting Kolkata and Kabul – reminder of the shared destiny of the region.

Prime Minister Nawaz Sharif addressing the conference stressed upon peaceful neighbourhood being cardinal principle of Pakistan’s foreign policy; respect for Afghanistan’s sovereignty, territorial integrity and democratic government; Pakistan would continue to support an Afghan-owned and led peace and reconciliation process; Pakistan remained committed to eradicating terrorism, violence and extremism from its soil; emergence of ISIS like terrorist groups should strengthen collective resolve against terrorism and finalisation of border management SOPs will help contain cross-border move of terrorists; Afghanistan was more than a neighbour to Pakistan and Pakistan is committed to strengthening its relations with all its neighbours and regional countries, as well as promoting regional cooperation and connectivity.

However, Nawaz Sharif’s assurances had a ring of hollow in the backdrop of Pakistan’s Inter-Services Intelligence (ISI) upping terror attacks in both India and Afghanistan. The fact remains that Pakistan engineered Mullah Akhtar Mansour (who is religious teacher of Haqqanis based in Pakistan for last 30 years) as chief of Afghan Taliban. Reports of dissent within top Afghan Taliban leadership notwithstanding, the Afghan Taliban captured bulk Kunduz on September 28, have captured Warduj district west of Kunduz, consolidated in Badakshan region of north Afghanistan and recently undertook a deadly attack on Kandahar airbase in highly organised manner with obvious support from the Pakistani military.

The ISIS that have captured seven districts in Nangarhar province of Afghanistan west of Peshawar have also moved in from Pakistani soil. Afghan President Ashraf Ghani has on a number of earlier occasions pointed fingers at Pakistan for not ending Taliban sanctuaries on its soil. Just four months back on August 7 when a truck bombing in Kabul killed 15 and wounded 400, the Afghan National Directorate of Security (NDS) probe found that the attacks were carried out by the elements of the Pakistani Army with the help of their mercenaries – Haqqani terrorist network. For the first time Afghan clerics raised a call saying, “Afghan people are Muslims and jihad is eligible against Pakistan’s military intelligence – ISI and Punjabi military; the country’s army and intelligence is directly involved in the ongoing violence and savagery in Afghanistan.” The Heart of Asia conference is only fifth in the series but for Afghanistan to stabilise, the Pakistani military must pull the knife out. **SP**

India-Pakistan Joint Statement

The External Affairs Minister Sushma Swaraj led the Indian delegation to the Fifth Ministerial Conference of the Heart of Asia-Istanbul Process in Islamabad on December 8-9, 2015. She called on the Prime Minister of Pakistan, Muhammad Nawaz Sharif and held discussions with Adviser to the Prime Minister on Foreign Affairs, Sartaj Aziz.

The two leaders condemned terrorism and resolved to cooperate to eliminate it. They noted the successful talks on terrorism and security related issues in Bangkok by the two National Security Advisers (NSAs) and decided that they will continue to address all issues connected to terrorism. The Indian side was assured of the steps being taken to expedite the early conclusion of the Mumbai trial.

Both sides, accordingly, agreed to a Comprehensive Bilateral Dialogue and directed the Foreign Secretaries to work out the modalities and schedule of the meetings under the dialogue including peace and security, confidence building measures, Jammu & Kashmir, Siachen, Sir Creek, Wullar Barrage/Tulbul navigation project, economic and commercial cooperation, counter-terrorism, narcotics control, humanitarian issues, people-to-people exchanges and religious tourism. **SP**



External Affairs Minister Sushma Swaraj with Pakistan Prime Minister Nawaz Sharif in Islamabad

Chief of Army Staff reviews Exercise 'DRAD Sankalp'

The final phase (validation phase) of the training exercise by Indian Army's Southern Command Ex 'Drad Sankalp' in simulated contemporary battlefield environment, which commenced on December 3, culminated on December 5.

The focus of the exercise has been on validation of operational preparedness of the formations and units to the evolving doctrine of the Indian Army to launch swift offensive in the desert terrain in a network-centric environment in close coordination with long-range Artillery and Air Force. The exercise has presented an excellent opportunity to the formations and units to gauge their operational preparedness while operating in a highly intense, dynamic and fluid operational environment. Participation included entire spectrum of ground forces—fighting arms, combat support arms duly supported by services and logistics, force multipliers like Army Aviation, Special Forces and Electronic Warfare System in conjunction with the Indian Air Force.

The Chief of Army Staff (COAS), General Dalbir Singh, visited the exercise area. He interacted with the participants and witnessed the conduct of critical manoeuvres in deserts. The Army Chief was briefed by General Officer Commanding-in-Chief, Southern Command, Lt General Ashok Singh on the operational setting, plans and training objectives of the Exercise.

The COAS reviewed integrated operational manoeuvres of the formations, the aspect of synergy between Army and Air Force in launching coordinated air-land battle and the ability to orchestrate battle in network-centric environment. The Army Chief complimented the formations and units for their high standards of training and plan execution at operational and tactical levels. Addressing Commanders, he also reiterated the importance of technology and innovation in the fast changing battlefield scenario, high standards of physical fitness, mental alertness and maintenance of high state of readiness of the equipment to take to field at short notice.

During the Exercise, combined arms of infantry and mechanised forces practised swift manoeuvres in coordination with airborne

troops. Networked radars, UAVs and aerial surveillance platforms ensured continuous flow of information resulting in battlefield transparency which enabled Commanders to assess and modify their operational plans to meet the emerging challenges. Such large-scale exercises are conducted once in three to four years as part of operational validation of doctrinal tenets which are dynamic in nature, in keeping with the ever changing security environment. **SP**

Launch of Yard 2096

The fifth ship of LCU-MK IV project was launched on December 7, 2015, at an impressive ceremony at the Garden Reach Shipbuilders and Engineers Ltd (GRSE), Kolkata.



The chief guest, Vice Admiral A.V. Subhedar, AVSM, VSM, Chief of Material, Chairman and Managing Director of GRSE and other dignitaries were present on the occasion. Rear Admiral A.K. Verma (Retd), VSM, Chairman & Managing Director, GRSE, welcomed.

Vice Admiral Subhedar asserted that the Indian Navy has been supporting the drive for indigenous construction of warships leading to advancement of our shipbuilding industry and acknowledged the role of GRSE as a reliable partner in pursuing the national goal of 'Make in India'. He further stated that the Indian Navy is eagerly looking forward towards induction of LCU-MK IV class of ships, which would be based at Port Blair. He extended warm felicitations to the entire team of the GRSE for their significant contribution towards meeting the Navy's growing requirement of state-of-the-art warships.

Rohini Subhedar, wife of Vice Admiral Subhedar, named the ship as 'LCU L-55', wished the ship good luck and launched the vessel.

LCU L-55 is the fifth vessel in the series of eight landing craft utility ships being designed and built by GRSE for the Indian Navy. The ship can be deployed for multi-role activities like beaching operations, humanitarian and disaster relief operations. **SP**

Father and son fly Hawk Mk 132 together in formation

At Air Force Station Bidar Air Marshal Kulwant Singh Gill, ADC, Air Officer Commanding-in-Chief of Central Air Command, flew a three aircraft close formation sortie on Hawk Mk 132 with his son Flying Officer Shahbeg Gill also part of same formation.

The three aircraft formation took-off approximately at 1500 hours and landed after approximately one hour. When Air Marshal was asked how he felt flying a sortie with his son he replied: "I can easily say that IAF is the elitist service in the world, that's why I leave half of me with the Air Force". He wishes to see more brave sons of this great land to opt for flying and fighting for the nation.

When father and son landed after the sortie, Ranjit Gill, Shahbeg's mother, was emotional and said, "The two dearest people to me in this world have flown together in close formation and I cannot describe my feeling in words, obviously I feel I am one of the proudest wives and mothers".

Air Marshal K.S. Gill was commissioned into the Flying Branch of the IAF in December 1977. In a career spanning 38 years, he has held instructional, directional and command appointments, including Commandant of the National Defence Academy. He has



more than 7,000 hours of accident/incident-free flying experience to his credit.

Flying Officer Shahbeg has done his matriculation from St Peter's School and 12th Standard from Army Public School, both in Patiala. Flying Officer Gill says right from childhood he wanted to be like his father and today he has taken a major step towards that. **SP**

Airbus C295W flies to Antarctica



An Airbus C295W aircraft belonging to the Mexican Navy (SEMAR) and operated by a mixed crew from Airbus Defence and Space and SEMAR flew from Río Gallegos Airport in Argentina to the Marambio Base, the first flight ever by a C295 to Antarctica.

The C295W landed in Marambio at 11.45 on November 27, returning to Río Gallegos nearly eight hours later. The Argentinian Marambio Base, in the Seymour Island in the North of Antarctica, frequently suffers temperatures below -30° Celsius with extremely strong winds.

The new C295W version is equipped with winglets, which allow transport of more payload over larger distances in hot and high conditions such as these, and result in fuel savings of around 4 per cent.

During its tour of the region, the C295W has already visited Bolivia and Chile and after the phase in Argentina will continue to Paraguay and Panama before completing the tour in Mexico in early December. **SP**

Australia chooses PC-21

The Australian Defence Force competitively tendered for a new pilot training system under 'Project Air 5428', from which the PC-21 emerged as the winner after a thorough evaluation and contract negotiations. This package will harmonise training across all three services with the PC-21 providing a modern, cost-effective training system for basic and advanced pilot training.

Oscar J. Schwenk, Chairman of Pilatus, commented: "We are delighted that after 28 years of Pilatus PC-9 operations the Commonwealth of Australia has chosen to endorse our reputation for providing world-class training systems with this new contract. I am equally happy that Team 21 won the deal against all international competitors and that, in the final round, the Australian Defence Force has chosen the Pilatus PC-21 over all other aircraft – once Pilatus, always Pilatus!"

The PC-21 is a proven and efficient training system which is already operating in Australia. The PC-21 has been in service with the Republic of Singapore Air Force at RAAF Base Pearce in Western Australia since 2008 and is also operated by the Air



Forces of Switzerland, UAE, Saudi Arabia and Qatar. With this latest order 180 aircraft have been sold and Australia is now the sixth country to revolutionise their pilot training with the PC-21.

The PC-21s for Australia will be delivered commencing June 2017 and will form the backbone of future pilot training for the Australian Defence Force for the next 25 years. Pilatus will continue to provide the ADF with premium Swiss quality and work with our partners to provide a world-class training system – the Pilatus PC-21. **SP**

Boeing delivers 14th new-build Mk6 Chinook to UK



Boeing has delivered its 14th Mk6 Chinook, completing the United Kingdom's most recent order and growing the RAF Chinook fleet to 60 aircraft. The order completion coincided with the 35th anniversary of Chinook operations for the United Kingdom.

"Since they were introduced into service in 1980, our Chinook fleet has played an integral supporting role for British forces and have been deployed on an almost continuous basis since," said Royal Air Force Air Vice Marshal Julian Young, Director of Helicopters in the United Kingdom's Defence Equipment & Support organisation. **SP**

PAKFA fifth-generation fighter completes flight tests



The trials proving the flight performance of Russian fifth-generation fighter T-50 PAKFA (Russian acronym for future tactical fighter) have been virtually completed, Russian Deputy Defense Minister Yuri Borisov told the Russia 24 television broadcaster in an interview.

"Several aircraft are flying to test the avionics suite now. The tests of their flight characteristics have virtually been completed," he said.

The delivery of the PAKFA is due in 2017. The T-50 powered by the so-called

Stage II engine (or Product 30) will first fly in 2018. The Defense Ministry is to receive a total of 55 fifth-generation fighter before 2020. Later, Borisov warned that the ministry could adjust its PAKFA order due to the new economic situation and high performance of the Sukhoi Su-35S (NATO reporting name: Flanker-E) multi-role fighter.

The PAKFA has kicked off the testing of its weapons, with their characteristics checking with the manufacturer's performance ratings. Air Force test pilots are testing the T-50's capabilities at the Chkalov State Flight Test Center in Akhtubinsk. The T-50's maiden flight took place in January 2010. Five aircraft of the type are in trials now. **SP**

Delivery of the 260th NH90



Spain took delivery of its second NH90 TTH. This helicopter was produced in Albacete. As of today NHI and its partner companies delivered 260 NH90s.

Main missions NH90 TTH are of the troop transport of up to 20 fully equipped troops, logistic and utility transport of internal and external loads and search and rescue (SAR). Complimentary roles when suitably role equipped are utility support including disaster relief; casualty evacuation (CASEVAC); medical evacuation (MEDEVAC); combat search and rescue; special operations including counter terrorism; electronic warfare; airborne command post; parachuting and VIP transport.

NHIIndustries is a French SAS company, based in Aix-en-Provence. It is wholly owned by Airbus Helicopters, AgustaWestland and Fokker Aerostructures and provides the focal point for these companies for the NH90 programme. **SP**

Germany receives second A400M

The German armed forces took delivery of a second A400M military transport plane from Airbus in Seville recently. Another A400M plane is due to be

delivered by the end of the year, a military source said, taking the total Germany will have received to three.

Germany has ordered 53 of the planes from Airbus but deliveries have been delayed as the world's second biggest aerospace group grapples with production delays. Five of the planes were due to be delivered to Germany this year, but it will now only receive two. **SP**

Delivery of the first JSF assembled in Italy



At Cameri Air Force base recently, the delivery of the first Joint Strike Fighter (JSF) entirely assembled in Italy took place. The delivery ceremony was attended by military and industry representatives from different countries such as the US, UK, Netherlands, Canada, Turkey, Australia, Germany and Norway.

The ceremony confirmed the importance of the Cameri plant - officially known as the Final Assembly and Check Out (FACO) facility - as a major industrial centre of high-tech manufacturing.

The Cameri plant was designed from the outset to accommodate both production activities as well as those regarding maintenance, repair, overhaul and upgrade of the JSF aircraft.

In December 2014, Italy was selected to be the maintenance pole for aircraft deployed in Europe, both those purchased by European countries and those operated in Europe by US forces.

The technologically advanced, fifth-generation aircraft will reduce the number of different airplanes currently in service and, thanks to its features and systems, will multiply national intelligence capabilities.

The event delivery was attended by Chief of Staff of the Air Force, General Pasquale Preziosa. **SP**

Reaper extends range in Afghanistan

The US Air Force intelligence, surveillance and reconnaissance (ISR) enterprise is vital to the national security of the United States and its allies, providing an unrivaled capability; focused, integrated ISR is inseparable from operations and enables mission execution.

For the 62nd Expeditionary Reconnaissance Squadron at Kandahar Airfield, Afghanistan, efforts to increase those capabilities are in full swing after completing an extended range modification to nearly half of their fleet of MQ-9 Reapers and flying the first ever ER sortie in Afghanistan, December 1, 2015.

The Reaper, a remotely piloted aircraft primarily designed for ISR collection, can also perform close air support, combat search and rescue, precision strike and other critical functions, making it an indispensable tool.

Supporting one of the largest Reaper squadrons in the Air Force, maintainers at the 62nd ERS had a large task of completing the ER modification while the squadron continued to provide world-class close air support and ISR in the Afghanistan area of responsibility.

"All of our ER aircraft out here were boxed up, shipped out [from the US], and between us and our General Atomics partners, we performed all the mods here in the AOR," said Captain Garrik, 62nd ERS Maintenance Operations Officer. "One of the things that



at our level we are really proud of here is that we did it on top of completing our regular flying schedule." **SP**

Lockheed Martin conducts collaborative unmanned systems demonstration

Lockheed Martin demonstrated its ability to integrate unmanned aircraft system (UAS) operations into the National Airspace System (NAS) using its prototype UAS Traffic Management (UTM) capabilities.

The Stalker XE UAS provided data and a precise geolocation to the unmanned K-MAX cargo helicopter, which conducted water drops to extinguish a fire, while the UTM tracked the UAS operations and communicated with Air Traffic Control in real time.

"This demonstration represents the path forward for flying UAS in the NAS using Flight Service-based UTM capabilities to extend the technology and systems that air traffic controllers know and understand," said Paul Engola, Vice President, Transportation & Financial Solutions. "We were able to successfully modify the existing K-MAX and Stalker XE ground control software to connect to the UTM services and conduct the firefighting mission."

For more than 80 years, manned aircraft have supported firefighting missions during daylight hours. Because unmanned K-MAX can fly day and night, in all weather, its insertion into firefighting operations offers the

potential to triple the amount of time ground firefighters can receive aerial support.

The Stalker XE UAS worked in tandem with K-MAX to identify hot spots and fire intensity with its electro-optical, infrared camera. Its stable, high definition imaging capabilities enable day and night operations. Powered by a ruggedised solid oxide fuel cell, Stalker XE achieves more than eight hours of flight endurance. **SP**

Northrop Grumman Venom addresses the UAV threat

At the Army Maneuver-Fires Integrated Experiment (MFIEX) held at Fort Sill, Oklahoma, Northrop Grumman Corporation's Venom demonstrated the ability to identify and track small unmanned aerial systems (UAS) and to provide accurate targeting data while on the move. This targeting capability enabled other systems in the network to counter the UAS.

Venom is a ground-based targeting system that incorporates Northrop Grumman's battle-tested Lightweight Laser Designator Rangefinder (LLDR) on a universal, stabilised and gimbaled mount. The system can be used to provide target designation for delivery of precision-guided munitions.

As unmanned systems become more prevalent, land forces will require the abil-

ity to track and defeat this growing threat. At MFIEX, Northrop Grumman's Venom system supported counter-UAS functions from two vehicles, providing precision target coordinates for fire support. The system received slew-to-cue messages and locked onto and tracked low-flying, small unmanned aircraft. Because it uses a vehicle-agnostic design, Venom is ready to protect a wide range of platforms from the UAS threat. Venom also demonstrated precision targeting on-the-move capabilities as a mounted sensor controlled under armour. This important capability provides an additional layer of protection for troops while on manoeuvre.

"By continuing to invest in Venom, we have been able to repurpose our mature LLDR technology for additional missions," said Kay Burch, Vice President, communications, intelligence and networking solutions, Northrop Grumman. "Adding counter-UAS and on-the-move targeting will give our warfighters greater flexibility in mission planning and execution."

The LLDR, the core of the Venom system, provides a unique capability to forward observers, forward air controllers and naval gunfire spot teams. The system can recognise targets in day/night/obscurant conditions, determine range to the target at an eye safe wavelength and calculate grid coordinates with its own GPS/Elevation/Azimuth capability. More than 2,700 LLDR systems have been delivered. **SP**

Dealing with terrorist financing

The government has a well established strategy and institutional mechanism to effectively deal with terrorist financing and money laundering problem. The Unlawful Activities (Prevention) Act, 1967 (UAPA) and the Prevention of Money Laundering Act, 2002 (PMLA) are effective instrumentalities to combat offences relating to terrorist financing and money laundering. A special Combating Financing of Terrorism (CFT) Cell has been created in the Ministry of Home Affairs in 2011 to coordinate with the Central Intelligence/Enforcement Agencies and the State Law Enforcement Agencies for an integrated approach to tackle the problem of terror funding. Also a Terror Funding and Fake Currency Cell has been set up in the National Investigation Agency (NIA) to investigate terror funding cases.

The UAPA has been strengthened by amendments in 2013 which inter-alia includes enlarging the scope of proceeds of terrorism to include any property intended to be used for terrorism, enlarging the scope of Section 17 relating to punishment for raising funds for terrorist act by including within its scope, raising of funds both from legitimate or illegitimate sources by a terrorist organisation, terrorist gang or by an individual terrorist, and includes within its scope offences by companies, societies or trusts.

The PMLA has also been strengthened in 2013 by incorporating the provisions relating to removing the monetary threshold for

schedule offences, strengthening confiscation and provisional attachment powers with regard to money laundering investigation, covering new financial institutions and designated non-financial business and professions within the scope of PMLA, enhancing the powers of Financial Intelligence Unit (FIU) to access information from banks and financial institutions and introduction of broad range of sanctions under PMLA including sanctions against designated directors and employees of reporting entities. Thus, both PMLA and UAPA have sufficiently stringent provisions to combat money laundering and terrorist financing.

The Central and State Law Enforcement Agencies have registered a total of 217 FIRs and 132 charge sheets have been filed in various courts in terror financing cases since 2006. These also include 11 cases investigated by the NIA.

The Financial Action Task Force (FATF) team from Paris had visited India in 2011 to monitor compliance of India's action plan with FATF standards and since then India has complied with all FATF requirements and action plan items. It has been accepted and approved by the FATF in its plenary meeting held in June 2013. This was stated by the Minister of State for Home Affairs Haribhai Parathibhai Chaudhary in a written reply to a question by Ranjib Biswal in the Rajya Sabha. **SP**

Objectives of CCTNS

The government has launched Crime and Criminal Tracking Network and Systems (CCTNS) in the country. The aim, objective and salient features of CCTNS are: To fully computerise the process of crime registration, investigation, prosecution, etc., in all police stations in the country; to create a central database to provide national level search facility as well as crime analytics for use by police and central agencies; to electronically share data/information among police stations & police higher offices; computerisation of all prisons and provision of necessary hardware, software, etc., to provide citizen services through a citizen portal; and sharing of crime and criminal related data with police, prosecution, courts, prison and forensics leading to integrated criminal justice system.

All the states, except Bihar and Rajasthan where the contract of the system integrator has been cancelled are working on implementing and bringing all police stations under CCTNS. Out of total 14,844 police stations in the states/UTs, 11,616 (78 per cent) of police stations are entering 100 per cent FIRs through CCTNS software.

CCTNS is a complex project with the project activities being undertaken by a number of stakeholders. All states/UTs went through a complex tendering process to engage system integrators involving all the clearances and approvals from the state/UT level governance structure of CCTNS project, which took time. Also frequent changes of officers responsible for CCTNS at state/UT level led to delays. Such a large programme was being carried out for the first time, but now enough experience has been gained and the project is in advanced stage of implementation.

The government has decided to implement Interoperable Criminal Justice System (ICJS) by integrating courts, prisons, police, forensics and prosecution by March 2017. This was stated by the Minister of State for Home Affairs Haribhai Parathibhai Chaudhary in the Lok Sabha. **SP**

Government advisory on intelligence

The government has issued advisory to all state governments and union territories to take suitable preventive measures in and around foreign missions, tourist spots and community facilities frequented by foreigners to avoid any untoward incident. The states/UTs have also been advised to review intelligence about ISIS activities to identify plans, targets, areas vulnerable to attack by terrorist organisations and to take appropriate action to neutralise potential threats, if any.

This was stated by the Minister of State for Home Affairs Haribhai Parathibhai Chaudhary in a written reply to a question by Dr T. Subbarami Reddy in the Rajya Sabha. **SP**

Extradition treaties

The Government of India continues to make efforts to get extradited fugitive criminals from foreign countries and for this purpose India has signed extradition treaties and extradition arrangements with several countries.

The law enforcement agencies send the extradition proposals to the Ministry of Home Affairs, which after due examination forward them to the Ministry of External Affairs for taking up the matter with the concerned foreign countries as it is the nodal ministry for extradition.

The National Investigation Agency (NIA) has made extradition request for extraditing (1) David Coleman Headley @ Daood Gilani (2) Tahawwur Hussain Rana from USA; Willy Naruenartwanich @ Willy Narue from Thailand; Abdulla Haji @ Haji Abdulla @ Amitab Bachan Haji from Saudi Arabia; and (1) Moideen @ Moideenabba Ummar Byari (2) Abdul Salam @ Podi Salem from UAE.

As a result of efforts made by the Government of India, 59 fugitive criminals have been brought back to India since 2002, to face trial in India. In addition, Interpol wing of the Central Bureau of Investigation (CBI) has got published 664 red notices on the basis of requests from CBI branches as well as from other law enforcement agencies. This was stated by the Minister of State for Home Affairs Haribhai Parathibhai Chaudhary in a written reply to a question by T. Rathinavel in the Rajya Sabha. **SP**

Defence Minister inaugurates HAL's Centre for Aerospace Management Excellence & Leadership

Defence Minister Manohar Parrikar inaugurated the Hindustan Aeronautics Limited's (HAL) Centre for Aerospace Management Excellence & Leadership at Marathahalli, Bengaluru, on December 15. Addressing the gathering, he said HAL being the only aerospace giant in India, this new facility is the right step in training human resources to ensure the success of 'Make in India'. This new learning and development centre can become a focus of technology and management expertise in India, he added.

T. Suvarna Raju, CMD HAL, said the new state-of-the-art learning centre would promote technical skills, project management and competencies, product design and development. "This reinvigorated focus will help to achieve our goals and build a robust aerospace ecosystem in India," he added.

The campus is being built on an area of 5.2 hectares with 25,300 sq m built up area at Marathahalli adjacent to ISRO campus. It is an integrated campus with separate blocks for training, hostel, canteen, sports, auditorium and meditation hall. It will be a world-class facility and will promote design and engineering excellence with state-of-the-art infrastructure. The salient features include computer labs, library and discussion halls, state-of-the-art classrooms with high quality audio and video systems with streaming facility, hostel block with 300 twin-sharing executive accommodation with 150 rooms including swimming pool, sports complex with indoor badminton court, table tennis and gymnasium and



outdoor basketball and tennis court, traditional model auditorium with balcony for a seating capacity of 800, canteen block with a seating capacity of 500 and meditation hall in a serene ambience to accommodate 100 people.

HAL Management Academy (HMA) is involved in the training of management and design trainees. It also provides learning and development opportunities for the middle and senior level executives. Most of the executives in HAL including the top management consisting of CMD, Directors, CEOs and GMs start their journey from HMA and they go through various technical and managerial training programmes. At present, the academy functions from its existing premises on Suranjan Das Road near HAL manufacturing facilities in Bengaluru. **SP**

DST-Lockheed Martin India Innovation Growth Programme enters 10th year

The opening of entries for the DST-Lockheed Martin India Innovation Growth Programme (IIGP) for 2016 was announced at the New Delhi Technology Expo on December 11, 2015. The programme will enter its landmark 10th year.

Several winners of the India IIGP showcased their technologies at the New Delhi Technology Expo. Some of the technologies showcased were MiraCradle developed by Delhi-based Pluss Advanced Technologies Pvt. Ltd., a Neonate Cooler which is non-electronic affordable passive cooling device that uses the advanced phase change material technology to cool babies suffering from asphyxia and costs only one-tenth of the present devices. Another technology displayed was New Leaf Dynamic Technologies 'GreenCHILL', an off-grid, compressor-less and renewable energy powered refrigeration system. It does not require grid power or diesel generator backup to do cooling. GreenCHILL uses only 40 litres of hot water to cool 1,000 litres milk and 10 tonnes of fruits, vegetables or any other horticultural produce. Leaf wearables also showcased a wearable safety device (SAFER) that sends signal to alert, police, family and friends. The USP of the innovation is that it works on three-tier redun-

dancy model, i.e. Internet, SMS and even when there is no network connection on SOS.

Over 70 Business Engagement Agreements were signed between innovators and leading industry partners and prominent names like Sir Ganga Ram Hospital, Health Care at Home—a unit of Dabur India, Century Denim, Surya Roshni, Tata Housing & Hiranandani Developers, Mumbai. 20 winners from the current year were given cash awards of ₹1,00,000 each.

The IIGP has provided a platform for nurturing innovation in the country, as seen in the rapid rise of applications—receiving a total number of 6,124 since its inception. The IIGP focuses on a 'Mind to Market' strategy by offering extensive training modules that are suitably structured to help participants gauge and streamline their existing capabilities, as well as formulate and implement appropriate business strategies. With its emphasis on capacity building and technology commercialisation, IIGP has helped several participants in their quest

to find suitable business partners in India as well as internationally. This has resulted in 400 plus business engagement agreements being signed between innovators and industry partners/investors. The total revenue generated by the participating companies under the programme is \$860 million.

Since the inception of IIGP, there are several innovators who are not only able to commercialise their technology but have also generated exports. In the period between 2013 to 2015, the total export turnover of the innovators was ₹181 crore. **SP**



BAE Systems names Alistair Castle Vice President and General Manager for India

BAE Systems has announced the appointment of Alistair Castle as Vice President and General Manager of its India operations, with effect from January 1, 2016.

Castle moves from Kuala Lumpur, Malaysia, where he is the Regional Vice President responsible for Group Business Development in South East Asia. He succeeds Mark Simpkins who concludes his second tenure in India and takes up new responsibilities based in the Middle East. In this new role, Castle will continue to report to John Brosnan, Regional Managing Director, India & South East Asia. Alistair Castle will be responsible for leading business operations for BAE Systems in India. He will join the BAE Systems India Board, chaired by Deepak Parekh, Chairman of HDFC Ltd.

Announcing the appointment, John Brosnan said: "Alistair comes to India at a very exciting time for the sector and for the company. We are on the cusp of launching new partnerships and strengthening existing ones to 'Make in India' and Alistair will serve a critical role in shaping our future growth in India."

Alistair Castle said, "I'm delighted to join our team in India and help deliver on our commitment to our customers and the armed forces."

Mark Simpkins, who moves to the Middle East, commented: "I feel very privileged to have served two tenures in India and very proud of the building blocks we have put in place to address the plethora of opportunities the country's dynamic defence sector provides."

Castle takes charge when the company is poised to reinvigorate its efforts to support the government's 'Make in India' programme



through strategic partnerships and alliances. The company has proposed a state-of-the-art assembly, integration & testing facility in India with an Indian industrial partner for the delivery of the M777 ultra-light howitzers. The Indian Government is set to purchase this weapon system from the United States Government. As part of the sale, BAE Systems has also committed to deliver a \$200 million offset package in India. **SP**

FLIR Systems acquires DVTEL Inc

FLIR Systems Inc recently announced that it has acquired DVTEL Inc, a leader in software and hardware technologies for advanced video surveillance, for approximately \$92 million in cash.

DVTEL, based in Ridgefield Park, New Jersey, is a global leader in enterprise-class security and surveillance solutions. The company develops and distributes integrated video management system (VMS) software, advanced video analytics software, visible and thermal security cameras, and related servers and encoders. The combination enables FLIR, with its existing FLIR-branded thermal and visible cameras as well as its Lorex-branded security systems, to be a full-spectrum end-to-end security system provider, serving the consumer, small and medium business, enterprise and infrastructure-level markets.

"FLIR's strong position in thermal imaging together with DVTEL's extensive video analytics and VMS capability will position us well to offer differentiated and highly accurate perimeter security solutions for the upper corner of our security segment's product value ladder," said Andy Teich, President and CEO of FLIR. "DVTEL adds a suite of professional-grade security software and hardware that is very complementary to our current solutions and fits very well with our strategy to offer end-to-end solutions in the enterprise and infrastructure segments of the security market."

FLIR anticipates this transaction will be neutral to 2015 net earnings and accretive thereafter. **SP**

HAL CMD gets CEO of the Year Award

T. Suvarna Raju, Chairman and Managing Director of the Hindustan Aeronautics Limited (HAL), has been conferred with Chief Executive Officer of the Year Award 2015 in the Central Public Sector category by the Indian Institute of Materials Management (IIMM) at its national convention held at Vadodara. The award is in recognition of Raju's outstanding achievements, contribution to the industry and the materials management profession.



Raju called for strengthening of supply chain system right from the planning to delivery stage as the success of any organisation largely depends on the timely delivery and quality of the services. "The vendors are actually business partners and together we grow. IIMM is doing yeoman service by organising programmes that transform the organisations through the supply chain management," he said. The two-day convention focuses on revolutionary supply chain strategies for sustainable competitive advantage. **SP**

Musician Adele tour tickets website hacked

Best-selling musician Adele Laurie Blue Adkins has announced her 2016 tour. And some enthusiastic fans wanting to buy online tickets in advance found themselves in a major account mix up which has been termed as security breach. The website facilitating ticket sales for best-selling musician Adele has suffered a security breach scare after fans reported seeing other people's details when trying to buy tickets.

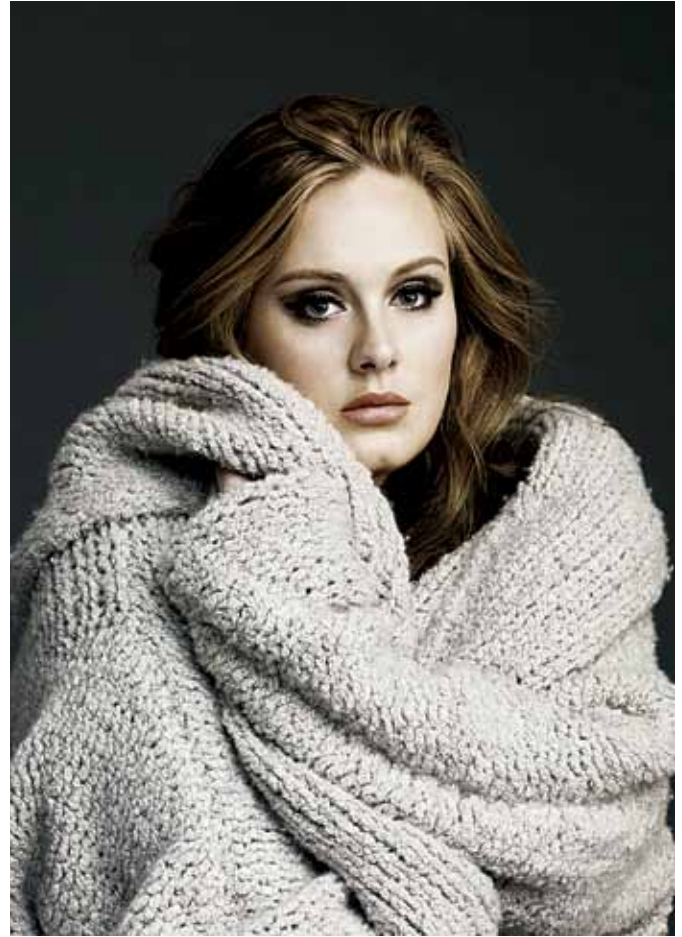
Fans of Adele attempting to purchase tickets for her 2016 tour, which became available to members of official fan site Adele.com, experienced some difficulties. Customers reported they were presented with other people's shopping baskets at the checkout, with someone else's payment details and billing address.

"I got through to buying tickets but it came up with someone else's screen with their card details and home address for SSE," Kiran Farmah tweeted to the BBC. Several other customers have since reported similar experiences. "Same thing happened to me," said Michael Crow. "Got through, 4 tickets Glasgow, came up with 2 tickets for London and someone else's name/address."

Songkick, the music and technology firm responsible for this morning's ticket sales via Adele.com, said that the experience was "due to extreme load."

"Some of our customers were incorrectly able to preview limited account information belonging to other customers," the firm said. "There's no evidence that this included credit card numbers or passwords. We're looking further into the matter to ensure it doesn't happen again."

Security expert Graham Cluley told the BBC that the incident "certainly sounded" like a security breach and that this type of incident "should be impossible, even if the website is very busy". **SP**



Ohio military base security lapse

A recent security breach at Ohio's largest military base prompted renewed calls from officials for security improvements. US Rep Mike Turner of Dayton said he wants more guards at Wright-Patterson Air Force Base gates, the *Dayton Daily News* reported. He said he's met with Secretary of the Air Force Deborah Lee James and General Ellen Pawlikowski.

"I have specifically asked Secretary James to increase the funding in the area of personnel and infrastructure at our gates to increase the safety and security of the people who work at Wright-Patterson Air Force Base," said Turner, a member of the House Armed Services Committee. Turner said he asked the Air Force to improve security even before a man who wasn't authorised on the Base drove past a guard on November 24. Base officials say the man entered a building but employees stopped him because he lacked a security badge.

Some employees evacuated the Dayton area base then returned that day. Base spokesman Daryl Mayer said the man showed no "ill intent" and was released. He said an investigation of the breach could stretch into next week. Wright-Patterson authorities haven't released the man's identity. Troy Tingey, President of the American Federation of Government Employees Council 214 which represents

thousands of Wright-Patterson employees, also said security should be improved at Base buildings. **SP**

India apologises over jeep crash incident at Wagah

On November 16, a jeep crashed into the Wagah Border gate causing tension on the border for a while. The accident had happened at around 4 a.m. on November 16 and the Indian Border Security Force (BSF) later apologised to Pakistan Rangers terming November's jeep crash at Wagah a 'security lapse'.

The Indian side has written a letter to the Rangers offering a formal apology over the security lapse earlier. An Indian citizen had slammed his jeep to gates at Wagah border in November. The Indian security force had seized the four-wheel drive and detained the violator. The accident had happened at around 4 a.m. on November 16. India's apology came after the Indian Foreign Minister Sushma Swaraj vowed to resume dialogue with Pakistan on various outstanding issues including Kashmir and Sir Creek during the fifth chapter of Heart of Asia Conference hosted by Pakistan on December 9. A joint declaration was signed between the two neighbours on the occasion. **SP**



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