

SP's



AN SP GUIDE PUBLICATION

SP's

ISSN 2230-9268



Vol: 6 Issue 12 ■ June 16-30 • 2016

www.spsmai.com

ONLY FORTNIGHTLY ON **MILITARY AEROSPACE INTERNAL SECURITY**



Page 6

100% FDI in Defence

Attracting Investments and Cutting-Edge Technology



Armed forces celebrate International Yoga Day PAGE 17



Women breaking barriers! PAGE 18

FROM THE
EDITOR'S DESK 4
SECURITY BREACHES 22

MILITARY
Viewpoints 8, 10, 14
Updates 16

AEROSPACE
Developments

PLUS
Corporate 20

21



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

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



SP GUIDE PUBLICATIONS

OVER **5** DECADES SINCE 1964

Indian warships visit Busan after Exercise Malabar 2016

In a demonstration of India's 'Act East policy' and Indian Navy's increasing footprint and operational reach, Indian naval ships Sahyadri, Shakti and Kirch under the Command of the Flag Officer Commanding Eastern Fleet, Rear Admiral S.V. Bhokare, YSM, NM have arrived on June 21, 2016, at Busan on a four-day visit, as part of deployment of the Eastern Fleet to the South China Sea.

During the visit, the Indian Navy ships will have professional interaction with the Republic of Korean Navy towards further enhancing cooperation between the two forces. In addition, calls on senior government and military authorities, sporting and cultural interactions and sharing of best practices, aimed at strengthening ties and mutual understanding between the two navies, are also planned. The visiting Indian Navy ships are also likely to conduct exercises with the Korean Navy, aimed at enhancing interoperability in communication as well as search and rescue procedures, post departure from Busan. INS Sahyadri is commanded by Captain K.S. Rajkumar, INS Shakti is commanded by Captain Gagan



Kaushal and INS Kirch is commanded by Commander Sharad Sinsunwal.

Bilateral relations between India and Korea have been reinforced in modern times by political and economic imperatives. Traditionally close bilateral relations were given an impetus with the visit of President Park Geun-hye to India in January 2014 and reciprocal visit by Prime Minister Narendra Modi to Korea in May 2015. Bilateral trade and economic cooperation between the two countries has been forging ahead steadily and has progressed leaps and bounds in recent years. Both countries have signed a Comprehensive Economic Partnership Agreement, with special emphasis on shipbuilding and electronics hardware manufacturing.

Defence and security relations between India and Republic of Korea have evolved steadily over the years and have received a renewed impetus with the visit of a delegation led by Defence Minister Manohar Parrikar in April 16. Subscription to training courses, participation in multi-lateral seminars/forums, reciprocal port visits, high-level delegations and training exchanges have bolstered naval cooperation between the two countries. **SP**



Cover:

The Narendra Modi Government has announced that foreign direct investment (FDI) in the defence sector is permitted to 100 per cent level. This will certainly give the required fillip to 'Make in India' as well as boost defence exports.

Cover images: Anoop Kamath, PIB

PUBLISHER AND EDITOR-IN-CHIEF

Jayant Baranwal

ASSISTANT GROUP EDITOR

R. Chandrakanth

SR TECHNICAL GROUP EDITORS

Air Marshal B.K. Pandey (Retd)

Lt General Naresh Chand (Retd)

Lt General V.K. Kapoor (Retd)

R. Adm S.K. Ramsay (Retd)

SPECIAL CONTRIBUTOR

Lt General P.C. Katoch (Retd)

CHAIRMAN & MANAGING DIRECTOR

Jayant Baranwal

PLANNING & BUSINESS DEVELOPMENT

Executive Vice President: Rohit Goel

ADMIN & COORDINATION

Bharti Sharma

ASST - ADMIN, HR & INFRA

Pooja Tehlani

DESIGN & LAYOUT

Creative Director: Anoop Kamath

Designers: Vimlesh Kumar Yadav,

Sonu Bisht

Research Assistant - Graphics:

Survi Massey

SALES & MARKETING

Director: Neetu Dhulia

General Manager Sales: Rajeev Chugh

SP'S WEBSITES

Sr Web Developer: Shailendra P. Ashish

Web Developer: Ugrashen Vishwakarma

© SP Guide Publications, 2016

SUBSCRIPTION/ CIRCULATION

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

E-mail: subscribe@spguidepublications.com

subscribe@spsmai.com

LETTERS TO THE EDITOR

editor@spsmai.com

FOR ADVERTISING DETAILS, CONTACT:

advertise@spsmai.com

neetu@spguidepublications.com

rajeev.chugh@spguidepublications.com

SP GUIDE PUBLICATIONS PVT LTD

A-133 Arjun Nagar

(Opposite Defence Colony)

New Delhi 110003, India.

Tel: +91 (11) 24644693,

24644763, 24620130

Fax: +91 (11) 24647093

E-mail: info@spguidepublications.com

REPRESENTATIVE OFFICE

204, Jal Vayu Vihar

Kalyan Nagar

Bengaluru 560043

Tel: +91 (80) 23682204

MOSCOW, RUSSIA

LAGUK Co., Ltd, Yuri Laskin

Krasnokholmskaya, Nab.,

11/15, app. 132, Moscow 115172, Russia.

Tel: +7 (495) 911 2762,

Fax: +7 (495) 912 1260

Owned, published and printed by Jayant Baranwal, printed at Kala Jyothi Process Pvt Ltd and published at A-133, Arjun Nagar (Opposite Defence Colony), New Delhi 110003, India. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, photocopying, recording, electronic, or otherwise without prior written permission of the Publishers.



SP GUIDE PUBLICATIONS

OVER 5 DECADES SINCE 1964

www.spguidepublications.com



Transformational and radical changes in FDI

In the past two years, the Narendra Modi-led government has been trying to change the course of the nation, having come to power on the plank of development. There have been major announcements in these two years, but June 2016 will remain a watershed month for the NDA Government as in one masterstroke it has announced 100 per cent foreign direct investment (FDI) in defence and aviation and higher percentage in several other sectors. This has been hailed as the most radical and transformational reforms that Indian liberal economy has seen in many years. The liberalisation in FDI in defence and aviation will enable foreign companies to invest in India and also to bring in modern technologies for our use which is the need of the hour for India.

Till now, the FDI regime permitted 49 per cent FDI participation in the equity of a company under automatic route. Foreign investment beyond 49 per cent has now been permitted through government approval route, in cases resulting in access to modern technology in the country or for other reasons to be recorded. The condition of access to state-of-the-art technology in the country has been done away with. FDI limit for defence sector has also been made applicable to manufacturing of small arms and ammunitions covered under the Arms Act of 1959.

Lt General P.C. Katoch (Retd) in his viewpoint has called this as a bold decision that would certainly give the required fillip to 'Make in India' as well as boost defence exports. What needs to be ensured is that while the Defence Procurement Procedure (DPP) 2016 is implemented in true letter and spirit, cases of FDI in defence 'through the government' route are also processed speedily – cutting out the red tape in both cases. The Indian military's current equipment holdings are 50 per cent obsolete and multiple critical voids exist because of sustained neglect over the past decade plus. The proportion of state-of-the-art equipment also needs to grow from its current level

of 15 per cent to at least 30 per cent with the current cycle including acquisitions drafted under the Long-Term Integrated Perspective Plan, which is expected to include procurements worth \$100 billion by 2022. A holistic approach to equipping the military is the need of the hour.

In another article Lt General Katoch (Retd) discusses India's bid to enter the Nuclear Suppliers Group (NSG). He opines that whether NSG members want to admit Pakistan into NSG or MTCR members grant membership to China, China would be acutely aware the continued blockading of Indian membership to NSG may not be in the best interest of China herself where India is poised on the very cusp of such membership with total US backing.

This month indeed has been historic. History was scripted for the Indian Air Force (IAF) when three women were formally commissioned as fighter pilots. It is seen as the proverbial 'feather in the cap' of the service. The three women pilots are Flying Officer Bhavana Kanth, Flying Officer Avani Chaturvedi and Flying Officer Mohana Singh. While we say hats off to these brave young women, it is acknowledged that the IAF is truly on course as a modern air force for the world to take notice. These articles and more in this edition.

Happy reading!

Jayant Baranwal
Publisher & Editor-in-Chief

IL-76MD-90A



A new chapter in the history of military transport aviation in Russia

IL-76MD-90A, which made its maiden flight in 2012, is the latest and most advanced version of the IL-76 family of military transport aircraft. The new IL-76MD-90A is distinguished from its predecessors in modified wing design, advanced avionics suite, PS-90A-76 turbofan engines with a thrust of 16 tons each, reinforced landing gear, upgraded fuel system and dozens of other innovations.

The IL-76MD-90A has become even more powerful, reliable and fuel-efficient. It carries more, flies farther and more accurately. And, it is always ready to perform the most challenging missions anywhere in the world as before.

Max payload - **60 tons**

Range:

with 40 ton payload – **6500 km**

with 60 ton payload – **4000 km**

Approved ICAO CAT II landing conditions

Compliance with the ICAO Annex 16 Chapter 4 noise and emission



ROSOBORONEXPORT

27 Stromynka str., 107076,
Moscow, Russian Federation

Phone: +7 (495) 534 61 83

Fax: +7 (495) 534 61 53

www.roe.ru

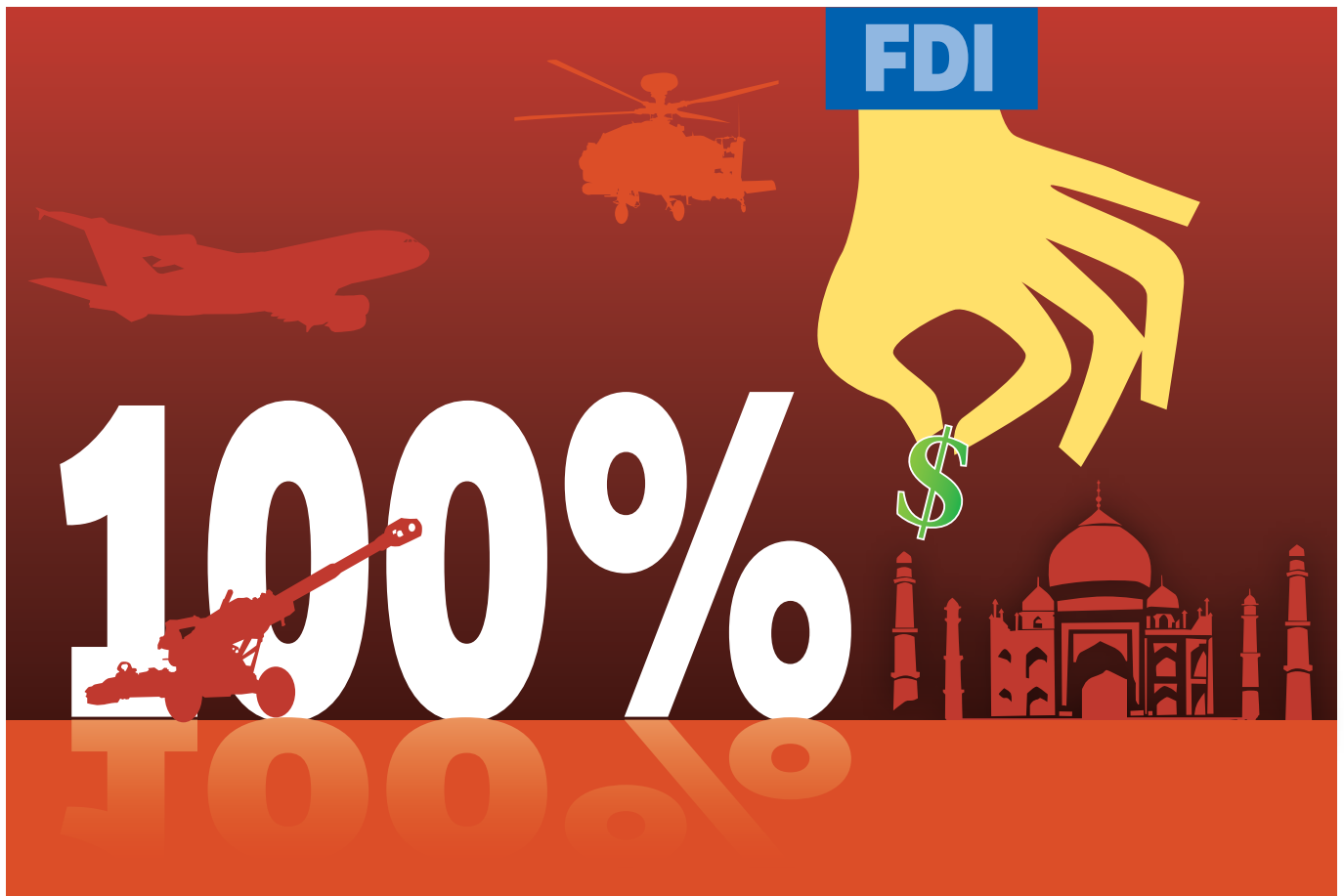
Rosoboronexport is the sole state company in Russia authorized to export the full range of defense and dual-use products, technologies and services. Rosoboronexport accounts for over 85% of Russia's annual arms sales and maintains military-technical cooperation with over 70 countries worldwide.

ADVERTISEMENT



LT GENERAL
PC. KATOCH (RETD)

100% FDI in defence is a good move



The Narendra Modi Government has announced that foreign direct investment (FDI) in the defence sector is permitted to 100 per cent level. Till now, the FDI regime permitted 49 per cent FDI participation in the equity of a company under automatic route. Foreign investment beyond 49 per cent has now been permitted through government approval route, in cases resulting in access to modern technology in the country or for other reasons to be recorded. The condition of access to state-of-the-art technology in the country has been done away with.

FDI limit for defence sector has also been made applicable to manufacturing of small arms and ammunitions covered under the Arms Act of 1959. It may be recalled that when the FDI in defence was hiked from 26 per cent to 49 per cent when presenting the defence budget for FY 2014-15, that time too the Parliament had approved consideration of FDI in defence beyond 49 per cent on case to case basis where state-of-the-art equipment was involved. However, last year news trickled in that all the cases of FDI in defence were stuck with the Foreign Investment Promotion Board (FIPB) because the Ministry of Defence (MoD) had still not defined what was meant

by 'state-of-the-art'. While hiking the FDI from 26 per cent to 49 per cent in 2014, the government perhaps did not have enough time to examine why with 26 per cent cap for FDI in defence had fetched less than \$5 million FDI in last 14 years – a mere 4.94 per cent. Had this been done, it would have been deduced that 49 per cent FDI cap is not going to be enough.

The fact is that we have a glut in technology and critical voids, which need imports. Even the Tejas fighter though termed indigenous after years of development has some 80 per cent components and assemblies that are imported. To obtain high-end technology while foreign firms are eager and we can leverage our strategic and defence partnerships to facilitate the JVs, this certainly warranted FDI far greater than 49 per cent.

It may be recalled that immediately post the announcement of hike of FDI in defence from 26 per cent to 49 per cent in 2014, Ulrich Grillo, President, Federation of German Industries, visiting India told reporters that German Industries would not like to invest in India since with 49 per cent FDI they would not have control over selling the products. In March this year, Airbus chief expressed similar sentiments, which is common to most foreign investors. In fact Airbus India chief specifically pointed out that Airbus Group is keen to replicate joint development and manufacturing model as in other countries but "49 per cent holding curb wouldn't encourage the big companies to come to India".

The media reports that FDI inflows into the country increased to \$55.46 billion in 2015-16 as against \$36.04 billion during 2013-14, which is the highest in any financial year. But the point to note



It is to the credit of the Modi Government that a bold decision has been taken to increase the FDI in defence sector to 100 per cent. This will certainly give the required fillip to 'Make in India' as well as boost defence exports.

is that FDI in defence the aggressive push for 'Make in India' failed to attract foreign investors, totalling to just ₹56 lakh in 2014-15 as brought out by the Minister of State for Defence. Significantly, for past several years, the Department of Industrial Policy and Promotion (DIPP) of the Ministry of Commerce and Industry had been recommending 74 per cent FDI in case of transfer of technology (ToT) in cutting-edge and 100 per cent FDI in case of state-of-the-art (read high-end) technology. Obviously, such recommendations were being made after thorough study and analysis.

It is to the credit of the Modi Government that a bold decision has been taken to increase the FDI in defence sector to 100 per cent. This will certainly give the required fillip to 'Make in India' as well as boost defence exports. What needs to be ensured is that while the DPP 2016 is implemented in true letter and spirit, cases of FDI in defence 'through the government' route are also processed speedily – cutting out the red tape in both cases. 100 per cent FDI in defence will be a big boost for 'Make in India' in defence. The push for state-of-the-art defence equipment indigenisation is vital with current period.

The Indian military's current equipment holdings are 50 per cent obsolete and multiple critical voids exist because of sustained neglect over the past decade plus. The proportion of state-of-the-art equipment also needs to grow from its current level of 15 per cent to at least 30 per cent with the current cycle including acquisitions drafted under the Long-Term Integrated Perspective Plan (LTIPP), which is expected to include procurements worth \$100 billion by 2022. A holistic approach to equipping the military is the need of the hour. SP



"The defence FDI policy amendment introduced by the government is very pragmatic because state-of-the-art technology was not defined in the previous policy and the way it was, it conveyed a one-dimensional perspective on why a foreign OEM could require more equity stake. The new policy wording communicates the realisation that there may be several other genuine reasons for the government to allow more than 49 per cent stake to the foreign OEM in a joint venture with an Indian company and they want to take advantage of these for the benefit of the indigenous industry."

— Pierre de Bausset, President, Airbus Group India on the amendment



LT GENERAL
PC. KATOCH (RETD)

Asia-Pacific – China plays leech and bully



The Indian Navy Kora class corvette INS Kirch and Shivalik class stealth multi-role frigates INS Sahyadri (F49) and INS Satpura (F48) transit while conducting a live-fire surface gun exercise during Malabar 2016

As the 1,00,000-tonne US aircraft carrier USS John C. Stennis, which carries F-18 fighter jets, joined the naval ships of Japan and India in the seas off the Japanese Okinawan Island chain for Exercise Malabar 2016, a PLA Navy (PLAN) spy ship was observed monitoring the naval drill. With her extensive satellite programme, China could easily monitor such movements but apparently China chose to deploy the observation ship to observe the multi-nation manoeuvres more closely and perhaps intercept communications. Submarine hunting patrol planes were also launched from bases in Japan as part of the exercise. USS Stennis has been followed by the Chinese spy ship during patrolling the South China Sea (SCS) and followed it to Malabar 2016 area.

“There is a Chinese vessel about seven to 10 miles away,” Captain Gregory C. Huffman, commander of the Stennis, told reporters aboard the carrier after it recovered its F-18 jet fighters taking part in the exercise, adding that the Chinese ship had followed the US aircraft carrier from the SCS. Typically following the policy of guile and deceit, Chinese Foreign Ministry spokesman Lu Kang said he was unaware of the situation. When the PLAN vessel got close to Malabar 2016, a Japanese Maritime Self-Defense Force (JMSDF) officer said that USS Stennis would act as a decoy by sailing apart to draw the PLAN ship away. The Indian contingent participating in Malabar 2016 comprises four ships that reached the exercise area sailing through the SCS with stops in the Philippines and Vietnam.

The Chinese action of tailing the US ships and spying over Malabar 2016 is typical of a leech. But considering her overall conduct in the region in recent times, including the recent incident in vicinity of Senkaku Islands, she could qualify more aptly acting as a 'bullying leech'. Japanese-controlled Senkaku Islands (also claimed by China and Taiwan) in East China Sea (ESC) lie some 220 km north-east of Taiwan, where in a separate incident on June 9 another PLAN warship Jiangkai entered the Japanese territorial waters south of its southern Kyushu Island, according to a Japanese Government official. China claims entire ESC, as also major part of the SCS with scant regard to the exclusive economic zone (EEZ) and claims of countries like Malaysia, the Philippines, Taiwan, Vietnam and Brunei. But the incident in vicinity of Senkaku Islands is different from previous Chinese provocations wherein China this time deployed a PLAN warship compared to earlier provocations where only coast guard vessels and civilian fishing vessels were employed; incremental upgrade in China's bullying tactics.

China claims that both these PLAN ships (one spying over Malabar 2016 and other in waters of Senkaku Islands) were sailing following the freedom of navigation principle in international waters. This reasoning by China is laughable since she has consistently flouted international norms and laws, including UNCLOS. She has arbitrarily declared Air Defence Identification Zones (ADIZ) in the ESC and appears wanting to do the same in SCS in later timeframe - after she has consolidated militarily in the region because of which she is pushing territorial claims in the SCS. Chinese aggressive expansion to effectively control SCS is also linked to her nuclear strategy. Topographical conditions in SCS would permit Chinese submarines to effectively submerge in the deep waters quickly; Chinese nuclear submarines have been probing SCS and the Indian Ocean and China eventually aims to advance SSBNs from SCS to the Pacific Ocean as well as the Indian Ocean.

There are some 200 islands stretching from Japan's main islands through the ECS to within 100 km of Taiwan, which China is system-

China appears to be somewhat rattled by Malabar 2016 held in an area which she claims as her own backyard, however illegal her claims may be. Why China is acting like a bullish leech and indulging in more provocations has multiple reasons including her quest to become a 'Great Power' as announced by her, any which way.

atically working to dominate incrementally for access to the Pacific; for outward projection of her naval power and as supply line to the rest of the world's oceans. China appears to be somewhat rattled by Malabar 2016 held in an area which she claims as her own backyard, however illegal her claims may be. Why China is acting like a bullish leech and indulging in more provocations has multiple reasons including her quest to become a 'Great Power' as announced by her, any which way. High on her economic and military clout, she has illusions of bulldozing her way through with no opposition. She appears to be rattled with Malabar 2016 and views participation of US-Japan-India a challenge aimed at curbing Chinese ambitions. It is in this context that China indulged in the twin actions against India as a warning: Chinese Advanced Persistent Threat (APT) group Suckfly cyber attacked Indian Government and commercial organisations, defence establishments being the main targets, and some 250 PLA soldiers entered Yangste, East Kameng district of Arunachal Pradesh, on June 9 and engaged with a mild scuffle with Indian troops. The second worry of China is that ruling on the territorial claims of Philippines filed in 2013 against China over disputed areas

in SCS; Manila seeking a ruling on its right to exploit waters in its 200 nm EEZ, as allowed under UNCLOS is to be delivered by the Hague-based Permanent Court of Arbitration shortly.

China has been deflecting international arbitration in all its illegal claims. Should Philippines win her claim even partly, other countries facing similar Chinese obduracy may follow suit. During the China-ASEAN Special Meeting of Foreign Ministers hosted by China on June 14 in Kunming, ASEAN issued and then retracted a strongly-worded joint statement critical of China's actions in the SCS. It indicates China will use her total economic might to mould opinions. The world needs to take note and prepare accordingly. SP

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

Malabar 2016 participants from the Indian Navy, Japanese Maritime Self-Defense Force and US Navy sail in formation





REAR ADMIRAL
S. RAMSAY (RETD)

Exercise Malabar 2016 in the strategic calculus of India



Indian Navy Flag Officer Commanding-in-Chief, Eastern Naval Command Vice Admiral Harish Bisht with Japanese Maritime Self-Defense Force Escort Flotilla 3 Commander Rear Admiral Koji Manabe and US 7th Fleet Deputy Commander Rear Admiral Brian Hurley shake hands after a Malabar 2016 press conference

Indian Naval ships Satpura, Sahyadri, Shakti and Kirch participated in the recently concluded 20th edition of Exercise Malabar 2016 with the US Navy (USN) and Japanese Maritime Self-Defense Force (JMSDF).

The Indian Navy and the US Navy have regularly conducted the annual bilateral exercise named Malabar since 1992. Beginning from 2007, Malabar has been held alternatively off India and in the Western Pacific. The 19th edition of the exercise, Ex Malabar 2015, was conducted off Chennai and included participation of JMSDF.

The 20th edition of the exercise was conducted from June 14 to 17, 2016, with the harbour phase at Sasebo from June 10 to 13, 2016, and the tactical phase in the Pacific Ocean from June 14 to 17, 2016. The primary aim of this exercise was to increase interoperability

amongst the three navies and develop common understanding of procedures for Maritime Security Operations. The scope of Malabar 2016 included professional interactions in harbour and a diverse range of activities at sea, including complex surface, sub-surface and air operations.

Indian Navy ships Sahyadri, Satpura, indigenously built guided missile stealth frigates, INS Shakti, a modern fleet tanker and support ship and INS Kirch, an indigenous guided missile corvette from Eastern Fleet participated in the exercise. Indian Navy ships had embarked one Sea King 42B, ASW helicopter and two Chetak utility helicopters.

The US Navy was represented by ships from CTF 70 of the USN 7th Fleet, which is based at Yokosuka, Japan. The CTF included air-



"Shadowing ships and submarines of other navies, although not a friendly act, is a practice adopted by most navies (including our own) at every opportunity, in order to (a) keep track of their activities; (b) gather information about their professional capabilities; (c) learn their operating procedures; and (d) record electronic and acoustic signatures of their platforms. By shadowing ships taking part in the ongoing Malabar exercise, taking place at their doorstep, the PLAN is doing what is expected of them. One hopes that this quadrilateral show of maritime force by India and its friends (not allies) will send a robust message of deterrence to an increasingly belligerent Beijing."

— Admiral Arun Prakash, former Chief of the Naval Staff

(when asked by the SP's M.A.I for his comments on the incidence of shadowing of the US aircraft carrier)

craft carrier USS John C. Stennis (CVN 74), Ticonderoga class Cruiser USS Mobile Bay and Arleigh Burke class destroyers, USS Stockdale and USS Chung Hoon, all with embarked helicopters. In addition, one nuclear-powered submarine, carrier wing aircraft and long-range maritime patrol (LRMP) aircraft also participated in the exercise.

The JMSDF was represented by JS Hyuga, a helicopter carrier with SH 60K integral helicopters and LRMP aircraft, besides other advanced warships for specific parts of the exercise. Additionally, the Special Forces (SF) of the three navies also interacted during the exercise.

Exercise Malabar 2016 was another significant step in strengthening mutual confidence building and interoperability as well as sharing of best practices between the Indian, Japanese and US Navies. The exercise supported maritime security in the Indo-Pacific region, and to benefit the global maritime community.

In the thick of the tactical phase of the exercises, a Chinese observation ship was reported to be shadowing the US aircraft carrier, John C. Stennis in the Western Pacific, considered close to Chinese backyard, on June 15. China has always been wary of US and Japanese naval forces coming together in show of strength with the presence of surface and sub-surface units to the detriment of Chinese interests over the territorial claims in the South China Sea. China views access to the Pacific as vital, as a supply line to the rest of the world's oceans, as also for the projection of its naval power in the region.



Indian Navy, Japan Maritime Self-Defense Force and US Navy forces in action during the trilateral maritime exercise

On the other hand, Japan is determined to regularly participate in such joint exercises as it leverages her to strengthening alliances which it hopes will help counter the growing Chinese power. Whereas Japan frequently feels threatened with frequent incursions by the Chinese warships in the disputed island territories in the East China Sea, the US is wary of China's increasing assertive maritime role in the East Asian region. In this nexus India's participation in the exercises with an intention to display show of force by a vibrant emerging power is congruent to the US strategy for the Indo-Pacific. The US hopes that India will eventually assume its rightful role as a pivot in the Indo-Pacific region.

In this calculus, advancing of the dates for Malabar 2016 exercises were of much deeper strategic significance for India, as it coincided with the dates for the parleys for India's membership to the Nuclear Suppliers Group (NSG) taking place elsewhere. Just prior to this, Prime Minister Narendra Modi travelled practically half the globe to elicit support for India's membership to the NSG. Indeed, significant gains were made through the untiring efforts of the Prime Minister, by way of unstinted support obtained from many who were not supportive of India's cause. Coinciding with the Indian campaign was the participation of Indian maritime forces in the quadrilateral exercises in the backyard of China, very vocal opponent to India's membership to NSG. This manoeuvre indeed sent down very strong global message to notice India as an emerging power in the region. **SP**



LT GENERAL
P.C. KATOCH (RETD)

NSG – India on cusp of membership

The preliminary technical meeting of the Nuclear Suppliers Group (NSG) in Vienna on June 9 discussed the new applications from India, Pakistan and Namibia. The discussions, according to sources, recognised the merit in the Indian application albeit some countries raised the matter of process and criteria. It is not difficult to fathom who those countries would be with China opposing India's membership despite being herself a known nuclear proliferator, not being member of Missile Technology Control Regime (MTCR), where India is, and flaunting the MTCR guidelines while promising to adherence to the same both verbally and in writing. On admittance of India to the MTCR, a significant comment of a senior US administration official was that it (MTCR) "permits India to continue to advance its non-proliferation leadership in the world and contribute to that regime, to limit missile proliferation in the world".

China actually voiced her opposition to India's membership of NSG by linking it with the Non-Proliferation Treaty (NPT) of which India is not a signatory. Just before the preliminary technical meeting of the NSG last week, John Kerry, US Secretary of State, wrote letters to all NSG members to support India's bid. However, China did not budge. Significantly, when the Indo-US Civil Nuclear Deal was signed in 2008, US President George W. Bush had stymied Chinese opposition through a telephone call to the Chinese President.

The next NSG meeting is scheduled for June 20-24 in Seoul, South Korea, where the Chinese stance is unpredictable with Chinese President adopting an all-round more aggressive approach to achieve China's stated aim of becoming a 'Great Power.' China has been smart in portraying that she wants NSG entry to be norm-based with no exceptions. This approach is China's effort to also help Pakistan get NSG membership. By saying so, China wants to garner support of other NSG members to also call for entry only by accepted norms. But then China forgets she already accepted a waiver in favour of India during the Indo-US Nuclear Deal of 2008? Pakistan being vehemently opposed to the Fissile Material Cut-Off Treaty (FMCT) argues that India's NSG membership will fuel a nuclear arms race in the region. But it is apparent that it is Pakistan that in collusion with China is feverishly enlarging her nuclear stockpile, especially the tactical nuclear weapons (TNWs). Instead of opposing India's membership of NSG, Pakistan should have been rooting for and joined the FMCT. Through adroit diplomacy, India has refrained from making any official comment on China's objection to India's NSG membership.

Interestingly, the Indo-US joint statement during Prime Minister Narendra Modi's visit to the US made no mention of the South China Sea (SCS) even as analysts visualise an 85 per cent chance of a flare up in SCS because of Chinese aggressive moves. Under the Indo-US Civil Nuclear Agreement India has already separated its civilian and military nuclear programmes, placed the civilian part under International Atomic Energy Agency (IAEA) safeguards, and changed its export laws in line with the NSG and other nuclear control regimes MTCR, Wassenaar Arrangement, and Australia Group — the four key nuclear control regimes.

By helping India become NSG member, US aims to strengthen the global nuclear non-proliferation regime, NPT being at the heart of it. With US helping India become member of all four nuclear control regimes, India would be akin to an NPT member, even though technically not one. Why India wants to be a member of the NSG is to join the elite club of nuclear club that decides the global rules of nuclear commerce. Such membership would also give India the licence to sell equipment. China is obviously also keenly watching the 'Modi Magic' at play – the ease with which Modi literally floored the US Congress and secured the support of Switzerland and Mexico for India's NSG membership during the same trip. Indo-US growing cooperation in the Indo-Pacific arena, particularly in terms of maritime cooperation.

Whether China wants to continue blockading India's NSG bid or bargain for NSG membership also for Pakistan and her own admission to MTCR remains a question mark but China is acutely aware of her own history of nuclear proliferation and Pakistan's conduct as well. Significantly, China has for the first time publicly acknowledged the role of Pakistan in the coordinated terror attacks that took place in Mumbai between November 26 and 29, 2008, that claimed the lives of 164 people and left another 308 injured. China would have also noted the speech of Paul Ryan, Speaker of the US House of Representatives, in the Council of Foreign Relations after Modi's address to US Congress wherein he talked of huge potential of Indo-US ties, especially in the global common seas, and his criticism of the US policy, also saying, "We know that this new Obama foreign policy concept, leading from behind, can now be declared an unambiguous failure..."

Whether NSG members want to admit Pakistan into NSG or MTCR members grant membership to China, China would be acutely aware the continued blockading of Indian membership to NSG may not be in the best interest of China herself where India is poised on the very cusp of such membership with total US backing. **SP**

By helping India become Nuclear Suppliers Group member, US aims to strengthen the global nuclear non-proliferation regime, Non-Proliferation Treaty being at the heart of it.

Rosoboronexport starts marketing new Verba MANPADS globally



The Rosoboronexport state arms trader begins active promotion to the international market of the newest Russian-made man-portable air defence missile system (MANPADS) “Verba” designed and manufactured by the KBM Scientific Production Concern. At present the Verba MANPADS is entering into service with the Russian Army.

“Traditionally Russia is ranked among world’s leading manufacturers of air defence weapons including man-portable missile systems (MANPADS). We are confident that the Verba will provoke interest of our partners in South East Asia and other regions. It is the best weapon system in its class among offered today in the international arms market, judging by the combination of its tactical and technical characteristics and realisation of unique technical solutions. It should be noted here that the demand for the Igla-S MANPADS, which is a predecessor to the Verba, is expected to remain at the same level since it satisfies the requirements of armies in many countries, – stressed Sergei Goreslavsky, deputy director general of JSC Rosoboronexport.

Verba MANPADS: Tactical and technical characteristics

Anti-air combat performance of the Verba MANPADS has been significantly improved by introducing a new highly sensitive tri-band optical homer into the 9M336 missile as well as new instruments and a unique warhead featuring an adaptive contact/proximity fuze and increased-weight explosive.

These measures have provided the following improvements:

- Enhanced capability of engaging small-size targets with low thermal signatures, first of all such as cruise missiles and unmanned aerial vehicles;
- Enhanced jamming immunity to contemporary high-power pyrotechnical jamming devices;
- Enhanced combat effectiveness against modern air strike weapons thanks to more powerful missile warhead and high-precision guidance system.

Low-weight highly automated combat assets of the MANPADS enable its operator to engage air targets flying within the following parameter envelope:

- altitude - 10 m to 3,500 m;
- range - 500 m to 6,000 m;
- airspeed - up to 400 m/s (approaching), or up to 320 m/s (receding);
- manoeuvring loads - up to +8 g.

The organic 1PN97N Maugli-2M night vision sight allows target acquisition round the clock and target engagement at a far-off boundary of the kill envelope.

The Verba MANPADS can be also mounted on various land, maritime and airborne platforms.

Joint employment of the 9M336 missiles of the Verba MANPADS, combat control set of equipment and launch modules makes it possible to build on their basis light-weight mobile close-in air defence missile systems, or to include these assets into existing air defence missile and artillery systems. Optional deployment of the MANPADS combat assets on various carriers allows salvo launching of missiles, which enhances target kill probability by 1.5 times. SP



LT GENERAL
PC. KATOCH (RETD)

DPP 2016 – What is new?



DPP 2016 was released on March 28, 2016, by Defence Minister Manohar Parrikar while inaugurating Defexpo 2016 in Goa

On June 8, 2016, the Ministry of Defence (MoD) uploaded on its website the Defence Procurement Procedure (DPP) 2016 Chapters I to VI including Appendices and Annexures. The covering letter reads “A separate Chapter on Strategic Partners and Partnership will be notified separately. However, no policy on blacklisting has been included in the DPP, which presumably will be announced later. It may also be recalled that when the Defence Acquisition Council (DAC) cleared the clause of increased offset baseline from ₹300 crore to ₹2,000 crore

besides focusing on reducing delays in procurements, the Defence Minister had stressed the new DPP will ensure modernisation of defence forces remains unaffected due to procedural intricacies.

The media had also highlighted the proposed DPP focuses on reducing delays in procurements by eliminating repetitive procedures; new clauses allowing procurements in through single vendor with proper justification; government readiness to pay 10 per cent extra for products better than others; new category of Indigenously Designed Developed and Manufactured (IDDM) as the most pre-

ferred category for procurements, and; the three services to each have dedicated 'Project Management Units' headed by two-star general rank officers driving all 'Make' projects relating to respective service. 'Make' procedure was proposed to be divided in three sub-categories: Make I involving 90 per cent funding of development cost by government; government refunding 100 per cent development cost in Make II in case request for proposal (RFP) not issued within two years of developing prototype; and Make III reserved for micro, small and medium enterprises (MSMEs) for projects worth less than ₹3 crore.

Subsequently, when DPP 2016 was released on March 28 by Defence Minister Manohar Parrikar while inaugurating Defexpo 2016 in Goa minus its appendices and annexures, it was then brought out in these columns that the plusses in the DPP 2016 included introduction of the new procurement category 'Buy (IDDM)'; buying indigenously designed, developed and manufactured products with minimum 40 per cent indigenous content, and if not designed and developed indigenously with minimum 60 per cent indigenous content. 'Buy IDDM, should ostensibly replace 'Buy (Indian)' since latter also now requires 40 per cent indigenous content instead of erstwhile 30 per cent. How the acquisition process will be shortened need to be observed through the application of the new DPP on ground because the stages of acquisition cycle remain practically same.

Other plusses included: Services Qualitative Requirements (SQRs) split into two categories as essential and desirable (Essential Parameters A and B) with contracts signed based on A and vendor permitted to develop B after award of contract; Services Equipment Policy Committees (SEPCs) responsible for finalising SQRs permitted to seek expert assistance; RFPs will include Enhanced Performance Parameters (enhanced capabilities over and above the essential parameters) with vendors meeting additional parameters given weightage up to 10 per cent for determining lowest bid; threshold for offsets raised from ₹300 crore to ₹2,000 crore; procedure defined to deal with change in name of vendor during procurement cycle for any reason including merger, acquisitions, etc; provision for adoption of a model wherein the foreign vendor can select an Indian Production Agency (IPA) from the private sector of its choice when MoD has not nominated a DPSU for the joint venture (JV) albeit if several Indian companies tie up with the foreign vendor, it will not be treated as 'single vendor'; funding of projects by the MoD increased from 80 per cent to 90 per cent, with balance 10 per cent reimbursed (if RFP not issued within two years of successful development of prototype) and development agencies given mobilisation advance of 20 per cent of estimated cost of development; projects with estimated development cost of ₹10 crore under Make category funded by MoD and ₹3 crore for Make category self-funded by developers will be earmarked for MSMEs, opened to others only if MSMEs don't evince interest; Annual Acquisition Plan (AAP) for Make projects to be notified by MoD; sharing future military needs with industry through a Technology Perspective and Capability Roadmap (TPCR), covering 15-year acquisition plans. Appendix 'D' to Chapter II and its annexures has laid out detailed offset guidelines but whether wholly-owned subsidiaries of foreign companies qualify as Indian Offset Partners (IOPs) is not addressed.

This perhaps is considering the low technology base in the country - implying they 'may' qualify depending on the importance of the product and criticality of its need. The DPP categorically lays down procurement in descending order of priority through categories of: 'Buy (Indian-IDDM)'; 'Buy (Indian)'; 'Buy and Make

(Indian)'; 'Buy and Make'; and; 'Buy (Global)'. It qualifies that 'Make' category of procurement would be pursued in isolation, in sequence or in tandem with any of the five categories with a separate heading under Services Capital Acquisition Plan (SCAP) and AAP. With relation to Field Evaluation Trials (FET), the DPP says, "After the acceptance of TEC Report, all selected vendors would be asked to provide their equipment for trials in India, except when trials are to be conducted at vendor premises". It is a moot question whether after the AgustaWestland helicopter experience; we want to leave the option of FET at vendor premises outside India. The DPP lays down that an 'Integrity Pact' would need to be signed between government department and the bidders (both Indian and foreign vendors) for all procurement schemes over ₹20 crore. Why this has been applicable to 'all' schemes and whether this leaves a loophole for schemes up to ₹20 crore is a moot question. In terms of technology acquisition by DRDO, multipliers have been permitted as follows: Multiplier 2.0 applicable when technology offered for use by Indian military only without restriction on numbers that can be produced; Multiplier 2.5 applicable when technology offered for use only in Indian market (both military and civil) without restriction on the numbers that can be produced, and; Multiplier of 3.0 applicable when technology offered without restriction and with full and unfettered rights, including right to export. Such provision applicable only to DRDO is unlikely to be appreciated by indigenous private industry. Defence agents have been authorised to foreign entities under the new DPP. The acquisition time frame up to signing of the main contract has been listed from 86 to 114 weeks.

It may be better than what was earlier in vogue notwithstanding the inevitable slippages going by past history, but certainly a separate faster process could have been defined for communications and information systems considering the rapid rate of technological advance. As for slippages there are ample provisions in DPP 2016, but will they be applied to the governmental defence-industrial complex which is directly under the MoD? Acquisition under Fast Track Procedure (FTP) has been categorised as: procurement of equipment already inducted into

Service, and; procurement of new equipment. The vital question here is will MoD apply this to existing critical voids of the military and how about organising additional budgetary support for it? The previous FTP policy was of 2001 vintage but while this may have been revised, we have the live example of Defence Minister Parrikar announcing 'emergent' procurement of 50,000 bullet proof jackets in 2014 which have still not been provisioned despite army's deficiency having gone up beyond 3,50,000.

It is ironical that the issue of strategic partners has been left out despite the long time taken to define the new DPP and especially when the Dhirendra Singh Committee had spelt out guidelines for choosing strategic partners. It goes without saying that choosing strategic partners will have political connotations and will invariably change with different ruling parties at the Centre. So why delay the policy decision which is eagerly awaited by the private sector with much apprehension?

Hopefully, the yet to be spelt out blacklisting policy will also ensure that such action does not adversely impact defence preparedness, recent example being the faux pas created with regard to our strategic submarine projects by cancelling the Black Shark torpedoes because of blacklisting Finmeccanica. Finally, as they say, the proof of the pudding lies in its eating. No matter how good or bad DPP 2016 may be, it is the implementation in letter and spirit that is going to matter. **SP**

**No matter how good
or bad DPP 2016
may be, it is the
implementation in
letter and spirit that is
going to matter**

India-Singapore after Defence Ministers' Dialogue

The Defence Minister Manohar Parrikar visited Singapore on June 3 to attend the 15th Shangri-La Dialogue. Parrikar met the Minister for Defence of Singapore Dr Ng Eng Hen to co-chair the inaugural Singapore-India Defence Ministers' Dialogue (DMD).

A joint statement issued after the DMD is as follows: "Dr Ng and Mr Parrikar commended the long-standing defence ties between Singapore and India, and noted the DMD would take the relationship to new heights. Both Ministers welcomed the growth in the defence relationship since the signing of the Defence Cooperation Agreement (DCA) in 2003 and the revised DCA in 2015. Defence cooperation had been identified as a key sector under the India-Singapore Joint Declaration on Stra-



tegic Partnership signed during the visit of Prime Minister of India Narendra Modi to Singapore in November 2015.

The two Ministers noted that their bilateral defence cooperation has been long-standing. The two navies conducted the first Singapore-India Maritime Bilateral Exercise (SIMBEX) in 1994. SIMBEX has grown more ambitious over the years, incorporating the Republic of Singapore Navy's Archer class submarine and the Indian Navy's Kamorta class corvette and P-8I aircraft for the first time in May 2015.

Dr Ng thanked Parrikar for India's strong support for the Singapore Air Force's training in India, covered under the ambit of bilateral agreements for air force and army training. Both sides agreed to work towards the renewal of both agreements in 2017 and 2018 respectively.

Parrikar extended an invitation to Dr Ng to visit India to continue the bilateral ministerial dialogue. **SP**

Passing out parade at Officers Training Academy



General Dalbir Singh, Chief of Army Staff, reviewed the 9th passing out parade of Officers Training Academy held on June 11, 2016, in which 92 Gentleman Cadets of the Technical Entry Course Serial 27 along with 46 Special Commission Officers of Course Serial 36 got commissioned into the Indian Army. Another 53 Gentlemen Cadets of Technical Entry Scheme Serial 33 also proceeded to various engineering colleges of the Army to pursue their engineering degrees from Military Engineering Colleges at Secunderabad, Mhow and Pune. The Reviewing Officer was received at the venue by Lt General Vinod Vashisht, Commandant, Officers Training Academy (Gaya).

The prestigious Sword of Honour for best overall performance among TES 27 Course was awarded to Gentleman Cadet Pankaj Mehara. **SP**

Indian Military Academy passing out parade

About 610 Gentlemen Cadets including 45 Foreign Gentlemen Cadets from six friendly foreign countries passed out from the Indian Military Academy (IMA), Dehradun, on June 11, 2016. Lt General Sarath Chand, GOC-in-C, South Western Command, reviewed the parade.

Congratulating the cadets on the completion of their training, the General emphasised the need of imbibing the spirit of the motto of IMA, 'Valour And Wisdom', to achieve professional competence and traditional qualities of fair play, civility, maturity and tolerance in times of adversity. To keep pace with the technological age, the Reviewing Officer laid emphasis on the importance of consistent reading and keeping abreast with the latest happenings.

The coveted Sword of Honour was presented to Academy Cadet Adjutant Rajendra Singh Bisht; Gold Medal for the Gentleman Cadet standing first in the Overall Order of Merit to Battalion Under Officer Aman Dhaka; Silver Medal for the Gentleman Cadet standing second in the Order of Merit to Senior Under Officer N. Dinesh Kumar; Bronze Medal for the Gentleman Cadet standing third in the Order of Merit to Academy Cadet Adjutant Rajendra Singh Bisht; Silver Medal for the Gentleman Cadet standing first in the Order of Merit from Technical Graduate Course to Gentleman Cadet Avijit Hazra Chowdhury; Silver Medal for the Foreign Gentleman Cadet standing first in the Order of Merit amongst the Foreign Gentlemen Cadets to-Junior Under Officer Choki Dorji. **SP**



All-women crew sails into Port Louis

Indian Navy's sail boat INSV Mhadei sailed into Port Louis, Mauritius, with the first all-women crew recently. The Navy's famous sailing vessel Mhadei set sail from her home port Goa on May 24, 2016, on this historic first open ocean voyage by an all-women crew on any vessel of the Indian Navy. Lt Commander Vartika Joshi, a naval architect, is the first woman Skipper of Mhadei. The boat is crewed by Lt P. Swathi, Lt Pratibha Jamwal (air traffic control specialists), Lt Vijaya Devi, Sub Lt Payal Gupta (both education officers) and Lt B. Aishwarya, a naval architect.

The 2,100-nm voyage was covered by the crew in 20 days passing through rough seas whipped up by the south-west monsoons. The timing of the voyage was chosen to expose the crew to rough weather that they are likely to encounter during their attempt to circumnavigate the globe in 2017. Mhadei encountered winds of up to 35 kts, sea states up to 5 and a swell of up to 5 m during the onward leg from Goa to Mauritius. This adequately met the training aims of the voyage. The strenuous journey also provided the crew with an opportunity to consolidate upon their theoretical and practical training undergone thus far.

The return journey from Port Louis to Goa is slated to commence on June 24, 2016. Mhadei is expected to arrive in Goa in



early July 16. The women officers are training to form an all-women crew that would attempt to circumnavigate the globe next year. **SP**

Armed forces celebrate International Yoga Day



(Top) Chief of the Air Staff Air Chief Marshal Arup Raha along with other air force personnel during 2nd International Day of Yoga organised by the Indian Air Force at Wellington Camp, Air Force Station, New Delhi, on June 21, 2016; Chief of Naval Staff Admiral Sunil Lanba performing yoga along with other participants in New Delhi; Chief of the Army Staff General Dalbir Singh performing yoga along with other participants in New Delhi; (above) Indian troops doing yoga in Siachen; Indian Army soldiers and families doing yoga at Tejpur in Assam; Indian soldiers doing yoga along the line of control.



Defence Minister Manohar Parrikar and the Chief of the Air Staff, Air Chief Marshal Arup Raha with three newly commissioned women fighter pilots Flying Officer Avani Chaturvedi, Flying Officer Bhavana Kanth and Flying Officer Mohana Singh at Air Force Academy in Hyderabad on June 18, 2016



AIR MARSHAL
B.K. PANDEY (RETD)

Women breaking barriers!

The commissioning of female pilots into the fighter stream of the Indian Air Force will indeed be inspiring as well as challenging for the future generations of women

History was scripted for the Indian Air Force (IAF) on June 18, 2016, when Manohar Parrikar, the Minister of Defence, the Chief Guest and the Reviewing Officer, formally conferred the President's Commission on to three women fighter pilots along with other flight cadets of various branches of the IAF, at a combined graduation parade held at the Air Force Academy in Dundigal, north of Hyder-

abad. This will indeed be recorded as a landmark event in the glorious history of the IAF and will be seen as the proverbial "feather in the cap" of the service. This day also marked the fulfilment of the commitment by Air Chief Marshal Arup Raha, Chief of the Air Staff, made on the last International Women's Day that the nation would see its first batch of female fighter pilots on June 18, 2016. In his address on the occasion of the combined graduation parade, the

Minister of Defence assured the audience that step by step, total gender parity will be achieved in the armed forces in the coming years and that the technical or administrative difficulties in this regard if any, would be removed.

Women have been serving in the flying branch of the IAF for over two decades. Currently on the rolls of the IAF are nearly 100 women pilots and 20 women navigators. However, these have been restricted to flying transport aircraft and rotary-wing platforms only. They did not have the option to join the fighter stream on account of policy restrictions prevailing at that time. Women pilots and navigators have been operating transport aircraft to forward bases and flying helicopters even in remote and high altitude areas and over inhospitable terrain such as that of the Siachen Glacier. With the same level of training and grooming, they have, in no way, proved to be less capable than their male counterparts.

However, following a radical shift in policy, India's first three women pilots allocated to the fighter stream namely Flying Officer Bhavana Kanth, Flying Officer Avani Chaturvedi and Flying Officer Mohana Singh, have successfully completed Stage II of the training schedule for fighter pilots having logged a total of around 150 hours of flying on the Pilatus PC-7 Mk II basic trainer aircraft procured from Switzerland and on the HAL-built jet trainer, the HJT-36 Kiran. They were also awarded the pilot's "Wings" coveted by all those aspiring for flying career in the IAF. They will now relocate to Air Force Station Bidar in north Karnataka for Stage III of their training scheduled on the BAE Hawk 132 advanced jet trainer. On successful completion of Stage III, these three women fighter pilots will be assigned to different combat squadrons equipped with supersonic fighter aircraft such as the MiG-21, the Mirage 2000 and the Su-30MKI. It is in the combat squadrons that they will be required to undergo operational training along with their male colleagues before being declared fully operational or in other words 'combat capable' on any of these aircraft. This will by no means be an ordinary achievement for these high flying young girls fired by ambition to perform the combat role in the IAF! This is expected to inspire others to follow in their footsteps and hopefully reverse the declining trend amongst young women in the country to opt for the military as a career.

Women have been flying combat aircraft successfully in a number of countries of the world such as the United States, Russia, UK, Canada, France, Germany, Norway, the Netherlands, Turkey, Israel,

While entry of women into the fighter stream is indeed a landmark event, for the management in the IAF, there are issues of serious concern

China, Singapore and even Pakistan that is three years ahead of India in this regard. The first woman in the world to be employed in a flying combat role was Sabiha Gökçen of Turkey in 1936. The US Defense Secretary Ashton Carter had stated a few months ago that the US Government had moved even further and decided to open to women all positions including frontline combat roles in the armed forces. Said Defense Secretary Carter: "We cannot afford to cut ourselves off from half the country's talents and skills. We have to take full advantage of every individual who can meet the laid down stand-

dards." This philosophy ought to apply in the Indian context as well.

The US Air Force inducted its first woman fighter pilot Col Jeannie Leavitt in 1993. About the same time, the US Navy commissioned Lt Kara Spears Hultgreen as the first carrier-borne combat pilot. Unfortunately she died soon after in a crash at sea while flying the F-14 Tomcat. The UK followed suit in 1994 and today in the Royal Air Force (RAF), there are ten women fighter pilots flying the Eurofighter Typhoon or Tornado jets in combat missions. RAF women combat pilots flying the Tornado are reported to have flown hundreds of operational missions over Afghanistan as part of Britain's offensive against the Taliban. A female fighter pilot of the RAF led the first aerial combat mission into Iraq operating from an RAF base in Cyprus. It was a highly dangerous mission over territory in northern Iraq held by the ISIS. In Israel, women pilots had flown combat missions during the Israeli War of Independence; but thereafter women were excluded from combat flying. This restriction was lifted in 1995 following which the first woman to earn wings in 2001 as a fighter pilot was Lt Roni Zuckerman. Closer home, in June 2013, Flight Lieutenant Ayesha Farooq, one of the 19 female pilots in the Pakistan Air Force (PAF), became the first one to be a part of the fighter stream flying the Chinese made F-7PG. Tragically, in November last year, Mariam Mukhtiar, another Pakistani female fighter pilot in the PAF, succumbed to her injuries sustained during ejection from a combat aircraft following a serious emergency in the air.

A woman going into combat is neither without precedent nor alien to Indian culture or tradition. After all, in 1858, the Rani of Jhansi, went into the battlefield on horseback with sword in hand and her infant son strapped to her back to take on the British who were on the offensive. Tragically, the Rani and her son were both martyred. She had left instructions with her soldiers that in case she dies in battle, her body must be burnt immediately and that under no circumstances should the British soldiers be able to get hold of it.

While entry of women into the fighter stream is indeed a landmark event, for the management in the IAF, there are issues of serious concern. There is genuine apprehension about the fate of a woman fighter pilot if she is shot down over enemy territory and is captured alive. To obviate this possibility, there is a suggestion that women fighter pilots should be employed only in the air defence role or other missions within the boundaries of the nation.

In the final analysis it is really not a contest of skills between male and female fighter pilots. The three young ladies commissioned recently as fighter pilots have been reported to have performed as well and even better than their male colleagues. The latest move to induct them into the fighter stream of the IAF will indeed be inspiring as well as challenging for the future generations of women who aspire to 'Touch the Sky with Glory' and a positive development in respect of their emancipation and fulfilment of aspirations! SP

The three women fighter pilots undergoing training at the Air Force Academy in Dundigal



PHOTOGRAPH: IAF

Indigenous trainer aircraft makes inaugural flight

The Defence Minister Manohar Parrikar witnessed the inaugural flight of India's own indigenous HTT-40 (Basic Trainer Aircraft - BTA) designed and developed by the Hindustan Aeronautics Limited (HAL) on June 17, 2016, at HAL airport. The aircraft was flown by Group Captain C. Subramaniam and Group Captain Venugopal for about 15 minutes.

While congratulating HAL, Parrikar said: "The young team has taken a calculated risk and they have flown the aircraft within one year and kept their assurance. The indigenous content on HTT-40 is close to 80 per cent. Almost 50 per cent of the components on HTT-40 are manufactured by private players of the Indian aerospace ecosystem. Here, the role of private players and MSMEs has been significant in the production of parts. The IAF is positive in all these developments".

T. Suvarna Raju, Chairman and Managing Director, HAL, said: "We are extremely happy that the aircraft had a flawless inaugural flight in the presence of the Defence Minister. The project will now go in full throttle as we aim to get the aircraft certified in 2018. Towards this, HAL will be manufacturing three prototypes and two static test specimens". HAL launched the detail design of the aircraft by earmarking its internal resources in August 2013. The detailed design phase was completed in May 2015 and from there it has taken only one year to fly the first prototype.



The project includes many first time initiatives such as digital mock up (DMU), real time systems clash analyses, laser tracking of assembly jigs, six degree of freedom, mathematical model, complete glass cockpit, etc. HTT-40 has been designed not only to meet the current requirement of the IAF but also it has provision for role expansion to include weapons for the trainer aircraft. **SP**

France takes delivery of 9th A400M Atlas



The French Directorate General of Armaments (DGA) recently received the ninth series production A400M Atlas military transport aircraft for the air force. The aircraft carries the manufacturer's serial number MSN33.

Beyond the logistical capabilities of its predecessors, this aircraft is the first to have tactical capabilities, including in particular the ability to drop paratroopers and supplies, a self-protection suite, the ability to operate on semi-prepared landing strips and the ability to refuel combat and transport aircraft in flight. It can also itself be refuelled in flight.

The goal of the Ministry of Defence is to have, by the end of 2016, six A400M operational aircraft with these capabilities. The MSN33 is the first of them. Two other similar

aircraft are to be delivered before the end of the year, and three of the aircraft currently in service will be retrofitted to the capability standards of MSN33.

A tactical military transport aircraft with strategic range, the A400M, produced by Airbus Defence and Space, is designed to carry up to 37 tonnes of equipment and carry out all transportation-related missions, including the inter-theatre and intra-theatre transport, assault landing on summary airstrips, air dropping of personnel and equipment, including from very high altitudes and in-flight refuelling. **SP**

First of eight Aermacchi M-346 aircraft for the Polish Air Force unveiled

The roll-out ceremony for the first of eight Polish Air Force M-346 aircraft took place recently at Leonardo-Finmeccanica's facility in Venegono Superiore (near Varese). The event was attended by the Polish Deputy Defense Minister, Bartosz Kownacki, the State Under Secretary to the Ministry of Defense, Gioacchino Alfano, and by the Managing Director of Leonardo-Finmeccanica Aircraft, Filippo Bagnato.

Mauro Moretti, Chief Executive Officer and General Manager of Leonardo-Finmeccanica, said: "Leonardo-Finmeccanica is the only company in the world able to offer a complete technological solution that reduces pilot training times and prepares them to fly sophisticated, new-generation military aircraft.

"Today, many countries are turning their attention to integrated training systems that include both aircraft and ground-based simulation systems. These capabilities already have a proven track record at the Italian Air Force's training centre in Galatina (near Lecce) where 11 NATO and Allied Air Forces are trained; pilots obtain their licences via systems and aircraft built by Leonardo-Finmeccanica."

The first of eight Aermacchi M-346 advanced trainers ordered by Poland in 2014 will now undergo a flight test programme to certify bespoke systems chosen by the Polish Air Force such as the brake parachute. It will then be delivered to the customer by the end of the year along with a second aircraft. Deliveries will be completed by November 2017.

The M-346s will enter into service with the 4th Training Wing Squadron at Poland's Deblin base. With the M-346, the base aims to become an international hub for the training of military pilots. **SP**

Boeing, Tata joint venture establishes aerospace facility in Hyderabad



Defence Minister Parrikar at the foundation laying ceremony of the new facility in Hyderabad of TBAL. Also seen are S. Ramadorai, Chairman, TASL; Sukaran Singh, MD & CEO, TASL; Pratyush Kumar, President, Boeing India; and Dave Koopersmith, Vice President, Boeing Vertical Lift Division

Boeing and Tata Advanced Systems celebrated the foundation laying of a new facility in Hyderabad for its joint venture named Tata Boeing Aerospace Limited (TBAL) on June 18, 2016. The JV has been established to co-produce Boeing AH-64 Apache helicopter fuselages and other aerostructures, as well as to pursue integrated systems in aerospace.

The Hyderabad production facility will eventually be the sole producer of AH-64 fuselages globally. The Apache has been flown or selected for acquisition by the United States and 15 other nations, including India.

Participating in the ceremony were Defence Minister Manohar Parrikar K.T. Rama Rao, Minister of IT and Industries & Commerce, Telangana; and other dignitaries from the Telangana government.

"The joint venture between Tata and Boeing is a significant step in developing India's capabilities for aerospace and defence manufacturing and becoming a global exporter. This is a clear example of the significant progress made towards 'Make in India for defence,'" said Defence Minister Parrikar. "I am delighted to see Boeing and Tata step forward and make this significant investment in India."

Speaking on the occasion, S. Ramadorai, Chairman of Tata Advanced Systems Ltd (TASL), said, "Today's ground-breaking ceremony is a significant milestone in furthering our commitment to the Indian aerospace sector. With the advent of the Industrial Revolution 4.0 this partnership could boost the emerging manu-

facturing sector, contributing to the Hon'ble Prime Minister's vision of 'Make in India.' I am positive that this JV which brings together the core strengths of both companies will help take this strategic relationship to the next level."

"This joint venture is an exciting advancement for Boeing in leveraging our capital and expertise globally," said Pratyush Kumar, President, Boeing India, and Board Member of TBAL. "I am delighted that every such step we take is forging the way towards building an indigenous aerospace ecosystem in support of 'Make in India.'"

In November 2015, Boeing and Tata announced a JV for manufacturing aerostructures and collaboration on integrated systems development opportunities in India. This JV will create a manufacturing centre of excellence to produce aerostructures for the AH-64 Apache and provide affordable manufacturing capabilities to the global aerospace industry.

"Today's ground-breaking is the next step in Boeing and TASL's journey to develop key technologies and capabilities," said Dave Koopersmith, Bo-

eing Vice President, Vertical Lift, and Board Member of TBAL. "We will be making significant investments to ensure the success of this joint venture as we bring value to our customers globally and compete for additional manufacturing work in the global market."

"We are proud to partner with Boeing to manufacture complex aerospace aerostructures parts out of India," said Sukaran Singh, MD & CEO, Tata Advanced Systems, and Board Member of TBAL. "Tata Advanced Systems has developed expertise in manufacturing as well as in large-scale systems integration work in the aerospace and defence sector. Our capabilities are further enhanced through collaborations and partnerships with leading global aerospace majors. We intend to grow this unique joint venture partnership with Boeing, focusing on opportunities to collaborate on development and life-cycle management of integrated systems."

Boeing and Tata group companies have established partnerships in India to manufacture aerostructures for Boeing's commercial and military aircraft. Tata Advanced Materials has delivered composite panels for the power and mission equipment cabinets and auxiliary power unit door fairings for the P-8I long-range maritime surveillance and anti-submarine warfare aircraft. TAL Manufacturing Solutions is manufacturing complex floor beams out of composite materials for the Boeing 787-9, the most modern aircraft with exceptional environmental and fuel-efficient capabilities. TAL Manufacturing Solutions has provided ground support equipment for the C-17 Globemaster III strategic airlifter. **SP**



Orlando killings expose lax gun security laws

On June 12, 2016, a mass shooting occurred inside Pulse, a gay nightclub in Orlando, Florida, in which 49 people were killed and 53 injured by a lone terrorist identified as Omar Mateen. The terrorist was killed by the Orlando police after a three-hour standoff. It was the deadliest mass shooting by a single gunman in the United States and the deadliest incident of violence against LGBT (lesbian, gay, bisexual and transgender) community in the US. Most of those harmed were of Hispanic background. It was widely denounced both as an act of terrorism and a hate crime.

The assailant was identified as 29-year-old Omar Mateen, an American born to parents of Afghan background. Witnesses said he was a regular patron of the nightclub and had used gay dating websites in the past. He gave a call to 911 during the attack and swore allegiance to the Islamic State of Iraq and the Levant (ISIL). The Central Intelligence Agency (CIA) said it found no links between ISIL and Mateen. He has been reported to have expressed hostility towards LGBT people and other minorities.

The Federal Bureau of Investigation (FBI) has come under criticism for handling of the Omar Mateen case. It is said that he was interrogated twice by the FBI and that the gun shop owner had alerted the FBI about the purchase of a military-type assault weapon. There is major debate going on in the US on gun control laws and how it is easy to get military-type weapons by individuals. **SP**

Terror attempt in Belgium

Three Belgian nationals arrested last week have been charged with attempting to commit terrorist murder and with taking part in the activities of a terrorist group, Belgium's federal prosecutor has said. Nine other suspects arrested have been released.

Police had carried out about 40 house searches overnight. The arrests came shortly before many parties began across Belgium to watch live broadcasts of the country's Euro 2016 group stage match against Ireland and there were reports that such events could have been the targets.

The federal prosecutor's office said that homes and garages were searched in 16 municipalities, mostly in and around Brussels. The statement said there were no major incidents during the raids and no arms or explosives were found.

The prosecutor's statement said that "the results of the investigation necessitated an immediate intervention", indicating a violent attack was probably planned in the near future. **SP**

Flares at Euro 2016; UEFA powerless

The Union of European Football Associations (UEFA) told *The Independent* that it was powerless to prevent flares being smuggled into games at its European Championships, after the presence of them in the stands at four individual tournament games raised new questions about the competence of the French security operation, amid the ongoing terror threat.

Flares are a prohibited object and the fact they were smuggled with impunity into Russia's fixtures against England and Slovakia



and Croatia's matches with Turkey and Czech Republic underlines the need to re-examine the security operation. But UEFA told *The Independent* that it was "extremely difficult" to prevent fireworks being brought into games.

The hurling of several missiles onto the pitch at the Saint Etienne's Stade Geoffroy-Guichard venue, causing the temporary suspension of Croatia's Group D match with the Czech Republic, was the biggest indictment of organisational efficiency yet, given that a state of civil war within the Croatian game meant the disorder was by no means unexpected. **SP**



RELENTLESS JOURNEY OF
EXCELLENCE **SINCE 1964**



Follow us on Twitter

SP's
**MILITARY
YEARBOOK**
S I N C E 1 9 6 5

SP's
AVIATION
SHARP CONTENT FOR SHARP AUDIENCE

SP's
AN SP GUIDE PUBLICATION
Land Forces

SP's
AN SP GUIDE PUBLICATION
Naval Forces

SP's
AIRBUZ
AN INITIATIVE BY SP GUIDE PUBLICATIONS & AIRBUS

SP's
AN SP GUIDE PUBLICATION
MAI
AN INITIATIVE BY SP GUIDE PUBLICATIONS & MAI
AN INITIATIVE BY SP GUIDE PUBLICATIONS & MAI

BizAV India
AN INITIATIVE BY SP GUIDE PUBLICATIONS & BIZAV



SP GUIDE PUBLICATIONS

| OVER **5** DECADES SINCE 1964 |

www.spguidepublications.com

*A
Finest & Handy Document*

Now Available
NEW EDITION

Indispensable Reference

**SP'S
MILITARY
YEARBOOK 2015-
2016**

S I N C E 1 9 6 5

43RD ISSUE

From 52 Years Old Media House

**MUST BUY FOR ALL THOSE WHO VALUE & ARE
ASSOCIATED WITH THE ARMED FORCES IN THE
DESTINATIONS - INDIA & ASIA**



**Reserve Your
Own Copies, Now!**

order@spsmilitaryyearbook.com



SP GUIDE PUBLICATIONS

| OVER 5 DECADES SINCE 1964 |