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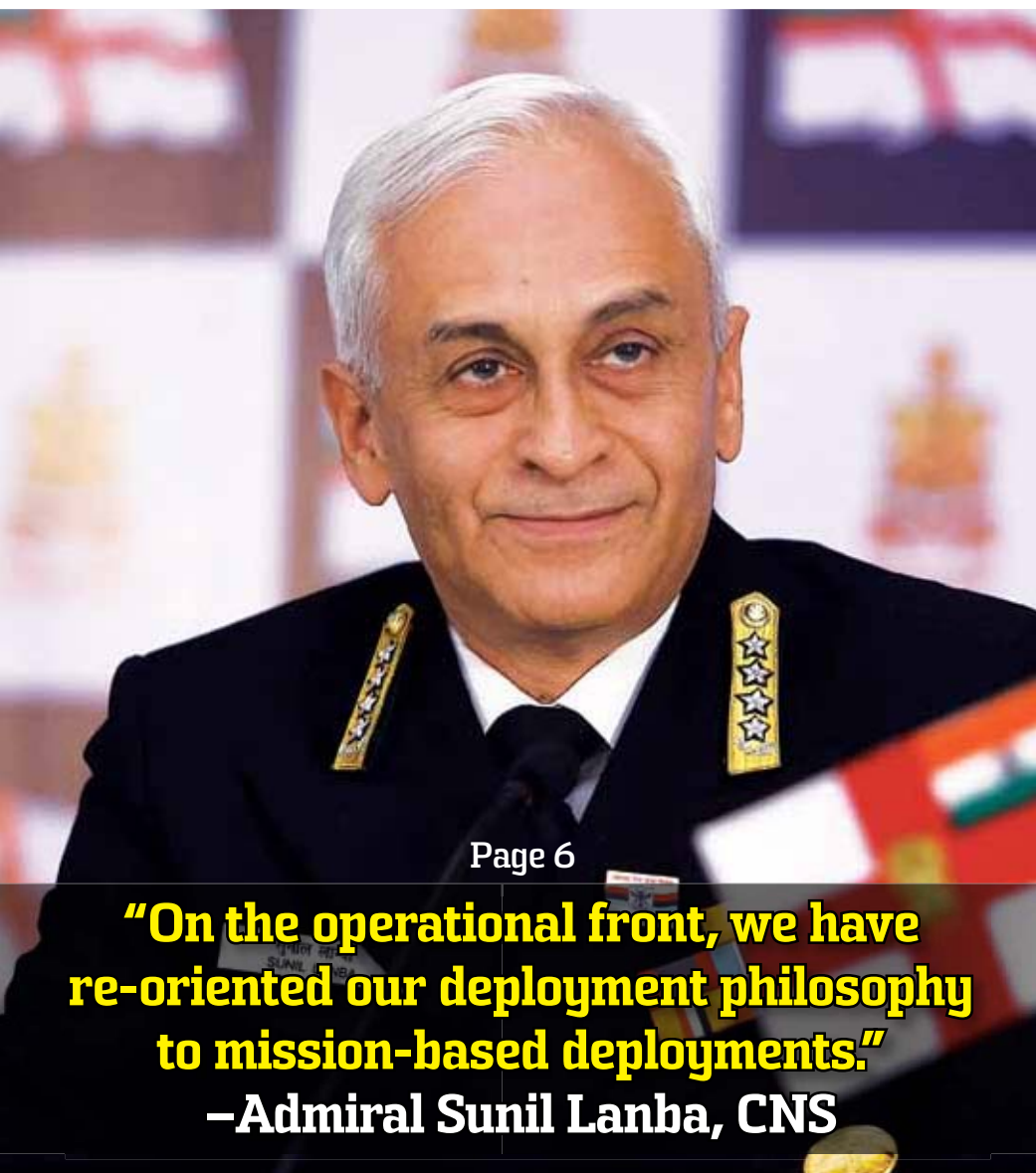


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"On the operational front, we have re-oriented our deployment philosophy to mission-based deployments."
—Admiral Sunil Lanba, CNS



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



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Indian Navy's search and rescue operations

Southern Naval Command continued 'OP Sahayam', an Indian Navy exercise for undertaking Search and Rescue (SAR) and providing Humanitarian Assistance and Disaster relief (HADR) material support, over Southeast Arabian Sea and Lakshadweep and Minicoy islands in the aftermath of Very Severe Cyclonic Storm 'Ockhi'. Nine naval ships including frontline ships from Western Naval Command INS Chennai, Kolkata and four types of aircraft including long range maritime reconnaissance aircraft P-8I, Dornier, SeaKing and Chetak were continued to be deployed over an extended SAR area up to 300 miles west of L&M islands and 450 miles off Kerala coast.

On December 6, 2017, based on request from fishing community, INS Kalpeni embarked six local fishermen from Kochi and INS Kabra embarked two fishermen from Kollam to join the ongoing SAR efforts



and to facilitate guided search for missing fishing vessels, based on specific inputs provided by these fishermen. Both naval ships will return to Kochi post completion of the search operations as per guidance offered by the fishermen onboard.

INS Jamuna positioned at Kavaratti has provided 12,000 litres of fresh water as requested by L&M administration. The HADR material required for the island has already been delivered by INS Chennai.

INS Sharda, which had returned to Kochi for refueling has now embarked materials such as 2000 litres fresh water, medicines, food, emergency lights, petrol, portable 10 KVA power generators, tool kits, boiler suits etc as requested by Minicoy administration. The items will be delivered in the morning on December 7, 2017.

The swift and timely action of Indian Navy has thus far provided assistance to 187 persons at sea, besides saving 148 lives and undertaking evacuation of three bodies from deep sea.

All search and rescue activities are being conducted in coordination with central agencies. **SP**



Cover:

Addressing the annual press conference on the occasion of Navy Day 2017 Admiral Sunil Lanba, CNS, said: "The Indian Navy is actively engaged in ensuring safety and security in India's maritime areas of interest. We have adopted several new measures to effectively fulfil our commitment to the nation. On the operational front, we have re-oriented our deployment philosophy to mission-based deployments."

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“The Honorable Prime Minister has initiated ‘Security and Growth for All in the Region’ i.e. SAGAR, and we have, being net security provider in the IOR, based on these initiatives, re-examined the deployment and philosophy. We are now on a mission-based deployment where assets are deployed in our maritime areas of interest.” —Admiral Sunil Lanba, CNS

This issue is being published soon after the Navy Day 2017 thus the lead story gives highlights of the traditional press conference of Admiral Sunil Lanba, Chief of the Naval Staff (CNS), held on December 1. The CNS started with paying tribute to the Navy martyrs who sacrificed their life for the Nation since the last Navy Day. The CNS then covered a host of issues including operational readiness, latest acquisitions, modernisation programmes, adventure and some administrative matters including induction of women in the Navy. He started by saying that, “we are all well aware of the prevailing security scenario in the maritime domain. The continued presence of both traditional and non-traditional threats in the maritime domain demands constant attention and robust mitigating actions. The Indian Navy is accordingly, actively engaged in ensuring safety and security in India’s maritime areas of interest.” On acquisition process, he highlighted that, “policy reforms by the Government, such as the Strategic Partnership Model and the Technology Development Fund, have emerged as catalysts for the Navy’s goal of self-reliance. He added that, “we have also identified about ₹40,000 crore (about \$6 billion) worth of projects for participation by private shipyards. It is indeed heartening to note that 23 Indian private sector shipyards have qualified for participation in indigenous shipbuilding projects.”

He also mentioned that this year also marks the Golden Jubilee of the Navy’s Submarine Arm. To commemorate the occasion, 2017 is being celebrated as the ‘Year of the Submarine Arm’ by the Navy. In recognition of their exemplary service, the Honourable President of India is due to award ‘President’s Colour’ to the Submarine arm on December 8, 2017.

I also had the occasion to have an exclusive interaction with the CNS where on a query from me, he explained that, “the Honorable Prime Minister has initiated ‘Security and Growth for All in the Region’ i.e. SAGAR, and we have, being net security provider in the IOR, based on these initiatives, re-examined the deployment and philosophy. We are now on a mission-based deployment where assets are deployed in our maritime areas of interest.” Read all the details in this issue.

The second India-Singapore Defence Ministers dialogue was held on November 29 at Delhi with five major issues discussed and

agreed upon including mutual maritime interests. These new agreements have injected fresh impetus into the India-Singapore defence and strategic relations. India’s defence minister Nirmala Sitharaman and Singapore’s defence minister Dr Ng Eng Hen, issued a Joint Statement which also referred to the significant progress made in defence industry cooperation, with the signing of the terms of reference for the Defence Industry Working Group (DIWG) in August this year. More about in this issue.

Then there are details of Defence of Andaman and Nicobar Islands Exercise (DANX) 2017, which was conducted from November 20-24.

Lt Gen P.C. Katoch (Retd) writes that Ivanka Trump boosted the Indo-US relations at the 8th annual Global Entrepreneurship Summit (GES) by having very positive interaction with Prime Minister Narendra Modi and also leading the US delegation. That Republic Day Parade 2018 will be special as 10 heads of all the 10 ASEAN states have been invited to this event.

There is an overview of how Boeing is going to boost India’s Aero Space industry by no other than by Gene Cunningham, Vice President, Global Sales for Defense, Space & Security. This issue wraps up with the usual news including the progress of INSV Tarini who is on a maiden voyage to circumnavigate the globe with an all-women crew.

Our belated greetings on the Navy Day and happy reading and safe and successful sailing to the crew of INSV Tarini.

Happy reading!

A blue ink signature of Jayant Baranwal, written in a stylized, cursive manner. The signature is located above the name and title of the publisher and editor-in-chief.

Jayant Baranwal
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'The Indian Navy is actively engaged in ensuring safety and security in India's maritime areas of interest'

—Admiral Sunil Lanba, Chief of the Naval Staff

[By Rear Admiral Sushil Ramsay (Retd)]

Addressing the annual press conference on the occasion of Navy Day 2017 Admiral Sunil Lanba, Chief of the Naval Staff (CNS) welcomed all present for the media interaction. He recognised the responsible role being played by the Media in projecting the Indian Navy in right light which works as force-multiplier for the Navy. He availed the opportunity to pay homage to the departed martyrs and recognised supreme sacrificed made by them.

CNS said: "We are all well aware of the prevailing security scenario in the maritime domain. The continued presence of both traditional and non-traditional threats in the maritime domain demands constant attention and robust mitigating actions. The Indian Navy is accordingly, actively engaged in ensuring safety and security in India's maritime areas of interest. We have adopted several new measures to effectively fulfil our commitment to the nation. These are aimed at making our processes and structures more efficient and outcome-oriented.

"On the operational front, we have re-oriented our deployment philosophy to mission-based deployments. We have maintained continuous presence off the Horn of Africa for anti-piracy operations since October 2008. Indian Naval Ships deployed on anti-piracy patrols have been actively involved in foiling piracy attempts in the Gulf of Aden. In addition, regular deployment of naval ships and aircraft is being maintained in the North Arabian Sea, Gulf of Oman, Persian Gulf, the Andaman Sea and the approaches to the strategically important straits of Malacca, Lombok and Sunda. In short, our ships and aircraft are deployed from the Gulf of Aden to the Western Pacific on an almost 24x7 basis.

Force Level Planning and Acquisitions

"Induction of new assets is being progressed in consonance with the Indian Navy's perspective plans. As on date, we have 34 ships under construction and it is a matter of great pride that all of them are being constructed in Indian shipyards. The war-fighting capability of the Navy's surface fleet has been augmented by induction of three indigenous Anti-Submarine Warfare Corvettes, two Water-Jet Fast Attack Craft and two Landing Craft this year.

"Work on Indigenous Aircraft Carrier, IAC-1, is progressing well and I am hopeful that the ship would join the Navy by 2020. Two naval offshore patrol vessels have been launched at Pipavav in Gujarat. In addition, survey vessels, shallow water anti-submarine warfare craft and diving support vessels are in various stages of procurement.

Modernisation of the submarine arm is also well underway. We have accepted the delivery of Kalvari and we will formally commission her very soon. Trials of Khanderi, the second of the Kalvari Class, are also progressing satisfactorily. Measures are also underway to bolster the aviation arm of the Navy by induction of new fighters, surveillance aircraft and ship-borne helicopters.

"Policy reforms by the Government, such as the Strategic Partnership Model and the Technology Development Fund, have emerged as catalysts for the Navy's goal of self-reliance. Indigenous development of sensor suites such as next-generation SONAR, combat management system and torpedo fire control system is indeed encouraging.

"We have also identified about ₹40,000 crore worth of projects for participation by private shipyards. It is indeed heartening to note that 23 Indian private sector shipyards have qualified for participation in indigenous shipbuilding projects on the basis of their capability, capability and infrastructure.

"A key focus area for the Indian Navy this year has been on infrastructure development and I am pleased to inform you that we have made significant progress in developing Karwar as a futuristic naval base on the West coast of India. The execution of the next Phase of Project Seabird has commenced. Creation of a full-fledged Naval Dockyard and associated infrastructure to accommodate more number of ships, submarines and yard-craft will be undertaken during this phase.

"Six women Officers have embarked on the Navika Sagar Parikrama, wherein they are circumnavigating the globe in the ocean-sailing yacht INSV Tarini. This effort stands testimony the resolute-ness of our women.

This year also marks the Golden Jubilee of the Navy's Submarine Arm. Since its inception in December 1967, the Submarine Arm has evolved into a formidable force. To commemorate the occasion, 2017 is being celebrated as the 'Year of the Submarine Arm' by the Navy. In recognition of their exemplary service, the Honourable President of India is due to award 'President's Colour' to the Submarine arm on December 8, 2017. **SP**

EXCLUSIVE

Admiral Sunil Lanba, Chief of the Naval Staff answers a few quick questions of Editor-in-Chief Jayant Baranwal at the Annual Press Conference on the eve of Navy Day

"Mission-Based Deployment: We now have a constant presence of a ship deployed in Andaman Sea and mouth of Malacca Straits. We have ships on deployment in the Gulf of Oman, the Persian Gulf, the North Arabian Sea, the North Bay of Bengal, and the strategically important Straits of Lombok."



(Left) P-8I maritime patrol aircraft; (right) Indigenous Aircraft Carrier-I

Jayant Baranwal: You spoke about Mission-Based Deployment. Can you elaborate the objectives and essence of this concept? And also which kind of assets are being and are likely to be utilized?

CNS: Honorable Prime Minister has initiated "Security and Growth for All in the Region" i.e. SAGAR, and we have, being net security provider in the IOR, based on these initiatives, re-examined the deployment and philosophy. We are now on a Mission-Based Deployment where assets are deployed in our maritime areas of interest. We had an ongoing deployment since October 2008 in the Gulf of Aden.

We now have a constant presence of a ship deployed in Andaman Sea and mouth of Malacca Straits. We have ships on deployment in the Gulf of Oman, the Persian Gulf, the North Arabian Sea, the North Bay of Bengal, and the strategically important Straits of Lombok.

At the same time our long range maritime patrol aircraft are also deployed to cover our areas of interest. All this is to ensure that we have (an effective) presence in our areas of interest and we have maritime domain awareness. All the ingress and egress routes to the


IOR are covered and we are operationally available to react to any emerging situation.

As a part of this when there was a cyclone which had hit Bangladesh and Myanmar, the ship which was en route Andaman Sea for deployment was diverted, she picked up and rescued 33 Bangladeshi nationals who were all floating holding on to a branch of a tree, 90 nautical miles out at sea. Same ship after delivering relief material went on to Myanmar. So this kind of presence has improved the domain awareness and the effectiveness to be able to react as the key security provider in the IOR.

Jayant Baranwal: Is the deck-based fighter, you are looking for, required for IAC-1?

CNS: Yes. IAC-1 is designed to operate the MiG-29K and Light Combat Aircraft (LCA). So, (indeed) we need deck-based fighter for IAC-1 (as the LCA is not combat-ready).

Jayant Baranwal: So, does this mean that twin-engine fighter programme is meant for IAC-1?

CNS: Yes. 

"Honorable Prime Minister has initiated 'Security and Growth for All in the Region' i.e. SAGAR, and we have, being net security provider in the IOR (Indian Ocean region), based on these initiatives, re-examined the deployment and philosophy."



Defence Minister Nirmala Sitharaman with the Defence Minister of Singapore, Dr Ng Eng Hen at South Block in New Delhi on November 28, 2017

India-Singapore — Deepening defence relations, source of envy for China

[By **Ranjit Kumar**]

The second India Singapore Defence Ministers dialogue held on November 29 had the following five significant takeaways: Conclusion of India Singapore bilateral agreement for Navy Cooperation; Agreement on renewal of the Army bilateral Agreement early next year; Agreement on continuous and institutional naval engagements in each other's

shared maritime space; Establishment of maritime exercises with like-minded regional/ASEAN partners and Singapore appreciates India's offer of its test ranges and infrastructure for the conduct of testing and evaluation of R&D projects.

With these significant dose of new agreements, the latest round of Defence Ministers Dialogue will help India-Singapore defence and strategic relations cross new milestones in promoting each others' strategic interests in the region and jointly play a significant

PHOTOGRAPH: PIB

role in ensuring peace, stability and maritime security in the Indo-Pacific maritime area. Deepening India-Singapore strategic partnership has therefore been a source of envy for China, who has been making aggressive moves to expand its territorial ambitions. Singapore has been a key pillar of India in promoting India-ASEAN relations and has been instrumental in promoting India's 'Look East' and now improvised 'Act East' policy. Singapore has been one of the most vocal admirer of India's role in promoting strategic relations with the ten member ASEAN bloc.

India-Singapore defence relations and cooperation have been deepening over the years and has thus been a source of strength to each others' strategic agenda. The agreement will enable India to access Singapore naval bases with refuelling and berthing facilities. Prominent among them would be the Changi naval base, which has the capacity to handle aircraft carriers. India thus would get the opportunity to deploy its aircraft carrier in the Malacca Strait and take advantage of its location in case of any large scale conflict situation. This will help advance significantly the operational reach of the Indian warships and fighters east of the Malacca Strait. Since this is a critical chokepoint of the major trade routes, China would be worried as this is a major energy supply route for them. In return India will provide the Singapore navy with drills and logistics facilities for the Singaporean warships in the Andaman Sea. Singapore already enjoys such facilities for its Air Force and Army at Indian bases since last one decade.

The Singaporean defence minister Dr Ng Eng Hen, commenting on this agreement, said that India has a leading role in the Indian Ocean region (IOR) and would encourage more Indian warships to come to its shores and help in further securing sea lanes of communication towards the Andaman Sea and the Strait of Malacca. Singapore also wants to expand and institutionalise maritime exercises with like-minded regional and ASEAN partners. Dr Hen said that we want to see more participation and activity in both the Strait of Malacca and the Andaman Sea. It was crucial to join forces against terrorism, chemical, biological and radiological threats. Indian Defence Minister Nirmala Sitharaman responded by saying that India and Singapore have decided to expand overall defence ties and were strongly committed to boosting cooperation in tackling transnational security threats, especially terrorism.

The low key visit of the Singapore defence minister to India produced such significant results that the regional players will be forced to take note of. The visit attracted media attention only when Dr Hen visited Kalaikunda, India's premier air base in the Eastern region facing China and flew the home-made Light Combat Aircraft the Tejas and described it as excellent aircraft. Singapore uses the Kalaikunda airbase for training of its air warriors. The Singapore Air Force transports its entire F-16 squadron and other planes to Kalaikunda for a month. Singapore being a City-State, the densely populated country has no open airspace for practice of its air warriors. Similarly Singapore Army also uses the Babina and Deolali army base for training its soldiers. Singapore sends its mechanised forces to Babina and Artillery units at Deolali. Now the land and air warrior training facilities in India will be extended to the maritime domain. India and Singapore has been taking part in the annual SIMBEX naval war games, which have evolved from an anti-submarine warfare exercises to complex level which involves multiple facets of operation at sea, including the air element.

The second India Singapore Defence Ministers Dialogue was conducted after both the countries signed the revised Defence Cooperation Agreement (DCA) in 2015 to further strengthen the long standing defence relationship between the Singapore Armed Forces and the Indian Armed Forces. According to the spokesperson of the Ministry of Defence, "Of particular significance during the meeting was the conclusion of the India Singapore bilateral agreement for navy cooperation which will lead to increased cooperation in maritime security, joint exercises, temporary deployment from each other's naval facilities and mutual logistics support."

The Singapore defence minister expressed his appreciation for India's continued support for the SAF's training in India, covered by the Air Force and Army Bilateral agreements. Both Ministers welcomed the renewal of the Air Force Bilateral Agreement on the sidelines of the 11th Singapore-India Defence Policy Dialogue in January this year, and looked forward to the successful renewal of the Army Bilateral Agreement next year.

Of particular relevance was the convergence on issues relating to maritime freedom of navigation and trade, consistent with international law. This is significant because China is sick of hearing this narrative from its maritime neighbours and rival countries.

Since the air forces and naval vessels of all the major regional players regularly criss-cross the maritime and air domain, the two defence ministers discussed the issues relating to accidental encounters and between naval ships and aircraft. In fact this was the proposal from the Singapore side to expand the code of unplanned encounters at Sea to all ADMM (ASEAN Defence Ministers' meeting)-plus countries. Both the countries discussed the need for establishing guidelines to reduce the chances of miscalculations. In view of the aggressive deployment by China of its military assets in the South China Sea, the code will attract the attention of all the major players in the Indo-Pacific region.

In fact this is the need of the hour. With the emerging rivalry in the Indo Pacific region between India and China, China and Japan, China and Vietnam and other ASEAN members, China and US, the code needs to be put on the formal agenda of the ADMM dialogue and immediately implemented to prevent any major clash.

Besides deepening cooperation between the armed forces of the two countries, both defence ministers commended the progress made since the India-Singapore Defence Technology Steering Committee was set up in October 2006 to launch joint research projects.

The Joint Statement issued after Nirmala-Hen talks, also referred to the significant progress made in defence industry cooperation, with the signing of the terms of reference for the Defence Industry Working Group (DIWG) in August this year. Both Ministers agreed that this would facilitate greater collaboration in aerospace, electronics and other areas of mutual interest between the defence industries of both countries.

With China in mind India has been engaged over the years with other ASEAN partners like Vietnam, Malaysia, Indonesia, Thailand, Myanmar and Singapore, to strengthen defence and security ties. With Singapore one can safely claim that India has the strongest defence relations among all the ASEAN partners and the latest round of India Singapore Defence Dialogue will take the defence cooperation to new strategic heights. **SP**

The writer is a Strategic Analyst.

With Singapore one can safely claim that India has the strongest defence relations among all the ASEAN partners and the latest round of India Singapore Defence Dialogue will take the defence cooperation to new strategic heights.



The five-day exercise DANX 2017 in progress

Look East to Act East

In accordance with India's 'Act East' policy, relations with Indonesia, Malaysia, Thailand, Singapore, Vietnam, and the Philippines have developed and strengthened significantly.

[By **Rear Admiral Sushil Ramsay (Retd)**]

The Andaman & Nicobar Islands perched at the junction of Bay of Bengal and the Andaman Sea has remained strategically important for the times immemorial for the empires, discoverers, occupying forces and the governments who ruled the Islands. From the maritime perspective the first outpost of the Indian Navy was established during mid-1960s. A small naval establishment under the charge of Naval Officer-in-Charge was set up as a reporting station. A few patrol crafts and seaward defence boats built by Garden Reach Shipyard were based. Complete supplies, including the fresh and dry rations, milk, etc. for the local population were transported from the mainland through Ferries doing rounds from Calcutta and Madras and managed by the A&N Administration. Flat bottom Landing Ship Tanks were running naval logistical trips from Visakhapatnam.

Towards the end 1960s Indian Navy began to gradually increase security measures, infrastructure, facilities, etc. Two Naval Garrisons of Company strength were established; one at Port Blair and the other at Kamorta Island in Car Nicobar. Naval personnel manned these Garrisons and wore Army uniform with naval ranks and were deployed to set up Camps on surveillance duties to various Islands. Slowly the Naval Garrisons were disbanded, and Army presence began to build gradually.

The fledgling Eastern Naval Command began to grow and the Eastern Fleet slowly built up its force levels of Amphibious Ships, Patrol Vessels. Under the overall directions of the Chiefs of Staff Committee, Tri-Services Amphibious Exercises (AMPHEX) began to be held at regular intervals and the Indian Navy assigned the task

to co-ordinate. For several years since its inception AMPHEX were viewed with strong suspicion by the South East Asian countries like Myanmar, Indonesia, Thailand, even Singapore. These countries saw the exercises as aggressive and expansionist design of their big neighbour, India. Mutual trust and relations started to grow when India instituted numerous confidence building measures under its 'Look East' policy first propounded by former Prime Minister P.V. Narsimha Rao. Since then suspicions have been replaced by regular maritime exchange programmes, visits, structured bi-lateral and multi-lateral exercises to mutual advantage. Bi-lateral exercises between India and Singapore with nomenclature of SIMBEX was instituted. Soon other South East Asian maritime forces came forward to form a multi-lateral exercises construct named MILAN to be held at Port Blair.

Indian Ocean Naval Symposium

Indian Ocean Naval Symposium (IONS) a unique initiative launched by the Indian Navy in 2008 has been a grand success and is continually growing in eminence as a formidable organisation with 23 'Member' nations and nine 'Observer' countries. IONS continue its active engagements within the charter. Bangladesh is its current 'Chair'. It is a matter of great significance that the regular Bilateral Exercise Co-ordinated Patrol (CORPAT) between India and Bangladesh was recently conducted as the first ever operational exercise designated as International Multilateral Maritime Search and Rescue Exercise (IMMSAREX) under IONS Charter. IMMSAREX was inaugurated by the Prime Minister of Bangladesh on November 27, 2017 in Cox Bazar. Indian Naval Ships Ranvir, Sahyadri, Gharial and Sukanya along with one Maritime Patrol Aircraft P-8I participated. In



addition, an 'Extraordinary Conclave of Chiefs' (ECoC) meeting was held on November 28, 2017 and was attended by the Chiefs of the Navy. The ECoC deliberated upon the activities undertaken by IONS and reviewed progress made by three IONS Working Groups (IWG) namely 'HADR', 'Maritime Security' and 'Information Exchange and Interoperability'.

Security of the Island Territories

While the security of the Islands both on the eastern and southern seaboard has always remained the focus of attention and the Indian Navy has assigned due priority to the infrastructure development, creation of support facilities, force levels and manpower development within its allocated budget and resources, it was the Post Kargil Review of the National Security System by the Group of Ministers which provided due impetus to the security of the India's Islands territories. Consequently, the Tri-Services A&N Command (ANC), which was set up in October 2001 as the country's only Theatre Command, with all manpower and assets of the Army, Navy and IAF placed under one operational commander.

With Chinese nuclear and conventional submarines regularly popping up in the Indian Ocean region (IOR), the Navy has now commenced regular reconnaissance missions by Poseidon-8I Long-range Maritime Reconnaissance and Anti-Submarine Warfare Patrol aircraft as well as unmanned aerial vehicles in the islands. The IAF too, occasionally deploys its frontline fighters like Su-30MKIs on surveillance missions in the Bay of Bengal. These surveillance measures are in addition to AMPHEX.

DANX 2017

Defence of Andaman and Nicobar Islands Exercise (DANX) 2017 was conducted under the aegis of ANC. The five-day exercise, which began on November 20, 2017, and concluded on November 24, 2017, comprised combat forces of fighters, special forces, naval ships and heavy-lift transport aircraft.

From the planning stage onwards, a crucial and vehemently stressed tri-services approach involving joint planning and integrated operations was adopted for synergistic application of forces. The main objective of DANX was to practice and validate procedures and concepts of all the Command forces to defend the strategically located A&N Islands. Combatant units; fighters, special

forces, infantry combat vehicles, regular troops, naval ships and heavy-lift transport aircraft participated in DANX-2017 to fine-tune the operational concepts and doctrines to evolve synergy among the Army, Navy and Air Force.

The highlights of the exercise were fighter operations, night Para-jumps at sea, slithering of troops from helicopters and amphibious landings of troops by ships. On conclusion of DANX, Vice Admiral Bimal Verma, Commander-in-Chief ANC complimented all four components for their synergistic planning and precise execution of the Command plans and urged all to focus on the take-away from the exercise for being fully prepared for any eventuality in the future.

Strategic Significance

Recently concluded DANX-2017 is being viewed as a potent counter to the increased Chinese footprints in IOR. China has participated actively in anti-piracy operations in IOR on the premise that the Indian Ocean is not India's Ocean. DANX is emerging as a potent forum to call bluff to the often-repeated rhetoric. With requisite force-levels and infrastructure, it will emerge as a powerful pivot to counter China's moves in IOR to wield greater influence, as well as to ensure security of sea lanes of communications converging towards the Malacca Strait.

The official Chinese media has alleged that Indian military exercises in the Indian Ocean targeting China were irresponsible and a violation of International Law. The exercise could be used to design a response to the regular appearance of 'Chinese nuclear and conventional submarines' in the Indian Ocean, the report said. Li Jie, a Beijing-based naval expert, told Global Times the military drill targeting China's Right of passage in international waters was irresponsible and narrow-minded, as China has never threatened India's security. "Chinese vessels including submarines entering the Indian Ocean are completely reasonable and lawful. China's future actions in the Indian Ocean will not be affected by India," Zhao Gancheng, director of South Asia Studies at the Shanghai Institute for International Studies, told the Global Times on November 26, 2017.

Conclusion

India for the past several years has worked hard to build mutual trust through several confidence building measures to build and strengthen several bilateral and multi-lateral constructs within the ASEAN region for improved defence ties. In accordance with India's 'Act East' policy, relations with Indonesia, Malaysia, Thailand, Singapore, Vietnam, and even the Philippines have developed and strengthened significantly. In addition to exchange programmes, port calls, visits, exercises, India also extends specialised submarine training to Indonesia and Vietnam to whom BrahMos supersonic cruise missiles and Akash area defence missile systems have been offered.

It has been reported that on Wednesday, November 29, 2017, India and Singapore have signed a naval pact to significantly crank up their maritime security co-operation with access to each other's bases, while reiterating the need for all to respect freedom of navigation and trade in international waters in the backdrop of China's aggressive and expansionist behaviour in the Asia Pacific region.

While signing the Pact, Dr Ng Eng Hen, Defence Minister of Singapore said, "We want to see more participation, co-operation and activity in both the Strait of Malacca and the Andaman Sea," adding that it was crucial to join forces against terrorism, chemical, biological and radiological threat. His Indian counterpart, Nirmala Sitharaman said the two countries had decided to expand overall defence ties and were "strongly committed" to boosting co-operation in tackling transnational security threats, especially terrorism. SP



LT GENERAL
P.C. KATOCH (RETD)

Ivanka Trump boosts Indo-US relations



Prime Minister Narendra Modi and the Advisor to the President of United States, Ivanka Trump at the Global Entrepreneurship Summit-2017 in Hyderabad

The 8th annual Global Entrepreneurship Summit (GES), jointly hosted by the US and India and attended by 1,500 entrepreneurs, investors and eco-system supporters from 159 countries was held in Hyderabad from November 28 to 30, 2017. The Summit highlighted the theme 'Women First, Prosperity for All'; focusing on supporting women entrepreneurs and fostering economic growth globally. Advisor to the US President, Ivanka Trump headed the US delegation.

During his visit to the US in June, Prime Minister Narendra Modi had requested Ivanka (daughter of President Donald Trump) to lead the US delegation for GES 2017, and so India laid on the red carpet for Ivanka. The agenda of the summit was exhaustive, as can be seen from the multiple sessions covering wide-ranging issues, which included: 'Be the Change: Women's Entrepreneurial Leadership'; 'We Can Do It! Innovations in Workforce Development and Skills Training'; 'Money Counts: Attracting Private Equity'; 'Future of Cin-

ema'; 'She Means Business: Mentoring and Networking'; 'Easy Entrepreneurship: Public Sector Perspective'; 'Innovations that Bridge the Digital Divide'; 'Under the Microscope: Investing in Healthcare Startups'; 'The Business of Winning at Sports Entrepreneurship'; 'AgriTech Matters: Feed Billions by Harvesting Technology'; 'Capital Success: Crowdfunding and Bootstrapping'; 'Meet George Jetson, Modernizing Mobility Infrastructure'; 'Easy Entrepreneurship: The Entrepreneurs' Perspective'; 'Water Everywhere: Managing a Scarce Resource'; 'Payment Platforms: What's the Next Game Changer?'; 'Retooling Learning and Schooling'; 'Grassroots Grows: Women in Emerging Markets'; 'Byte into a Better Future: FinTech Disruptors'; 'From the Drawing Board to the Boardroom: Creative Entrepreneurs'; 'Getting on the Grid: Building Your Customer Oriented Brand'; 'Easy Entrepreneurship: The Investor Perspective'; 'Go For It: Tapping Alternative Financing Solutions'; 'Better Health without Breaking the Bank: How Low-Cost Innovations are Revolutionizing

Healthcare'; 'The Missing Middle: Making the Leap'; 'Capital Success: Seed Funds to Venture Capital'; 'Beyond Returns: Investing in Emerging Markets'; 'Harvesting Change through Entrepreneurship: Tackling Global Agricultural Challenges'; 'The City that Never Sleeps: Cities of Tomorrow'; 'Diversifying Supply Chains: Linking Global Commerce and Women-Owned Businesses'; 'Innovation Hubs: Skilling the CEOs of the Future – Incubators'; 'From the Lab to the Market: Connecting Science to the Entrepreneurship World'; 'An Audience of Billions: How to Break into Big Emerging Markets'; 'Knowing the Future: How Artificial Intelligence will Shape Tomorrow'; 'Own Your Message: Effectively Using Traditional and Social Media'; 'Reimagining the Future of Health'; 'Pitch to the Rich: Key Messages to Deliver to Investors'; 'How to Fail Better'; 'The Reality of the Future: How Technologies are Shaping Experiences'; 'E-Commerce as a Critical Tool in Scaling Entrepreneurship'; 'Developing the Entrepreneurial Ecosystem'; 'Success! Keeping and Nurturing Women in STEM'; 'The Language of Entrepreneurship'; 'The "Enterprise" of Space: Advances In and Applications of Space Technology Are Driving Economic Growth Around the World'; 'The Missing Middle: Increasing Your Presence'; and, 'When Women Win, We All Win: Promoting Inclusive Environments for Women Entrepreneurs'.

Ivanka's keynote address was centred on: closing gender entrepreneurship gap could make global GDP grow by up to 2 per cent; praising Prime Minister Modi for building India as a thriving economy – "What you are achieving is truly extraordinary... from your childhood selling tea to election as India's Prime Minister"; through own enterprise, entrepreneurship and hard work, the people of India have lifted more than 130 million citizens out of poverty – a remarkable improvement that will continue to grow under the leadership of Prime Minister Modi; India is one of the fastest growing economies in the world and has a true friend in the White House; despite soaring rate of female entrepreneurs, women still face steep obstacles to starting, owning, and growing their businesses - fuelling growth of women-led businesses is good for economy; if India closes labor-force gender gap by half, Indian economy could grow by over \$150 billion in next three years; lauded women in majority of 1,500 entrepreneurs attending GES 2017; need to ensure women entrepreneurs have access to capital, networks, mentors and equitable laws; highlighted what the US is doing to reverse the trend of leadership in entrepreneurship. Addressing the summit, Prime Minister Modi focused on: GES 2017 brings together leading investors, entrepreneurs, academicians, think-tanks, other stakeholders to propel the global entrepreneurship ecosystem, connecting not only Silicon Valley with Hyderabad but also show-cases US-India close ties underlining shared commitment for encouraging entrepreneurship and innovation; topics chosen for the summit are relevant to the well-being and prosperity of mankind; in Indian mythology, woman is an incarnation of Shakti – the Goddess of power – we believe women empowerment is vital to development; Indian history has references to women of remarkable talent and determination and Indian women continue to lead in different walks of life including space programs, judiciary, sports, rural and urban local bodies (one-third reservations), agriculture and allied sectors (more than 60 per cent) and milk cooperatives; highlighted how India has been an incubator for innovations and entrepreneurship over the ages, present day advances and programs like Start-Up India, entrepreneur friends from India are vehicles of

change and instruments of India's transformation; invited foreign entrepreneur friends – Come, Make in India, Invest in India – for India, and for the world.

Being Advisor to President Trump, Ivanka leading the US delegation had special meaning because Modi's call for foreign entrepreneurs to 'Make in India' and for the world clashes with Trump's 'Make America Great Again' call. Ivanka should be able to handle the contradiction adroitly, ensuring the collaboration optimizes growth of both countries together.

Trump recognizes global supply chains as the most efficient way of doing business, aiding prosperity in all countries through which they flow, but his protectionist approach towards trade and services should not break bilateral momentum of growing Indo-US ties. Already US majors like Boeing, Lockheed Martin and others are looking at major tie ups with India. But the requirement is for holistic collaborative entrepreneurship and innovation for wholesome growth to benefit mankind in all walks of life.

An overtly aggressive China also mandates collaboration for advances innovations in space, cyber, artificial intelligence, quantum communications and the like. Though these are dual use technologies, China has optimized their use through foreign collaboration over the ears despite sanctions. In terms of theme of GES 2017, India needs to focus on jobs and closing the 'increasing gender gap'; having fallen by 21 spots to 108th position in World Economic Forum's 2017 Gender Parity Index (from 87th position in 2016). Bangladesh holds the 47th position in 2017. Next, Chinese regional hegemony being of growing concern, especially with insufficient condition for a free and rules-based security architecture in the Indo-Pacific, requires deeper Indo-US strategic convergence, common values, and deepening friendship, which must advance beyond rhetoric. In this context, the Indo-US Defence Technology and Trade Initiative (DTTI) must move rapidly integrating the private sector comprehensively. Participation of industry partners from both countries in the DTTI dialogue needs to be seriously looked at. This would help identify capabilities required with timelines corresponding with India's strategic partnership acquisitions. The joint Indo-US pledge taken recently at Manila "to enhance cooperation as Major Defense Partners, resolving that two of the world's great democracies should also have the world's greatest militaries" must be catapulted to reality through the DTTI. In terms of 'ease of business,' India may have gained a few spots, but much more is required to done including cutting out the red tape.

Finally, is the biggest concern about terrorism emanation from Pakistan, exemplified by the recent abject surrender by the Pakistani military and the administration to the Islamists, setting free Hafiz Saeed – perpetrator of the 26/11 Mumbai terror attack and propelling him onto the political high ground in Pakistan. US may have placed a prize of \$10 million for information linking Hafiz Saeed with the Mumbai terror attacks, but aren't the testimonials of David Headley (Pakistani national in US custody) proof enough? Sure US has increased presence in Afghanistan, but somehow the impression stays that a constituency in Capital Hill continues to favour mollicoddling Pakistan at the cost of India. This is a sore point that the Trump administration needs to address. SP

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

Trump recognizes global supply chains as the most efficient way of doing business, aiding prosperity in all countries through which they flow, but his protectionist approach towards trade and services should not break bilateral momentum of growing Indo-US ties

Chief of The Naval Staff Admiral Sunil Lanba, visits Bangladesh

Admiral Sunil Lanba, PVSM, AVSM, ADC, Chief of the Naval Staff, Indian Navy visited Bangladesh on an invitation of Bangladesh for participation in International Multilateral Maritime Search and Rescue Exercise (IMMSAREX) held at Bangladesh from November 26 to 28, 2017 under the aegis of Indian Ocean Naval Symposium (IONS).

IONS, an initiative which was started by Indian Navy in 2008, has grown into a formidable organisation with 23 'Member' nations and 'Nine' observer countries. Continuing with the active engagement within IONS, Bangladesh, the current 'Chair' of IONS is conducting the first ever operational exercise called 'IMMSAREX', under the IONS Charter. The exercise was inaugurated by Prime Minister of Bangladesh on November 27, 2017, in Cox Bazar, Bangladesh. Indian Naval Ships Ranvir, Sahyadri, Gharial and Sukanya along with one Maritime Patrol Aircraft P-8I participating in the exercise. In-addition to the conduct of the exercise, an 'Extraordinary Conclave of Chiefs (ECoC)' meeting of IONS also was scheduled on November 28, 2017, at Cox Bazar, which was attended by the Chiefs of the Navy. The ECoC deliberated upon activities being undertaken by IONS in-addition to reviewing the progress made by three IONS Working Group (IWG) namely 'HADR', 'Maritime Security' & 'Information Exchange and Interoperability'.

The visit also aimed at consolidating bilateral naval relations between India and Bangladesh and to explore new avenues for naval cooperation. Admiral Sunil Lanba also held bilateral discussions with Chief of the Naval Staff, Bangladesh Navy and other participating 'Chiefs of Navy/ Head of Maritime Agencies'.



Indian Navy regularly interacts with Bangladesh Navy through the medium of 'Staff Talks' and other interactions, which include operational interactions including Port Visits, Passage Exercises, Training, Shipbuilding Cooperation besides regular participation by Indian Navy serving and retired officers in Victory Day Celebrations, held in Bangladesh to commemorate 'Liberation War' of 1971.

The CNS during his visit to Bangladesh gifted 'War Memorabilia' for 'Liberation War Museum' of Bangladesh. **SP**

Rear Admiral Sanjay Roye is the new FOGNA

Rear Admiral Sanjay Roye took over the reins of the Gujarat, Daman and Diu Naval Area from Rear Admiral Sandeep Beecha, as its third Flag Officer Commanding, at a ceremonial parade held at Headquarters, Gujarat, Daman and Diu Naval Area on Nov 27, 2017.

The state of Gujarat, view its strategic location and vast coastline of 1600 kms, plays a very significant role in the security and economic dynamics of our nation. FOGNA is responsible to the Flag Officer Commanding-in-Chief, Western Naval Command for all naval operations in Gujarat Daman and Diu Naval Area, security of its coast and Offshore Development Areas which contribute significantly to the commercial and maritime economic activities of our nation.

Rear Admiral Sanjay Roye joined National Defence Academy in the year 1983 and was commissioned in the Indian Navy in the year 1986. He is a recipient of the coveted 'Binoculars' and 'CNS Gold Medal' for being adjudged the 'Best All-round Cadet' and 'First in Order of Merit' during cadet's and midshipman training respectively. The officer belongs to the Submarine Arm of the Indian Navy and is a



Navigation and Direction Specialist. The officer has held a number of staff appointments onboard submarines and has commanded Indian Naval Submarines Sindhurakshak, Sindhuraj and Chakra. The officer has also held a number of key ashore appointments, including Commodore Commanding Submarines (West) and Commanding Officer, INS Vajrabahu, during his glorious career in the Indian Navy. Prior to the present appointment as the Flag Officer Commanding, Gujarat Daman and Diu Naval Area, the Flag Officer held the appointment of Project Director (Operations & Training) at Headquarters, Advance Technology Vessel Project at New Delhi. **SP**

Joint Special Forces Training Camp at Andaman and Nicobar Islands

The Joint Special Forces Training Camp was conducted from November 4 to 22, 2017, at the Andaman and Nicobar Islands involving 60 Special Forces personnel from the three Services. The supporting assets included C-17, C-130 AN-32 and Dornier aircraft, Sea King and MI-17 V5 helicopters and amphibious ships. The final tactical exercise was dovetailed into DANX exercise of the three Services, which was also conducted the same time period.

Various Special Operations training events were carried out during the exercise including Special Heliborne Operations, reflex firing drills, survival training and anti-terrorist operations. The highlight of the exercise was the airborne insertion of Marine Commandoes at sea in tandem with Combat Expendable Platform drops with inflatable Gemini craft from C-130 aircraft at night along with Combat Free Fall and Special Heli-borne Operations by the Special Forces personnel. **SP**

Navika Sagar Parikrama - Tarini enters Lyttelton

INSV Tarini entered Lyttelton port (New Zealand) on November 29 during its maiden voyage to circumnavigate the globe. This is the first-ever Indian circumnavigation of the globe by an all-women crew. The vessel is skippered by Lieutenant Commander Vartika Joshi, and the crew comprises Lieutenant Commanders Pratibha Jamwal, P. Swathi, and Lieutenants S. Vijaya Devi, B. Aishwarya and Payal Gupta.

Defence Minister Nirmala Sitharaman had flagged-off INSV Tarini from Goa on September 10, 2017. The vessel has covered 7,800 nautical miles from Goa, crossing the Equator on September 25, 2017, and Cape Leeuwin on November 9, 2017.

The indigenously-built INSV Tarini is a 56-foot sailing vessel, which was inducted in the Indian Navy earlier this year, and showcases the 'Make in India' initiative on the International forum.

The expedition titled 'Navika Sagar Parikrama', is in consonance with the National policy to empower women to attain their full potential. It also aims to showcase 'Nari Shakti' on the world platform and help revolutionise societal attitudes and mindset towards women in India by raising visibility of their participation in challenging environs.

The vessel would return to Goa in April 2018, on completion of the voyage. The expedition is being covered in five legs, with stopovers at four ports: Fremantle (Australia), Lyttelton (New Zealand), Port Stanley (Falklands), and Cape Town (South Africa). Presently, the vessel has covered two of the five legs of the voyage, with the first port halt at Fremantle (Australia) in October.

The crew has also been collating and updating meteorological,



ocean and wave data on a regular basis for accurate weather forecast by India Meteorological Department (IMD), as also monitoring marine pollution on the high seas. They would interact extensively with the local populace, especially children, during the port halt to promote Ocean sailing and the spirit of adventure.

INSV Tarini is likely to depart Lyttelton, New Zealand, on December 12, 2017. **SP**

Rear Admiral Sandeep Beecha takes over charge as the Commandant, Naval War College

Rear Admiral Sandeep Beecha took over the reins of the Naval War College from Rear Admiral Monty Khan as its third Commandant, at a ceremonial parade held at INS Mandovi, Goa on November 29, 2017.

Rear Admiral Sandeep Beecha is an alumnus of Naval Academy and was commissioned in the Indian Navy on July 21, 1986. He is a Navigation and Direction Specialist. He has commanded CGS C-05, INS Ajay, INS Vindhyagiri, INS Rajput and he has earlier served at Goa as Commanding Officer of INS Mandovi. His staff appointments include Joint Director Staff Requirements, Naval Assistant to the Vice Chief of the Naval Staff and Principal Director Foreign Cooperation, all at Naval Headquarters, New Delhi.

The officer has undergone the Principal Warfare Officers (PWO Basic) Course at HMS Dryad (UK), the Staff Course at the Defence Services Staff College, Wellington and the Naval Higher Command Course at Mumbai. He is a post graduate in Defence Studies and holds the degree of MSc in Strategic Studies. **SP**



S.K. Chourasia appointed as DGO and Chairman of OFB

Sunil Kumar Chourasia, IOFS, has been appointed as the new Director General of Ordnance Factories (DGO) and Chairman of the Ordnance Factory Board (OFB) w.e.f. December 1, 2017. Previously, he was Member, OFB and was in charge of Material & Components division.

Graduating in Mechanical Engineering from Jabalpur and thereafter earning an M.Tech from IIT Kanpur, Chourasia joined Indian Ordnance Factories Service in 1981.

He was deputed by the Government of India to United Kingdom for an MBA. Further, Chourasia was in the Indian Institute of Public Administration, New Delhi during in-service training and was awarded an M.Phil.

During his tenure in the Ordnance Factories' organisation, he gathered rich and varied experience in Production & Operations management, weapon and ammunition manufacturing. He has travelled widely across the globe in his official capacity.

Chourasia urges OFB to be competitive and galvanize every possible resource to stand tall as the complete combat solution provider for the nation. **SP**





LT GENERAL
P.C. KATOCH (RETD)

Republic Day Parade 2018 will be special

That Republic Day Parade 2018 will be special is probably an understatement. Never have 10 heads of states been invited to this event, which India has done this time by inviting heads of all the 10 ASEAN states. Whether all will attend, which logically should happen, is not known yet. But China's continuing efforts to draw as many countries into its geopolitical sphere of influence and deliberate efforts to keep India confined to South Asia may deter some ASEAN country heads to attend the event, or send junior representatives at some pretext.

China has successfully diluted the ASEAN cohesion through its money power, buying out some member countries, to the extent that ASEAN is unable to even issue a declaration denouncing Chinese arbitrary aggressive actions and militarization actions in Western Pacific. Cultural tableaux from the participating ASEAN countries are likely to be showcased in the parade on January 26, 2018. It would have been good if military contingents from ASEAN member countries also participated in the parade, akin to participation by the military contingents of France (2016) and UAE (2017), but perhaps this have not been planned in consideration of the time limit of the parade. In November 2017, Philippines hosted the ASEAN-India and East Asia summits, as well as special celebrations marking the 50th anniversary of ASEAN, the Regional Comprehensive Economic Partnership (RCEP) leaders meeting and the ASEAN Business and Investment Summit. Attending these events, Prime Minister Narendra Modi stressed on India's commitment to deepening ties with the ASEAN member states and the wider Indo-Pacific region as part of India's Act East Policy (ACP).

The special significance of inviting heads of states of ASEAN-member countries for Republic Day 2018 is that it coincides with India celebrating dialogue partnership with ASEAN and 15 years of summit level partnership. India and ASEAN-member states put together amount to a population of some 1.8 billion humanity, and more significantly consist one of the largest economic regions. ASEAN is India's fourth largest trading partner, accounting for 10.2% of India's total trade. Conversely, India is ASEAN's seventh largest trading partner. ASEAN is not focused on military integration, but is a regional grouping focused on integrating trade and economy.

Therefore, India inviting head of states of the ASEAN-member countries has no military orientation; but to do with trade, commerce, connectivity and the emerging ASEAN Free Trade Agreement (FTA). The manufacturing-based economies of ASEAN countries and India's service-oriented economy can complement each other increas-

ingly, which together would continue contribute towards regional security in face of mounting security challenges. Unfortunately, China views any groupings where India is involved with suspicion.

The recent preliminary quadrilateral dialogue between India-US-Japan-Australia, dubbed the 'Quad', albeit only a dialogue has been questioned by the China Morning Post, asking whether the Quad is the beginning of an 'Asian NATO'. No press being free in China, this obviously is the thinking of the Communist Party of China. China has also always been suspicious of the Malabar series of exercises hosted by India; as being aimed at China.

Why India has invited heads of ASEAN countries as guests for Republic Day 2018 is because India and ASEAN have mutual interests and share common concerns. Speaking at the 4th ASEAN Defence Ministers Meet at Philippines on October 24, Defence Minister Nirmala Sitharaman had said, "India's relationship with the ASEAN is a central pillar of our Act East Policy. As Prime Minister Narendra Modi has noted, this is at the core of our dream of an Asian Century".

At the same time the India-ASEAN relationship assumes greater significance because of China's One Belt One Road (OBOR) and the Maritime Silk Route (MSR), both to push China's strategic-military-economic agenda, even as the so-called MSR is adjunct to existing international sea trade routes. China's increasing belligerence towards international norms and conventions can be gauged from their announcement to even establish two "international courts of justice" of their own to resolve disputes in Western Pacific - which is cocking a snoot at the United Nations and the Hague-based International

Court of Arbitration. This, coupled with Chinese double standards whether in terms of terrorism or economically whetting third world countries, and predominance in global trade, requires stronger regional groupings for not only trade, commerce and connectivity, but also maintaining the regional security balance, however indirect. Countries in the region need to integrate. The bilateral agreement between India and Singapore allowing Indian Navy ships logistical support including refuelling, at Singapore's Changi naval base is a step in this direction.

Post the US dumping the Trans-Pacific Partnership (TPP), its resurrection is being looked at without the US. The India-ASEAN partnership, therefore, gains more significance, with the Indo-Pacific region having become central to global politics and economics, being reinforced further every day. The Republic Day Parade 2018 would indeed be very special, viewed globally with much interest. **SP**

The special significance of inviting heads of states of ASEAN-member countries for Republic Day 2018 is that it coincides with India celebrating dialogue partnership with ASEAN and 15 years of summit level partnership



GENE
CUNNINGHAM

F/A-18 Super Hornet: Endless possibilities for the future

Boeing is not just offering unmatched products to the Indian armed forces but also significant benefits to India's indigenous aerospace manufacturing sector by bringing in their global scale and supply chain, its best-in-industry precision manufacturing processes, as well as the company's unrivaled experience designing and optimizing aerospace production facilities to bear in both expanding India's aerospace ecosystem and in serving as a bridge to the Advanced Medium Combat Aircraft (AMCA).



Boeing F/A-18 Super Hornet

F/A-18 Super Hornet a Combat Proven Fighter

The importance of carrier aviation cannot be understated – in particular to a country like India with a large coastline covering more than half its borders. The Indian Air Force is focused on protecting the north, and with coastlines covering much of India's east – south – and west, the need for a strong carrier air wing is clear.

With multi-role capabilities, advanced technologies with room to grow and low acquisition and sustainment costs, the F/A-18 Super Hornet is the clear choice for India. With designed-in stealth,

an AESA radar and many other advanced technologies that are ideal for mission requirements of the naval aviator, the F/A-18 Super Hornet is the most advanced aircraft of its kind in operation today and will provide operational benefits to the existing and future force structure of the Indian armed forces.

Boeing's Super Hornet offers the best of those attributes – it is combat proven, but defined to meet the US Navy's flight plan so that it continues to evolve to outpace future threats. The Super Hornet will be on the Navy's carrier decks well into the 2040s – being three-

fourths of the Navy's strike fighter capacity into the 2030's and no less than half the carriers striking force into the 2040's.

On May 23rd, the President of the United States sent his 2018 fiscal year budget to Congress, and included in that budget was a requirement for 80 Super Hornets over the next five years to address its strike fighter shortfall. Also in that budget request was funding for Block 3 capabilities to ensure the air wing has the capabilities needed to win in the 2020s and beyond.

The next generation of Super Hornet aircraft comes into the US Navy and potentially international customers to fulfill its role as the next-gen airplane in a complementary way with the F-35. Those two airplanes are going to work together on the carrier decks for the US Navy for decades to come.

Introduced in 2007, the F/A-18 Super Hornet Block II is the world's preeminent carrier capable aircraft and best suited for India's naval fighter requirements. The F/A-18 Super Hornet was designed from day one for carrier operations and is the world's preeminent carrier capable aircraft. It is a combat proven, supersonic, all weather multirole fighter jet with a defined US Navy flight plan to outpace threats for decades to come. Every Super Hornet to the US Navy has been delivered on cost and on schedule.

Every Super Hornet has a buddy refuelling capability that can extend time on station, range, and endurance. Additionally, the Super Hornet can provide close and deep air support through the Active Electronically Scanned Array (AESA) radar targeting data and reliable data links.

The Super Hornets are fully compatible with the Indian Navy's aircraft carriers. Extensive simulation has shown that the Super Hornet is capable of conducting STOBAR operations with a meaningful weapons and fuel load.

Ease of Maintenance

The F/A-18 Super Hornet not only has a low acquisition cost, but it costs less per flight hour to operate than any other tactical aircraft in US forces inventory. Part of its affordability is because the Super Hornet is designed to need far less maintenance; this translates into high mission availability. Ease of maintenance (supportability) results in lower maintenance man-hours per flight hour.

Plus, the Super Hornet does not require any scheduled depot-level maintenance and the engine does not require any scheduled maintenance between overhauls.

This low cost of operation, low maintenance requirements and twin-engine based survivability allow the Super Hornet to fly to and back from harsh environments.

Prepared for future threats: F/A-18 Advanced Super Hornet Capabilities

The Super Hornet is a platform that is continuously evolving to outpace future threats. Every two years Boeing and its industry partners along with the US Navy work on delivering new capabilities to the fighter. Critical mission systems such as the radar, mission computers and sensors continue to evolve to match up to the mission profiles of the future.

To address the capabilities needed in the air wing as early as the 2020s, Boeing has also developed the Block III Super Hornet to complement existing and future air wing capabilities. Block III is the same aircraft as Advanced Super Hornet. The Advanced F/A-18E/F Super Hornet's multi-mission capabilities include battle-space situational awareness, counter-stealth targeting,

greater range and increased acceleration, improved survivability and reduced signature and room for growth.

The Block III Super Hornet will come online at the same time as the F-35. In the 2020s, three Super Hornet squadrons and one F-35 squadron may form the airwing of carrier fleets. Currently, in the US Navy three out of four, and in most cases all four squadrons based off aircraft carriers, are Super Hornet squadrons.

These advanced capabilities can be both built into new aircraft and incorporated into existing aircraft, allowing maximum ability to field these capabilities quickly and affordably. Block III Super Hornet is built from the same airframe as Block II, providing low risk development and maintaining the lowest operating costs of any US tactical fighter. While Boeing demonstrated advanced Super Hornet capabilities in flight in 2013, the package of upgrades has evolved to best complement F-35, EA-18G and E-2D as they will be operating together in the air wing well into the 2040s.

Key features of Block III Super Hornet include enhanced network capability, longer range with low-drag, stealthy conformal fuel tanks, long-range detection with Infrared Search & Track, enhanced situational awareness with a new Advanced Cockpit System, improved signature with low observable next generation radar cross section for increased survivability and 9,000+ hour life for reduced life cycle costs by incorporating design changes into production aircraft based on lessons learned from the Service Life Analysis Program.

A significant design evolution is the addition of Conformal Fuel Tanks. Mounted on the shoulder of the Block III, conformal fuel tanks extend the range of the Block III by 100 nautical miles which is significantly larger range when compared to the Block II. Conformal Fuel Tanks also free up the space occupied by a centerline drop-tank. This means that the Air Force and the Navy have an additional hard-point to carry more air-to-air or air-to-ground weapons.

Modern and next-generation aircraft have a large amount of data available through their sensors. The Super Hornet Block III comes equipped with Distributing Targeting Processor Network (DTP-N) and Tactical Targeting Network Technology (TTNT). These are basically a computer and a big data platform that work together to aid in even more efficient movement and management of data within assets.

The Advanced Cockpit System is a next-generation use interface, which simplifies the interpretation and projection of a large quantity of information for the aircrew – both in the front and rear cockpit – making it easy to interface and manage an information network.

The Block IIIs sensors along with the APG-79 AESA Radar coupled to DTP-N and TTNT systems plots information on the Advances Cockpit System making it easy for aircrews to view and manage information.

Even though the Super Hornet Block II is a stealth aircraft, Boeing has made a few signature improvements to reduce the Radar Cross Section (RCS) of the Block III to make it even stealthier.

Introduced in 2007, the F/A-18 Super Hornet Block II is the world's preeminent carrier capable aircraft and best suited for India's naval fighter requirements

F/A-18 Super Hornet Make in India

Boeing has had a presence in India for more than seven decades and is committed to expanding that partnership by producing Super Hornets in India, further developing India's aerospace ecosystem. Boeing's proposed 'Make in India' plans for the Super Hornet are not about moving a production line but rather building an entirely new and state-of-the-art production facility that can be utilized for other programs like India's Advanced Medium Combat Aircraft (AMCA) programme.



Boeing is prepared to bring its global scale and supply chain, its best-in-industry precision manufacturing processes, as well as the company's unrivaled experience designing and optimizing aerospace production facilities to bear in both expanding India's aerospace ecosystem and helping realize the 'Make in India' vision. The approach addresses the infrastructure, personnel training, and operational tools and techniques required to produce a next-gen fighter aircraft right here in India.

Boeing will work closely with India industry to ensure they have the very latest technologies, applying lessons learned from the current Super Hornet production line. The programme envisages transitioning airframe and subsystem manufacture to Indian industry in a deliberate way, representing extraordinary opportunity for technology insertion and growth within India's aerospace industry.

Boeing will partner with Indian industry to develop the right capabilities as efficiently and cost effectively as possible to integrate these suppliers into the global supply chain. Boeing and its current industry partners are having robust discussions with suppliers in India about building Super Hornets. Currently over 60,000 people from 800 suppliers across 44 states are part of the supply chain supporting the Super Hornet. This includes suppliers who manufacture parts for the Super Hornet in India.

With advanced technologies and multi-role capabilities, the Super Hornet is perfectly suited to meet the needs of the Indian Navy and Indian Air Force now and in the future.

F/A-18 for the Indian Air Force

It is our understanding that the Indian Air Force (IAF) will have a need for additional twin engine aircraft as the IAF retires its Jaguars, MIG and Mirage aircraft. We are having ongoing discussions with the IAF, Indian Navy and MoD on the best way for India to meet its fighter needs while building an indigenous industrial base.

Make in India

Our F/A-18 Super Hornet 'Make in India' proposition is a fine example of what the future could look like. The F/A-18 Super Hornet will provide unmatched benefits to not only the Indian armed forces but also to India's indigenous aerospace manufacturing sector. We

are prepared to bring our global scale and supply chain, its best-in-industry precision manufacturing processes, as well as the company's unrivaled experience designing and optimizing aerospace production facilities to bear in both expanding India's aerospace ecosystem and in serving as a bridge to the Advanced Medium Combat Aircraft (AMCA). The depth of the transfer will really help advance India's aerospace ecosystem.

Boeing is making the investments required to do this and is delivering on its 'Make in India' promise. Boeing has quadrupled its manufacturing and sourcing activities in the country and will surpass a billion dollars this year with 160 suppliers. We have been working with these suppliers and partners in manufacturing, IT and engineering services to provide parts and assemblies covering aerostructures, wire harness, composites, forgings, avionics mission systems, ground support equipment and training. Through Boeing's efforts, the supplier base is delivering on complex work packages for commercial and defense aircraft such as the 777, 787, P-8, F/A-18 Super Hornet, F-15, AH-64 Apache and CH-47 Chinook.

Our Indian suppliers are already manufacturing critical components and assemblies for the AH-64 Apache and CH-47 Chinook. Our joint venture with Tata Advanced Systems is manufacturing AH-64 Apache helicopter fuselages, secondary structures and vertical spar box in the initial phase and then will focus on co-development of systems in the future. Dynamatic Technologies is manufacturing the ramp and pylon aerostructures for the CH-47 Chinook helicopter. Tata Advanced Systems is manufacturing crown and tailcone assemblies for the Indian configuration of the CH-47F Chinook helicopter. These work orders were established before we even won Indian orders.

Our joint venture, TBAL, is already producing fuselages, secondary structures and vertical spar boxes for the AH-64 Apache, including those for the Indian Army contract when we receive one. In June this year, Dynamatic Technologies is making the CH-47 Chinook's ramp and pylon in India.

This milestones are significant steps in our journey to increase defense capability and manufacturing capacity out of India. SP

The writer is Vice President, Global Sales, Boeing Defense, Space & Security.

Brahmos flight test from IAF's Su-30MKI fighter aircraft

BrahMos, the world's fastest supersonic cruise missile created history on November 22, 2017, after it was successfully flight-tested first time from the Indian Air Force's (IAF) frontline fighter aircraft Sukhoi-30MKI against a sea based target in the Bay of Bengal. The missile was gravity dropped from the Su-30 from fuselage, and the two stage missile's engine fired up and straightway propelled towards the intended target at the sea in Bay of Bengal.

The successful maiden test firing of BrahMos Air Launched Cruise Missile (ALCM) from Su-30MKI will significantly bolster the IAF's air combat operations capability from stand-off ranges. BrahMos ALCM weighing 2.5 tonne is the heaviest weapon to be deployed on India's Su-30 fighter aircraft modified by the Hindustan Aeronautics Limited to carry weapons. BrahMos, the world-class weapon with multi-platform, multi-mission role is now capable of being launched from land, sea and air, completing the tactical cruise missile triad for India. BrahMos is a joint venture between Defence Research and Development Organisation (DRDO) of India and NPOM of Russia.

Defence Minister Nirmala Sitharaman congratulated DRDO and BrahMos for the outstanding accomplishment.

Dr S. Christopher, Chairman DRDO & Secretary, Department



of Defence R&D congratulated the Scientists and Engineers for this excellent textbook kind of flight test.

The missile test was witnessed by Dr Sudhir Mishra, DG (BrahMos) & CEO & MD, BrahMos Aerospace along with senior Indian Air Force officials, Scientists and Officials from DRDO and BrahMos. **SP**

IAF achieves milestone in AAR on transport aircraft



An Indian Air Force (IAF) Embraer transport aircraft specialised to conduct Airborne Early Warning and Control (AEW&C) function, successfully carried out air-to-air refuelling (AAR), to fly a long duration flight beyond the aircraft's stated endurance. It is also the first time that AAR has been carried out on the Embraer platform.

The 'Probe and Drogue' air-to-air refuelling methodology practiced by IAF pilots requires exceptional flying skills as the receiving aircraft has to accurately insert the receptacle probe into the basket shaped drogue trailing behind the fuel tanker aircraft. During the process of air-to-air refuelling both aircraft have to

maintain extremely accurate flying parameters. IAF is one of the few Air Forces in the world to demonstrate this capability and the Embraer AEW&C has also proved its prowess in the category. A mere 10 minute in-flight refuelling can generate additional four hours of flying endurance. The achievement has given a tremendous boost to IAF's operational capability. **SP**



Second NH90 Sea Lion prototype completes maiden flight

The second prototype of the NH90 Sea Lion commissioned by the Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (Bundesamt für Ausrüstung, Informationstechnik und Nutzung der Bundeswehr) lifted off from the Donau-

wörth site for its maiden flight on November 24, 2017.

Airbus Helicopters is now entering a development testing phase of several months that will focus on avionics and software. Activities for the qualification of the delivery configuration will start over the course of 2018 once additional modifications have been made to the prototype.

Despite the very demanding timetable, the company is convinced that deliveries to the German Navy will start at the end of 2019. Final assembly of the first Sea Lion series-production aircraft also started recently; this will run in parallel to the qualification. **SP**

12th A400M Atlas delivered to French Air Force

The French Directorate General of Armament (DGA) on November 22, 2017, took delivery of the twelfth A400M Atlas military transport aircraft for the French Air Force. The aircraft carries the serial number MSN62.

Beyond the tactical and logistical capabilities of its predecessors, this aircraft is the first to be equipped with two pods for refuelling aircraft in flight. Other aircraft in the fleet will be progressively equipped with this capability. The MSN 62 will fly to its home base at Orléans-Bricy airbase in the coming days. **SP**

Rafale International looking for SMEs to set up industrial aeronautical sector in India

On Friday November 24, Dassault Aviation, Safran and Thales, which together make up Rafale International, were invited by the Centre Val de Loire Regional Council and Aerocentre to the aeronautical forum being held in Tours, to present its creation of an industrial aeronautical sector in India, as part of the 'Make in India' offsets programme for the Rafale India contract.

To an audience of more than fifty French SMEs attending this Business to Business event, the Rafale International partners presented their contribution to the 'Make in India' policy as part of the Rafale Offset programme and presented the potential opportunities for French SMEs to also invest and set up production activities in India.

By reinforcing Franco-Indian cooperation regarding SMEs in the Defense aeronautical sector and by encouraging and supporting French SMEs coming to India as part of the offsets programme for the Rafale Contract signed in September 2016, this initiative will help set up an industrial ecosystem that will be of benefit to both French and Indian partners under Prime Minister Modi's 'Make in India' initiative...

The contacts made and the discussions held during this event defined a roadmap for the French SMEs, to help them join the Dassault Aviation, Safran and Thales global supply chain, thus opening the door to them for new international market opportunities.

Dassault Aviation aircraft have been an integral part of Indian defense forces for over six decades. The first Dassault Aviation aircraft, Toofani was supplied to India in 1953, followed by the Mystere IV, the naval Alize, the Jaguar (manufactured under license by the Hindustan Aeronautical Limited), and the Mirage 2000. These aircraft have contributed to Indian sovereignty all along and the Mirage 2000 fighter aircraft continues to be the Indian Air Force's 'cutting edge' till date. 36 Rafales fighter aircraft has been acquired on 23 September 2016 to equip the Indian Air Force.

Rafale International is a Joint-venture (G.I.E Groupement d'Intérêt Economique) set up by Dassault Aviation, Safran Group and Thales to promote the Rafale fighter aircraft to international customers. The three partners are major international leaders in the aerospace and defense fields with more than 1,35,000 employees and a turnover of 28 billion Euros. **SP**

Godrej Aerospace to manufacture airframe assemblies for air-launched BrahMos

Godrej Aerospace, a unit of Godrej & Boyce, has received order to manufacture 100 sets of airframes for air-launched version of the BrahMos supersonic cruise missile system, said the company in a statement.

On December 5, in an event marked to celebrate the handing over of the "100th set of airframe assemblies to BrahMos Aerospace Pvt. Ltd. (BAPL) for use in its missile systems," Dr Sudhir Mishra, distinguished scientist and Director General (BrahMos), CEO and MD BrahMos Aerospace visited Godrej Aerospace and was handed the completion documents of the 100th BrahMos airframe by Jamshyd N. Godrej, Chairman and Managing Director, Godrej & Boyce.

On this occasion Dr Mishra also congratulated Godrej Aerospace for winning the order for 100 units of airframes for air-launched version of BrahMos missile and start of its production.

Indian Air Force, on November 22, successfully fired the BrahMos air version anti shipping missile from its frontline Su-30MKI fighter aircraft off the Eastern Coast. This was the first live test of the air version BrahMos. The airframe order for air launched BrahMos signifies the operational readiness of this version which had its first flight recently.

Speaking on the occasion, Jamshyd Godrej said, "Godrej and BrahMos have been partners for 17 momentous years. Over that time, we

have taken great pride in doing our bit for nation-building through our contribution to bolstering India's defense capabilities. Therefore, it gives me great pleasure to hand over the completion document for the 100th set of airframe assemblies to Dr Mishra."

Appreciating the "support and guidance of DRDO" in manufacturing technologies and in establishing a world class manufacturing infrastructure for one of the world's most advanced missile, he said, "This is a proud moment for Godrej, BrahMos and India, and an assertion of our commitment to serve our country through technologically driven solutions and indigenous manufacturing."

Acknowledging Godrej's contribution in BrahMos manufacturing, Dr Sudhir Mishra said, "The delivery of the 100th set of combat worthy missile airframes marks another milestone in our long relationship. Going forward, I am confident our partnership will continue to set new benchmarks and serve as inspirational role model for indigenous development and production of sophisticated weapon systems."

The BrahMos missile is a stealth universal supersonic cruise missile that can be launched from ships, submarines, aircraft and land based platforms. It can be used for precision strike to destroy targets on land and sea.

Godrej Aerospace has been associated with BrahMos programme since its inception in 2001. Godrej is a dominant contributor manufacturing most of the metallic sub systems in the BrahMos missile. Besides the main airframe, Godrej supplies control surfaces and nose cap. Godrej also supplies the mobile autonomous launchers, missile replenishing vehicles for the land launched versions. **SP**

—Rohit Srivastava



Bomb threat to Ivanka Trump venue, turns out to be hoax

A bomb threat by an anonymous caller kept police on their toes on November 28 evening just as Ivanka Trump joined a dinner hosted by Prime Minister Narendra Modi at Falaknuma Palace in Hyderabad.

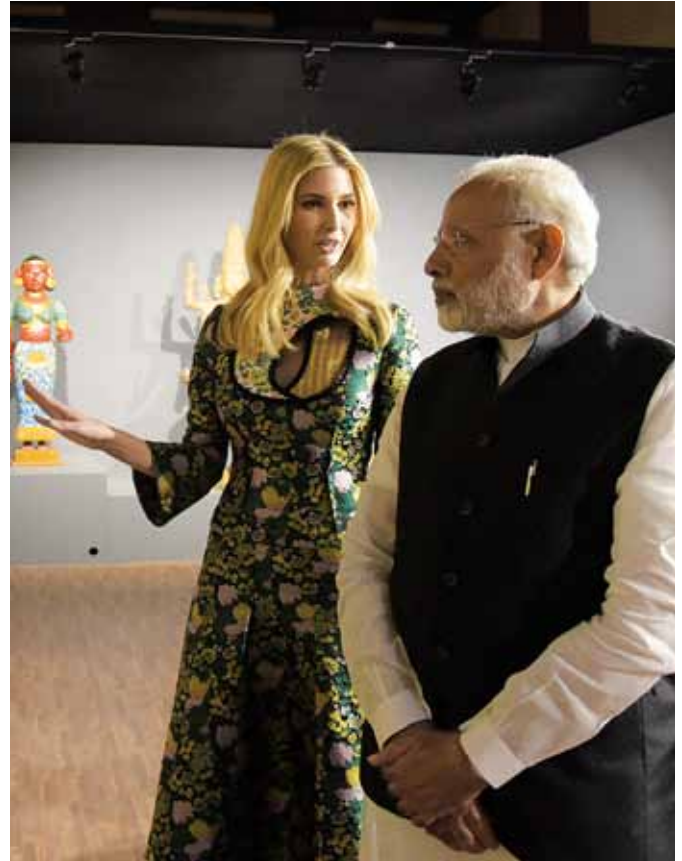
However, after scouring the premises, police declared it a hoax. At 8.43 p.m., the emergency response control room of 108-EMRI received a call from a man speaking incoherently who claimed a bomb planted at the palace might go off any moment.

"The caller appeared confused and said a bomb was planted at Falaknuma Palace. EMRI control room staff alerted the police control room about the call," Hyderabad DCP said.

This development took place when Modi, Ivanka Trump and others were watching a cultural event and were about to move to 101 Dining Hall for dinner," a top police source said. The tense Telangana police brass did not initially share the information with the US Secret Service or the Special Protection Group (SPG) team guarding the Prime Minister.

A Hyderabad police team zeroed in on the anonymous caller, Bontha Yellaiah, a 60-year-old mentally disturbed man, at Maula Ali. They found Yellaiah, a stone cutter, in an inebriated state and took him into custody.

During the preliminary probe, Yellaiah's family members told police he suffered from an acute mental disorder and had been admitted to the Institute of Mental Health, Erragadda, last month. SP



Uber says 2.7 million in UK were affected by security breach

Uber has admitted that 2.7 million people in the UK were affected by a 2016 security breach that compromised customers' information, including names, email addresses and mobile phone numbers.

The ride-hailing company had previously disclosed that 57 million people worldwide were affected by a breach that it covered up for more than a year.

It published an estimate of the number of UK drivers and passengers for the first time, prompting concern from the mayor of London, where Uber is already battling a decision to revoke its licence to operate.

"This latest shocking development about Uber will alarm millions of Londoners whose personal data could have been stolen by criminals," Sadiq Khan, Mayor of London, said.

"Uber needs to urgently confirm which of their customers are affected, what is being done to ensure these customers don't suffer adversely, and what action is being taken to prevent this happening again in the future.

"The public will want to know how there could be this catastrophic breach of personal data security."

The data regulator, the Information Commissioner's Office (ICO), said it was yet to receive technical reports on the incident and

called on Uber to alert affected customers as soon as possible.

Uber said the figure of 2.7 million, more than half of its 5 million UK customer base, was an "approximation rather than an accurate and definitive count" because it could not always tell where each customer was located. SP

Passwords of 1.7 million users leaked in data breach, confirms Imgur

Image sharing website, Imgur recently revealed that 1.7 million users were hit by its 2014 data breach. The shocking case came into the limelight only after security researcher Troy Hunt revealed it. The hacking led to compromise of emails and passwords of 1.7 millions users. Hunt also said that 60 per cent email addresses and cracked passwords were leaked before from other breaches. The security researcher was quite pleased with the immediate response of Imgur. The company informed its users and asked to change their passwords.

Explaining about how the security breach happened, Chief Operating Officer at Imgur, Roy Sehgal wrote in a blog post, "We are still investigating how the account information was compromised. We have always encrypted your password in our database, but it may have been cracked with brute force due to an older hashing algorithm (SHA-256) that was used at the time. We updated our algorithm to the new bcrypt algorithm last year." SP



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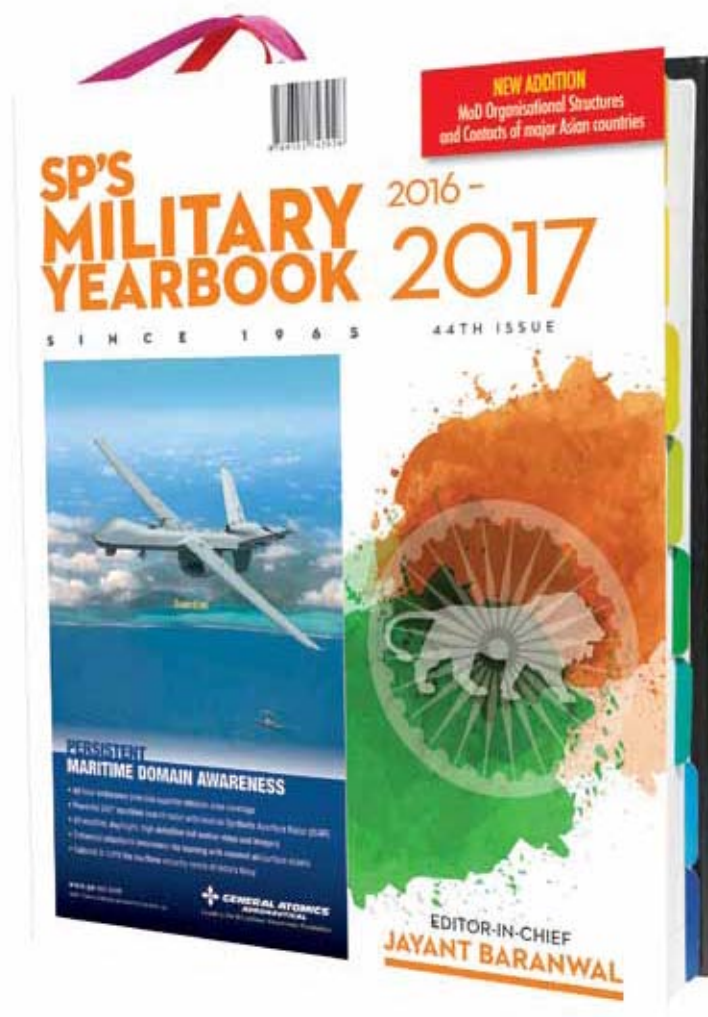


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