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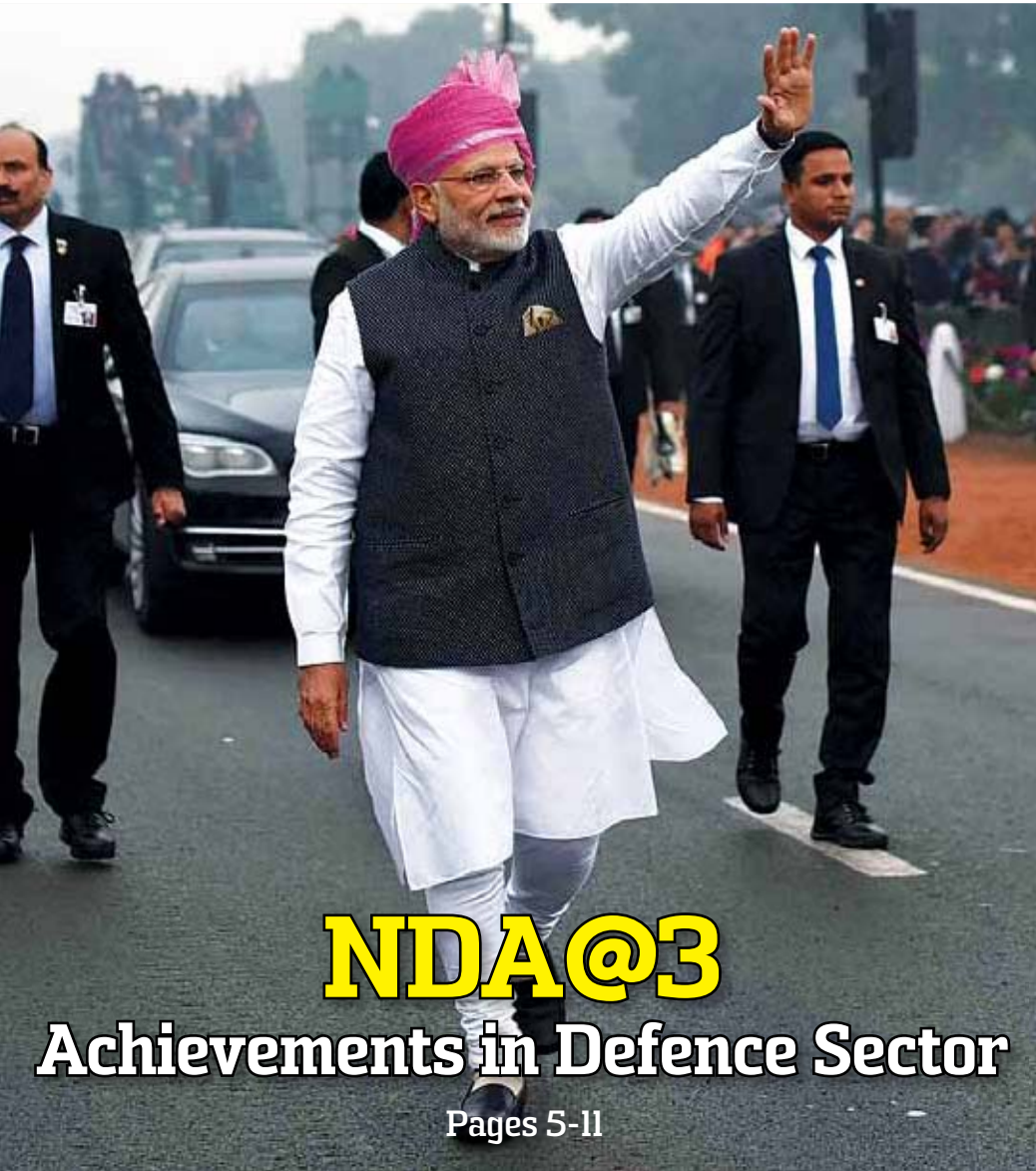
ISSN 2230-9266



Vol: 7 Issue 10 May 16-31 • 2017

www.spsmai.com

ONLY FORTNIGHTLY ON **MILITARY AEROSPACE INTERNAL SECURITY**



NDA@3

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

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



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

IAI signs another significant deal in India


Israel Aerospace Industries (IAI) announced on May 21, 2017, it has been awarded an additional, \$630 million- contract for supply of LRSAM air and missile defense systems for four ships of the Indian navy. The contract will be carried out, for the first time, with the Bharat Electronics Limited (BEL), which serves as the main contractor in the project as part of India's 'Make in India' policy. Prior to signing the contract, the system was successfully tested last week in India as part of operational interception trial aboard India's navy ship, demonstrating again the system's operational capabilities in a representative scenario with genuine target.

The trial scenario started with the launch and engagement of the target. The MFSTAR radar aboard the Indian naval ship has identified the air-borne threat and has tracked it over its flying course. The data was sent to the command center of the weapon system which launched the intercepting missile into orbit. Having been successfully launched, the mis-



sile has navigated itself to the target. During its flight, it engaged the target, aligned its course, hit it and destroyed it. All components of the weapon system have successfully met the goals set to them.

Joseph Weiss, IAI President and CEO, said, "The new contract adds to other deals signed in the last decade by IAI with India's defense forces, reinforcing IAI's global leadership position in air and missile defense systems. The inclusion of Indian governmental company BEL for the first time, is a step up in our relationship with the Indian industry as part of the 'Make in India' policy. This unique project represents the close collaboration between India's DRDO, IAI and the defence forces of both countries. We will proceed to implementing it with joint efforts."

LRSAM provides the ultimate protection against a variety of aerial, naval and air born threats and is operational with the Indian Air Force, Indian Navy and Israel Defense Forces and in the near future with Indian Army. 



Cover:

India's defence and security requirements, in light of the current and future threats and challenges, need to be analysed very carefully by the government taking the help defence experts in the field. The work required to be undertaken in this field is so enormous that delays would be disastrous for national security.

Cover images: PIB, Anoop Kamath, US Army

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SUBSCRIPTION/CIRCULATION

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

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Three years of NDA, work in the right direction

The National Democratic Alliance (NDA) Government led by the ever-dynamic Prime Minister Narendra Modi completes three years on May 26 with a series of events and they had reasons to celebrate as the government has really stepped up its development agenda. In the defence sector, while the government has made its intent clear that it wants to step up modernisation of the armed forces, the bureaucracy is what that needs to be shaken up.

In his analysis, Lt General Vijay Kapoor (Retd) has pointed out how the present NDA regime inherited an economy fraught with scandals. The scams pertaining to Ordnance Factory Board; Tatra-BEML military vehicle procurement; VVIP choppers (AgustaWestland Helicopters) and the Rolls-Royce-HAL kickbacks had rocked the nation. As a result, nine original equipment manufacturers including four major international companies were blacklisted by the government. Since then, through various procurements including import of some categories of ammunition and missiles and streamlining the indigenous manufacture of certain categories of ammunition, the situation has been stabilised.

Notwithstanding the delays that have occurred during the previous UPA (United Progressive Alliance) regime what is heartening is that the Ministry of Defence (MoD) has started working and reacting to the Services requirements ending the risk-averse Antony era lethargy. The functioning of the Defence Ministry has been scam free so far.

General Kapoor has rightly pointed out that some of the tasks that need to be completed expeditiously are: pragmatic and adequate allocation of defence budget at the earliest; modernising obsolete equipment; establishing the post of the CDS/Permanent Chairman COSC and ensuring jointness and integration to improve our war waging potential.

Giving a different angle, Lt General P.C. Katoch (Retd) states that successive governments have failed to find the correct mix between economic development and security. This weakness is also linked to: voids of cohesive national security strategy and comprehensive defence review; failure to address reorganisation of higher defence organisations, particularly lack of military professionals in the MoD. Echoing similar views, Air Marshal B.K. Pandey (Retd) mentions that

unless the government accords the right priority towards timely and systematic modernisation of the Indian armed forces, allocates the funds required and restructures the DPP to address proactively the imperatives of national security, the capability of the armed forces will remain undermined. In his article, Rear Admiral Sushil Ramsay (Retd) feels that while NDA@3 has begun well, it still has miles to go.

Defence acquisition procedures are crucial for not only the armed forces but also for the industry which is keen on expanding the defence industrial base. The MoD is mulling to set up a new Defence Procurement Organisation which will integrate and streamline the long and arduous process of defence acquisitions and this is expected to create a robust base, analyses Ranjit Kumar.

Unlike France the manpower associated with defence acquisitions in India are drawn from civil bureaucracy and the armed forces, who lack lack experience or expertise in acquisition issues. This is proving to be a big hurdle in spearheading the 'Make In India' programme of the government.

While these changes are happening, the first two M777 howitzer guns manufactured by BAE System arrived in India and were test-fired. The M777 purchase is meant to equip the Indian Army's 17 Mountain Strike Corps, which is presently partially raised for deployment along the disputed border with China.

Happy Reading on a happy note !

A blue ink signature of Jayant Baranwal, consisting of several overlapping loops and a long horizontal stroke at the end.

Jayant Baranwal
Publisher & Editor-in-Chief



LT GENERAL
VK. KAPOOR (RETD)

NDA's achievements in defence sector in three years

The Modi Government which completes three years on May 26, 2017, is planning to celebrate their achievements by putting out a report card giving out statistics of their achievements in the last three years of National Democratic Alliance's (NDA) governance. This analysis aims to highlight some of the important steps taken by the government while noting the challenges facing us in the defence sector and is by no means a comprehensive coverage of the subject.

Defence Sector Reforms: Backdrop

India's Bharatiya Janata Party (BJP) party won a landmark victory in the country's general elections. But Prime Minister Narendra Modi inherited from the outgoing United Progressive Alliance (UPA) government a defence ministry besieged by scandal and Armed Forces desperately short of critical assets. The situation was such that as per media reports even ammunition of tanks and artillery guns was in short supply affecting training of personnel and operational preparedness of units and formations for war.

A few years prior to the present NDA regime taking over the reins of the government, the country witnessed various scandals such as the Ordnance Factory Board scam, Tatra-BEML military vehicle procurement, VVIP choppers (AgustaWestland Helicopters) and the Rolls-Royce-HAL kickback scandal. As a result, nine OEMs including four major international companies were blacklisted by the government. Since then through various procurements including import of some categories of ammunition and missiles and streamlining the indigenous manufacture of certain categories of ammunition, the situation has been stabilised.

As far back as June 2014 according to the Strategic Defence Intelligence report *The Future of the Indian Defence Industry - Market Attractiveness, Competitive Landscape and Forecasts to 2019*, the market was expected to grow at a CAGR of 9.83 per cent during the period 2015-19 with a cumulative spending of \$241.2 billion. India was expected to present ample business opportunities for OEMs in the areas of multi-role aircraft, training aircraft, infantry fighting vehicles (IFVs), frigates, ballistic missiles, submarines, ammunition, air defence systems, military infrastructure and military rotorcraft among many others.

One can say with certainty that while there have been many ideas and plans that have been mooted and deals put into the pipeline covering all three services, however on the ground the situation remains unchanged. While many new systems have been earmarked for procurement in 'Buy and Make' category but by the time they are inducted into the combat units another five to 10 years time will elapse.

Defence Procurement Procedure 2016

India adopted the current dispensation of defence acquisition

organisation, structures and procedures in 2002. During the last 13 years, India has not been able to sign a single major defence contract in an open competitive environment under the provisions of the much trumpeted defence procurement procedure (DPP). Despite the fact that DPP has been subjected to six major reviews/revisions, no improvement has been discernible.

An expert committee under Dhirendra Singh was constituted on May 1, 2015. The Committee was tasked to evolve a policy framework to facilitate 'Make in India' in defence manufacturing and align the policy evolved with DPP-2013; and to suggest the requisite amendments in DPP-2013. DPP-2016 was thus formulated with the experience gained by the government in the defence procurement process and the recommendations of the Dhirendra Singh Committee. It came into effect from April 2016.

Most of the deals signed recently such as the 145, M777 155mm howitzers, Kamov Ka-226 helicopters, Apache (attack helicopters) AH ID, and Airbus C295 transport aircraft, are under the category 'Buy and Make' which means initial procurement of limited quantity in fully formed state, followed by indigenous production through Transfer of Technology (ToT). However none of these deals have fructified on the ground so far and the time frame for realisation of equipment would vary from 5 to 10 years once the initial deliveries start. An example can be taken of the M777 155mm howitzer. Two guns have reached India which would be used by the Army for making range tables with indigenous ammunition. The induction will commence from March 2019 onwards. Induction schedule includes five guns per month from March onwards till all 145 are inducted by June 2021.

Notwithstanding the delays that have occurred during the UPA regime what is heartening is that the Ministry of Defence (MoD) has started working and reacting to the Services requirements ending the risk averse Antony era lethargy. The functioning of the Defence Ministry has been scam free so far.

Strategic Partnership with Indian Industry

Breaking new ground, the Defence Acquisition Council (DAC) under the Chairmanship of the Defence Minister Arun Jaitley, on May 20, 2017, finalised the broad contours of a policy aimed at engaging the Indian private sector in the manufacture of high-tech defence equipment in India. The policy, which was developed through extensive stakeholder consultations with Indian industry, envisages the establishment of long-term strategic partnerships with qualified Indian industry majors through a transparent and competitive process wherein the Indian industry partners would tie up with global OEMs to seek technology transfers and manufacturing know-how to set up domestic manufacturing infrastructure and supply chains. The policy will give a boost to the 'Make in India' policy in the Defence sector and set Indian industry on the path to acquiring cutting-edge capabilities which will contrib-

ute to the building of self-reliance in the vital national security sector. The policy is expected to be implemented in a few selected segments to begin with, namely, fighter aircraft, submarines and armoured vehicles. In future, additional segments may be added. Appropriate institutional mechanisms will be set in place to implement the policy.

One Rank One Pension (OROP)

The government has fulfilled its promise to implement the long-pending OROP scheme for over 21 lakh veterans. The present scheme, however, does not entirely fulfill the recommendations of the Koshiyari Parliamentary Committee which had defined OROP as 'One Rank One Pension' (OROP) implies that uniform pension be paid to the Armed Forces Personnel retiring in the same rank with the same length of service irrespective of their date of retirement and any future enhancement in the rates of pension to be automatically passed on to the past pensioners. Hence disgruntlement still remains and the government will have to truthfully and sincerely look into the issue of 'uniform pensions' between the old and the new which has not been achieved despite the fact that the NDA Government has done more in this field than any other government in the past.

Chief of Defence Staff/Permanent Chairman COSC

The CDS is vital not only for providing single point military advise to the Cabinet but also to usher in synergy vertically and horizontally between the three Services which is not satisfactory at the moment. Moreover in an era of scarce resources he will have to ensure judicious allocation and utilisation of defence budgets and prioritisation of procurements according to threats and challenges facing the country. He would also ensure organisational reform to achieve closer jointmanship and integration of the three services and to transform the three Services into network-centric warfare (NCW) force capable of undertaking operations in the digitised battlefield of the future. This reform is awaiting the political nod.

Ammunition and Spares

The beleaguered armed forces were empowered to procure emergency stocks of ammunition and spares to ensure that they could undertake at least 10 days of intense fighting if operations had to be undertaken with our potential adversaries at short notice though the existing policy lays down 30:30 concept which requires the nation to have ammunition stocks equivalent to 30 days intense rates and 30 days normal rates of expenditure.

Critical Deficiencies in Modern Equipment

Each service has a rather long list of obsolescent weapon systems which need replacement urgently to retain the ability to fight modern wars in the future, especially in our case as we need to equip ourselves for facing two opponents on two widely separated fronts against China in the North and East and Pakistan in the West.

In the recent times the government has to their credit hastened the process of acquiring some of the critical deficiencies of the three services. However they will fructify over the next 5 to 10 years. These include government to government deals like the ones for 36 Rafale fighters from France, 145 M777 ultra-light howitzers, and 22 Apache attack and 15 Chinook heavy-lift helicopters from the US. Contract negotiations are also on for procuring 56, Airbus C295 transport aircraft to replace the Avro fleet. The aircraft will be made in India by the Tata group and the requirements may go up due the needs of the Coast Guard and the DRDO who are likely to configure the platform for multi mission maritime roles.

In the Indian Army there is an urgent need to induct new assault rifles with night fighting capabilities, carbines, sniper rifles, fourth generation anti-tank guided missiles, air defence guns and mis-

siles; night fighting capability for tanks and infantry combat vehicles, about 3,000 assorted artillery pieces of 155mm calibre; specialised equipment for Special Forces Operations; and last but not the least about 200 light helicopters for observation, reconnaissance and surveillance, and liaison missions.

The Indian Navy urgently requires additional submarines, anti-submarine helicopters and helicopters for search and rescue, observation and reconnaissance and liaison. The navy also requires two more aircraft carriers for its operational capabilities on the western and eastern sea board thus totaling the requirement of aircraft carriers to three.

The Indian Air Force (IAF) requires to urgently build up its fighter strength. The original requirement for Rafale fighters was pegged at 126. However, the present government decided to induct 36 fighter aircraft at the earliest as the squadron strength of the IAF was falling below the acceptable limits. The production of Tejas (light combat aircraft), which is to make-up the fighter strength of the IAF, is still not at the desired 16 planes-per-annum mark and it will take at least three to four years for new foreign collaborated jets to fructify. Former Defence Minister Manohar Parrikar, addressing media persons at the 11th Aero India in February 2017, said: "Talks for single-engine and twin-engine fighter jets are in advanced stages and we want to get them done in during current calendar year (2017)". He listed the needs as "300 to 400 fighters". On ramping up production of the Tejas, Parrikar said: "We are putting in a second line at a cost of ₹1,359 crore. Work will start in three months and production in two years."

Full-time Raksha Mantri

Not having a full-time Raksha Mantri at a time when the nexus between China and Pakistan stands fully established and is impacting on India's security scenario within and at the borders does not augur well for the country. Arun Jaitley, the current Defence Minister, has held dual charge for almost six months in 2014, when the finance ministry was his first priority. Manohar Parrikar took over the charge for a little over two years, and after fully understanding the functionality of the Defence Ministry, he put the procurement process on rails. However with his returning to Goa as Chief Minister, the uncertainty continues. Arun Jaitley who is dual-hatted once again cannot be expected to handle two vital ministries both of which require fulltime attention of its Minister.

Conclusion

The NDA government has certainly brought in more dynamism in the defence sector with faster decision making, but this advantage will be lost if we allow the situation to drift as was the case during the UPA regime. The defence and security requirements, in light of the current and future threats and challenges, need to be analysed very carefully by the government taking the help defence experts in the field. The work required to be undertaken in this field is so enormous that delays would be disastrous for national security.

Some of the tasks that need to be completed expeditiously are: pragmatic and adequate allocation of defence Budget to ensure the making up of critical deficiencies in each Service at the earliest, modernising the obsolete equipment of all three Services, establishing the post of the CDS/Permanent Chairman COSC, pruning the organisations of each service to weed out the non essentials thus utilising the budget to achieve the required combat edge over the adversaries, and ensuring jointness and integration to improve our war waging potential. The tasks involved place an onerous responsibility on the shoulders of the Defence Minister and hence it is essential that a full time Defence Minister is nominated at the earliest. ■

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

AIR MARSHAL
B.K. PANDEY (RETD)

Defence modernisation in three years of NDA rule

The three services had suffered prolonged neglect in respect of modernisation in the period 2004 to 2014 owing to a number of factors.

As the National Democratic Alliance (NDA) Government led by Prime Minister Narendra Modi completes three years in power on May 26 2017, its performance with regard to the modernisation of the Indian armed forces is bound to come under scrutiny and critical examination by not only by analysts and think tanks alike, but also by those within the organisation. Given the lofty promises made by the Bharatiya Janata Party (BJP) during the campaign in the run up to the national elections in 2014 that led to elevation of expectations all round, there is considerable anxiety as well as a degree of impatience not only amongst the general populace, but amongst the personnel of the Indian armed forces too with regard to the state of their operational preparedness. Given the rising tension with both Pakistan and China as well as the raging fire in the state of Jammu and Kashmir to which there appears to be no solution in sight and which has the potential of igniting a full scale war with our western neighbour with possible colusion between the two hostile neighbours, the concern over the state of operational readiness of the Indian armed forces is quite understandable and valid. This is further heightened by a recent communication related to national security, to all officers of the Indian Air Force (IAF) by Air Chief Marshal B.S. Dhanoa, Chief of the Air Staff (CAS), IAF. In his missive issued soon after assuming charge as the CAS, he has directed all officers to prepare for short and intense war with Pakistan lasting around ten days and for a war against China lasting for around 15 days. The inference from this message is that for the Indian armed forces, the fourth largest in the world, to be regarded to be operationally ready for war, they must be adequately equipped to take on both Pakistan and China in the event of war breaking out on both the Northern and Western fronts simultaneously.

BJP at the Helm

When the Modi-led NDA Government was sworn into office on May 26, 2014, it inherited the Indian forces that was not ready

for war. The three services had suffered prolonged neglect in respect of modernisation in the period 2004 to 2014 owing to a number of factors. Apart from the mind-boggling complexity of the process of acquisition of military hardware regulated by the Defence Procurement Procedure (DPP), there was a degree of political apathy that compounded the problem and had brought the process of modernisation of the Indian armed forces practically to a halt. But what was most disconcerting for the Indian armed forces as also for the original equipment manufacturers (OEM) abroad was that the process of acquisition of defence equipment by the Indian Ministry of Defence (MoD) was riddled with corruption. With scams of differing magnitude in the processing of tenders for defence contracts surfacing every now and then, projects for the acquisition of platforms or weapon systems were cancelled repeatedly and even global aerospace and defence majors of repute were blacklisted. Some cases of blacklisting proved to be self-inflicted injuries as this action by the government impinged on other ongoing contracts where the affected foreign company was already involved. The net effect was that the process of

acquisition of defence equipment had practically come to a grinding halt, shattering all hopes of the Indian armed forces of developing the capability to confront the challenge posed by the two adversaries, either singly or in collusion. However, in the last three years under the NDA government, there has undoubtedly been some forward movement, bringing some relief for the Indian armed forces.

In the last three years, in an effort to speed up the process of modernisation of the Indian armed forces, the NDA government cleared a total of 136 proposals for the procurement of military hardware. Most of these proposals had been pending for some time one reason or another. The total value of these 136 proposals for the modernisation of the Indian armed forces is estimated at around \$59 billion or ₹4 lakh crore. In a conservative assessment, while this may not be regarded as a modest allocation of resources



Then Defence Minister of France, Jean-Yves Le Drian with Prime Minister Narendra Modi in New Delhi on September 23, 2016. The intergovernmental agreement on 36 Rafale fighter aircraft was signed between India and France on the same day.



Ecosystem likely to be created:
IAF's Avro fleet will finally be replaced by the Airbus C295

for the Indian armed forces, when viewed in the context of the evolving geopolitical situation and the rapidly deteriorating situation in the region, this would only be a small part of the total requirement for comprehensive modernisation. Undoubtedly, there is indeed much remains to be done in the interest of national security.

Shifting the focus to the IAF, the situation with regard to modernisation prevailing at the end of the three year rule by the NDA government is enumerated in the succeeding paragraphs.

Combat Fleet

Efforts by the IAF during the UPA II regime to procure 126 medium multi-role combat aircraft for which the IAF had identified the most capable and potent combat platform but somewhat expensive, the Rafale jet fighter from Dassault Aviation of France, hit an insurmountable road block. Soon after assuming office, Prime Minister Narendra Modi through personal interaction with the President of France during a state visit to that country, broke the stalemate and salvaged the situation but only partially. Instead of 126 aircraft, a direct deal with the French government was negotiated for 36 aircraft for which the contract has been concluded and delivery is scheduled to commence in 2019 and all 36 aircraft are to be delivered by 2022. While this will only provide partial relief, in the context of the alarming erosion of combat capability on account of obsolescence of the combat platforms acquired from the Soviet Union commencing in the mid 1960s and with no fresh inductions after the Su-30 MKI that commenced at the beginning of the last decade, the IAF has been and continues to be in the those of a crisis.

To address problems afflicting the combat fleet of the IAF, the government provided the necessary push to the indigenous light combat aircraft (LCA) Tejas programme. Apart from commissioning the first squadron of the Tejas Mk I at Bengaluru albeit with just two aircraft, the government has sanctioned a second production line for the Tejas Mk I to enhance the rate of production from eight aircraft per year to 16. As the Tejas Mk II was still a long way off, the MoD authorised the Tejas Mk IA with enhanced capability to alleviate shortages in the combat fleet. The IAF has placed orders for

In the last three years, the NDA government cleared a total of 136 proposals for the procurement of military hardware

a total of 120 Tejas which, subject to the second production line being commissioned soon, is expected to be delivered by 2025-26.

But perhaps the most expeditious step by the NDA Government to restore the combat potential of the IAF has been to produce a proven single-engine combat platform in large numbers within the country through collaboration with the selected foreign OEM under the Prime Minister's Make in India programme. The selected OEM will establish its production line in India and with full transfer of technology, produce the combat platform not only for the IAF but also for the global market.

Helicopter Fleets

In the regime of helicopters, the NDA Government has made notable headway towards modernisation is for the acquisition of the light utility helicopter (LUH). This platform is required by the three services in fairly large numbers to replace the obsolescent fleets of Cheetah and Chetak helicopters whose induction had commenced in the 1970s. Ten years of effort to procure LUH for the Indian armed forces went in vain as the tender was cancelled twice in this period on account of allegations of wrong doing by the agencies involved. However, the NDA Government has successfully negotiated a deal directly with the Russian Government to set up a facility in Tumkur, North of Bengaluru, to manufacture the Kamov Ka-226T under the 'Make in India' scheme. The initial requirement for the three services has been assessed as for 440 machines. When inducted, this platform will significantly enhance the capability of the services of providing logistic support especially in the mountainous regions of the North and the North East.

A contract has been signed for the procurement of Apache attack helicopters and Chinook heavy lift helicopters from Boeing of the US. Induction of these will boost offensive and heavy heli-lift capabilities of IAF. Induction of ALH Mk-III & ALH Mk IV and Weapon System Integrate (WSI) of helicopters is under progress. Ten LSP light combat helicopters are also being procured from HAL.

Replacement of the Avro Fleet

The third major project to be finalised under the 'Make in India' programme of the NDA Government is the replacement of the obsolescent Avro fleet of 56 aircraft currently in service with the IAF by the Airbus C295 twin-turboprop transport aircraft. This platform will be manufactured in India by Tata Advanced Systems Limited in collaboration with Airbus Defence and Space.

Other Areas of Modernisation

Apart from aircraft, the IAF is in the process of induction of a variety of systems to revamp the air defence of Indian air space. The systems under induction or are under processing include new generation Air Defence radars, Very Short Range Air Defence Systems (VSHORADS), SPYDER QRSAM, MRSAMs and the S-400 Triumph Air Defence System. But where the NDA government has made notable progress is in its efforts at simplification of procedures for the procurement of defence equipment and indigenisation of the Indian aerospace and defence industry through enhanced participation by the private sector. The Strategic Partnership model is designed to help boost indigenisation of the defence industry.

Hopefully, Prime Minister Modi will find time to appoint a permanent Minister of Defence to oversee and provide the much needed impetus to the programmes for modernisation of the Indian armed forces. **SP**

The author is former Air Officer Commanding-in-Chief of Training Command, Indian Air Force



LT GENERAL
PC. KATOCH (RETD)

Defence in three years under NDA II



Prime Minister Narendra Modi with the three Service chiefs paying homage at the Amar Jawan Jyoti at India Gate in New Delhi on January 26, 2017

On May 26, 2017, the NDA II government completes three years in office. Last three years have seen India rising in economic strength and making way for greater say on the world stage. This period has witnessed China's strategic footprints in Gilgit-Baltistan and China operationalising Gwadar Port, CPEC roll out, Pakistan's enhanced proxy war on India, rise of radicalisation in Kashmir Valley, and recent spurt in Maoist insurgency signaling there is need for serious review.

The new Defence Procurement Policy (DPP) 2016 was issued in February 2016 albeit it had some appendices missing, which were subsequently added. The major missing chapter of DPP 2016 was the Strategic Partnership Model (SPM), which has just been unveiled.

The SPM aims to engage indigenous private sector in manufacturing hi-tech defence equipment in India, as also establishing long-term strategic partnerships with qualified Indian industry majors through transparent and competitive process wherein the Indian industry partners would tie up with global OEMs to seek technology transfers and manufacturing know-how to set up domestic manufacturing infrastructure and supply chain.

It may be recalled that despite adopting the 'Make' procedure in 2006 to promote development of systems based on indigenous research and design for providing the framework for increased participation of Indian industry in the defence sector, not a single design and development contract has been signed over past 11 years. This

PHOTOGRAPH: PIB



Indigenous aircraft carrier (IAC-1) at Cochin Shipyards

is because of the so called 'procedural difficulties' in the Ministry of Defence (MoD) – term them red-tape, corruption, whatever. So, while the SPM is being hailed 'path breaking', it is follow up the action blueprint and time-based execution that holds the key, given that India needs arms worth over \$150 billion over the next decade, and over 1.5 lakh crore of mega deals are to immediately follow the SPM.

In terms of defence modernisation, the Indian Air Force (IAF) has acquired six C-130J Super Hercules transport aircraft, indigenous Tejas has been inducted, while 36 x Rafale and additional C-17 Globemaster heavy-lift transport aircraft are being procured. For the Navy, first of the INS Kolkata Class Destroyer and INS Kochi have been commissioned. Trials for the indigenous aircraft carrier (IAC-1) have begun with induction slated for next year. The first Scorpene submarine has joined service and deliveries of balance five submarines will be completed by 2021. As for Army modernisation, plenty projects have been 'cleared' but what has arrived on ground is small: 'Akash' regiments supposedly with added 'mobility' but perform used in static role; just arrived first two M777 howitzer guns ex US; 50,000 bullet proof jackets while the additional void has gone beyond 3,00,000 plus; while Dhanush guns are in pipeline. ISRO has made terrific advances and longer range BrahMos is successfully tested. But the soldier on ground, where the daily fight is, remains neglected; lacking even state-of-the-art assault rifle and surveillance equipment both by day and night. Maps provided are not updated past 25-30 years. MoD study ordered post the Patahknok IAF base terror attack that brought out glaring voids in protection installations and posts warranted immediate provisioning especially with increased terrorist attacks, but this is not happening. Defence budgets for the present and last financial years have ironically been negative.

The Army Chief recently spoke in presence of media of the relation between economic devel-

opment and security; implying that economic development cannot be guaranteed without adequate defence preparedness. Our defence allocations remain poor despite growing anti-India China-Pak nexus, People's Liberation Army's (PLA) rapid modernisation and infrastructure development across the Line of Control.

Obviously we have failed to find the correct mix between economic development and security. This weakness is also linked to: voids of cohesive national security strategy and comprehensive defence review; failure to address reorganisation of higher defence organisations, particularly lack of military professionals in MoD. The latter folly is compounded by denying military participation even where it should be must. For example, in the second round of US-India Maritime Security Dialogue (MSD) held on May 9-10 at US Naval War College, Newport, Rhode Island, the US side included members of US Department of Defense, US Navy and US Coast Guard, whereas, the Indian side comprised only MoD and MEA staffers without a single member from Indian Navy and Coast Guard.

Establishment of a CDS with full operational powers, which is essential to synergise the military hasn't occurred. Even the Allocation of Business and Transaction of Business Rules Act 1961 have not been reviewed that follow the British legacy of Defence Secretary (not Defence Minister) charged with defence of India and the Services Headquarters continue to officially remain 'attached offices' – facilitating bureaucrats to enjoy power without responsibility and accountability.

So does NDA II accredit defence of India to business, trade and signing mega deals alone? This is what the Prime Minister must address. The 'surgical strikes' apart, there is no move to address the glaring strategic asymmetry in sub-conventional warfare vis-à-vis Pakistan and China. Fire assaults can't constitute effective deterrent against proxy wars. Yet another strategic mistake is ignoring the man behind the machine, even degrading him below the central armed police forces. Bureaucracy projects this as just cribbing officers, but this is more relevant to the soldiers, officers constituting less than two per cent.

Three Service Chiefs refused to implement the 7th CPC till the anomalies were addressed, so MoD let those Chiefs retire, took away powers of Services to issue Special Army/Navy/Air Forces Instructions notifying pay and allowances, and now issued implementation orders directly saying anomalies will be addressed subsequently – a shame but then existence of a foreign-funded (hawala included) anti-military constituency in India is a reality. No Service Chief uttered a word when veterans peacefully protesting at Jantar Mantar wearing regimental caps, wearing medals including gallantry awards, were baton charged by police obviously with blessings of someone in the political hierarchy at the Centre.

Surely Prime Minister Modi would know that with the vast connectivity of Digital India and media explosion serving soldiers were watching this tamasha and some of them may have been wards of those being baton charged. That someone junior policeman was later sent to apologise at Jantar Mantar, ensured this blot will remain with NDA II. These are issues that need to be addressed – provided we realise their importance. SP

The author is former Director General of Information Systems, Indian Army.

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REAR ADMIRAL
S. RAMSAY (RETD)

Well begun...and miles to go – NDA@3

After what was termed as a lost decade as far as building up the strategic assets from the national security perspective, during May 2014, India witnessed the beginning of a refreshing innings by a most prolific team under the leadership of a dynamic political leader Narendra Modi taking the helm. The stage was now set for a swash-buckling innings.

Indeed, the innings did begin with a big bang as far as the Indian Navy was concerned! A new Chief of the Naval Staff (CNS) who assumed the office around the same time of the regime change at the centre, wasted no time and efforts and INS Vikramaditya, newly acquired, refurbished and modernised aircraft carrier, with the new Prime Minister embarked on board was dedicated to the nation. It was not a mere ceremonial throw-back, it enormously up-lifted the sagging image of Indian Navy which had taken severe beating due to few unfortunate incidents on board operational platforms, leading to untimely resignation by a serving CNS, a first of its kind in the annals of Indian Navy's history.

In consonance with its professed vision to build a new strong India, the Prime Minister launched a major policy initiative and termed it as 'Make in India' to take India's pursuit of indigenisation and self-reliance to newer heights. The slogan of the new campaign caught the imagination not just in India; it was positively received globally too. To prove his commitment towards the campaign, Prime Minister commissioned state-of-the-art guided missile destroyer, INS Kolkata built by Mazagon Docks Limited, Mumbai on July 10, 2014.

Warship building is a tedious, most complex and technology intensive process with long gestation periods. To make the force development and force structuring viable it needs to be backed by efficient decision making, requisite infrastructure and commensurate resource allocation. While it was hoped that the new regime will significantly fine-tune the processes, there are wide shortfalls witnessed on the ground.

Ministry of Defence (MoD) under the directions of Prime Minister was asked to review all of languishing naval acquisition programmes and to be placed under the ambit of 'Make in India'. To begin with, this major policy shift made very positive ripples. Manohar Parrikar, an illustrious Chief Minister of Goa, was hand-picked by Prime Minister to steer the proceedings at MoD with newer zeal and enterprising initiatives. He too began his innings at MoD with sole intent of making a change in the prevalent indifferent and lackadaisical environment in pursuing the Long-Term Maritime Capability Perspective Plan.

Launch of 'Make in India' campaign came out of the promises of radical and systemic changes as per manifesto of BJP for General Elections 2014. It promised the re-vitalising of the moribund public-private partnership in the defence industry. Undoubtedly without the effective partnership of the private sector visible improvements in defence production will not be possible. It was expected that there will be adequate incentives, encouragement, enabling provisions created to give positive boost for private sector's participation. While

the Defence Procurement Procedures have been routinely reviewed, amended, revised, etc. forward looking provisions like Strategic Partnership mechanism have been given mere lip-service. While in the very recent past there has been some forward movement in this direction, its implementation may take a couple of years to be in place.

While 'Make in India' campaign is seen as made to order for the Indian Navy schemes for force level development which are largely founded on indigenisation and self-reliance, invigorating provisions to concretise 'Make in India' into a reality are sadly lagging behind. The flip side of the abrupt switch to 'Make in India' paradigm resulted in re-inventing the wheel. The first major casualty of this policy shift was Project 75I for indigenously construction of conventional submarines. After the delays spanning over a decade or more and just when this vital project had begun to see light at the end of the tunnel that the Government decided that Project 75I will henceforth be steered as 'Make in India'.

The second most essential project affected by the policy shift is naval multi-role helicopters (NMRH) and light utility helicopters (LUH). Reportedly this will now be steered as 'Make in India' as a joint venture (JV) project with Russia. This decision is bound to encounter unforeseen delays while negotiating and finalising the contours of JV, joint manufacturing mechanism, creating and installing requisite indigenous infrastructure. The anti-submarine warfare (ASW) capability of the frontline ships will be further affected, in addition to other operational integral air requirements of the ships of two fleets and shore-based flights.

Since 2008, Indian Navy is finding a suitable replacement for the Seaking by floating a global tender for 16 helicopters with an option clause for another eight for its warships and for upgrading diminishing ASW capabilities of her fleet. In the open bidding process, the US firm Sikorsky was selected in December 2014. Sikorsky emerged as the sole successful bidder, after the Italian firm Finmeccanica was ruled out of the competition due to the allegations of scam in VVIP helicopters deal by the Government of India. Seahawk S-70B can be very effectively used as an advanced ASW and anti-surface warfare integral air to take on the underwater and over the surface threats. It is now reported that MoD is contemplating to junk procurement of 16 S-70B Seahawk helicopters from Sikorsky. Indian Navy in response has submitted a 'Dissent Note' stating that these helicopters are a critical operational necessity.

Likewise, acquisition process for 12 mine counter measure vessels (MCMV) for Indian Navy began nearly a decade ago. When the project of acquiring MCMVs through import was scrapped, in August 2015 Goa Shipyard was nominated for indigenous construction in partnership with a foreign shipyard. There are uncertainties still looming large over when the contract will be signed and the manufacturing process begin! ■ SP

The author is former Naval Attaché, Embassy of India in Moscow and has extensive experience in naval operations and logistics.



RANJIT KUMAR

Expediting defence procurements

The defence ministry is mulling to set up a new Defence Procurement Organisation which will integrate and streamline the long and arduous process of defence acquisitions. This is also expected to assist in developing a robust defence industrial base in the country.

India's defence acquisition framework is considered to be one of the most cumbersome, time consuming, complex and fraught with uncertainties. In spite of the Indian armed forces evolving into the select group of top ranking arms importers of the world and future prospects of acquiring arms worth over \$150 billion in the next decade, the country is managing its defence acquisitions without a proper centralised defence procurement body and through a loose ad hoc structure. In this backdrop, the reports of the defence ministry mulling to set up a new Defence Procurement Organisation would be welcomed by the strategic community. The current Defence Procurement Process has proved to be lengthy and complex, though several attempts have been made to bring in transparency and speed up the acquisitions process. The proposed DPO is intended to integrate and streamline the long and arduous process of defence acquisitions.

This is expected to manage and regulate all the defence acquisitions worth billions of dollars in a very professional manner. This is also expected to assist in developing a robust defence industrial base in the country. In fact, creating such a procurement body was part of the recommendations of the Group of Ministers committee set up after the Kargil conflict to propose fresh ideas for better security management of the country. The proposed body is touted as the second big — ticket reform after the Strategic Partnership policy announced by the Defence Minister Arun Jaitley, which is in the final stage of getting sanction from the top decision making authority of the country.

The Ministry of Defence (MoD) had appointed a high powered committee under the leadership of Dr Pritam Singh, former Director of the

Indian Institute of Management (IIM), Lucknow. Dr Singh had submitted the report on the modalities of setting up the DPO to the then Defence Minister Manohar Parrikar in February last. If the Defence Ministry accepts the report, it may take two to three years to establish a separate department of DPO under the Defence Minister. This will be an almost autonomous body which is expected to function as the executive arm of the Defence Minister. It's manpower will mainly comprise experts in legal, costing, contracting and technical issues related to armaments.

The Indian defence ministry currently depends broadly on a two tiered structure for defence acquisitions. This consists of Defence Acquisition Council (DAC) which is assisted by its sub-

ordinate bodies, the Defence Procurement Board, the Defence Research and Development Board and the Defence Production Board. The Kargil conflict forced the country's top defence managers to evolve such system for timely acquisition of weapon systems and platforms but this system also proved to be very ineffective as shown by the non-acquisition of many urgently desired weapon systems and platforms in the last decade. As a result, the armed forces continue to face serious deficiencies in combat capabilities, in spite of availability of funds under the budgetary provisions.

Jolted from the setbacks after the Kargil conflict, the then NDA government set up a Group of Ministers (GoM) to review national security system in its entirety. The Defence Ministry was till then acquiring weapons systems under the archaic Defence Procurement Procedures first announced in 1992. However, after the Kargil conflict the GoM recommended the creation of above structure



ILLUSTRATION: Anoop Kamath

which was set up in 2001. Since then the DPP has been revised several times, the latest one in June 2016.

The Comptroller and Auditor General (CAG) had pointed out deficiencies in defence procurement way back in 2007, but the ministry seems to have taken note of this only recently after the submission of the Pritam Singh report and is now working on a new acquisition body called the DPO. The CAG in its audit report had pointed out that the basic problem of India's defence acquisition framework was its dispersed centres of responsibility and lack of professionalism in acquisitions. The GoM in 2001 had suggested setting up a separate and dedicated structure to undertake the entire gamut of procurement functions. The GoM had also noted that higher degree of professionalism and cost effectiveness in the process was required in the defence acquisition system. CAG had also noted that there were too many independent actors responsible for various acquisition functions which include drafting of technical features, issuance of tender documents, undertaking of trials and evaluations, providing quality assurance and making payment to vendors. These functionaries are neither trained for their given roles nor are they given required training and time to build institutional capacity.

The system evolved during last one and half decade has not yielded the desired result. It failed to ensure time bound delivery of weapon systems which also resulted in forfeiting of sanctioned budgetary provisions and also involving scams and controversies and making them vulnerable to import-centric pressures. Inability to take timely decisions also resulted in return of ₹51,515 crore during the last one decade because of unutilised funds.

Though India's current defence acquisition framework talks a lot about indigenisation and self reliance, the government has not yet been able to formalise any such comprehensive policy. The previous Defence Minister Manohar Parrikar gave a push to the Strategic Partnership plan of the government and the present Defence Minister Arun Jaitley, who describes himself as a night watchman in the MoD, has promised to give it a final shape and has also held comprehensive dialogue with the principal stakeholder, the Industry Chambers. The Strategic Partnership policy is expected to see the light of the day any time soon, but industry watchers are wary of its efficacy and acceptability across the political spectrum. This may not be bereft of controversies.

Though the MoD houses the offices of DG Acquisitions and Secretary Defence Production on the same floor and even their chambers are adjacent to each other, they rarely interact and adopt a comprehensive strategy to fulfill the demand of the armed forces. The Secretary Defence Production is responsible for indigenous arms production by both state and private companies, while the DG acquisition is focused on awarding of contracts so as to utilise the budgetary provisions. A conflict of assigned duties of the two departments results in lack of coordinated planning.

Whatever the nation's armed forces could acquire during the last one and half decades was through direct government to government agreements like the aircraft carrier Gor-

shkov from Russia, Hercules and Globemaster transport aircraft from the United States, Scorpene submarines and Rafale fighters from France, P-8I maritime surveillance aircraft from the United States. But the systems intended to be acquired through the competitive route failed to materialise like the 126 MMRCA (medium multi-role combat aircraft) and the air refuellers for the air force, the six next-generation submarines for the Indian Navy, naval fighter aircraft, minesweepers for the navy, etc. The process of ordering Howitzers guns for the Army has just commenced, one ultra light Howitzer deal through the Government to Government FMS (foreign military sales) route with the United States and other under the 'Make In India' programme through the private sector Larsen and Toubro (L&T) has just been ordered. However, all these systems were acquired after many years of intense discussions in services headquarters and the MoD.

Western Experience

Many western countries have evolved a more centralised system of procurement, which Indian defence planners need to closely watch. Countries like the UK, France, Australia, etc have adopted a much more centralised system of defence procurements. The best example is of France which has been very successful in encouraging a domestic industry driven procurement system. France has developed an advanced defence manufacturing base which can produce wide range of weapon systems and platforms which also

includes the nuclear arms. France boasts of meeting the defence requirements of its armed forces by more than 90 per cent. This is why the Kelkar committee appointed by MoD in 2005, in its report 'Towards Self Reliance in Defence Preparedness' recommended an examination of the feasibility of adopting the French system, which derives its strength from the DGA (Director General Armament) which is one of the three pillars of the French Ministry of Defence. The DGA takes care of range of defence acquisition functions like research, development, test, evaluation, production and export of defence equipments. The DGA is reported to have a highly professional trained manpower of around 10,000. The technical and professional competence of this hugely dedicated team has resulted in most coherent administrative system that has resulted in France fulfilling over 90 per cent of its defence needs domestically.

Unlike France, the manpower associated with defence acquisitions in India are drawn from civil bureaucracy and from the armed forces. Most of them lack experience or expertise in acquisition issues and are not well versed in complex legal, contractual and technical matters because of their short term deputations in MoD. This is proving to be a big hurdle in spearheading the 'Make In India' programme of the Government. Keeping this in mind many defence industry experts have recommended the creation of a dedicated acquisition cadre in the various acquisition disciplines. The proposed DPO will have to be structured in such a manner that it is able to efficiently utilise the huge funds earmarked each year in the defence budget. **SP**

The writer is a strategic analyst.

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LT GENERAL
VK. KAPOOR (RETD)

Phased induction of M777 in the Indian Army

As part of its massive artillery modernisation plan, the army had planned to induct several types of howitzers through in-house manufacture by Defence Research and Development Organisation (DRDO)/Ordnance Factory Board (OFB), inter-governmental pacts and global tenders. The last major acquisition of towed gun-howitzers was that of 400 pieces of 39-calibre 155mm FH-77B howitzers with a range of 30 km from Bofors of Sweden in 1987. The Bofors 'kick back' controversy during Rajiv Gandhi's tenure as the Prime Minister and the black listing of the Bofors company together with many cancelled trials due to allegations of corruption along with the dismal performance of A.K. Antony as the Defence Minister put paid to all modernisation plans of the Indian Army. However the Bofors gun, whose technical and operational performance was never in doubt in the military, despite the sordid political controversy, proved its mettle in the Kargil conflict in 1999.

After about 30 years of neglect, plans are now in place to fulfill the long-postponed 1999 Field Artillery Rationalisation Plan (FARP), under which the army aims to import, locally develop, and license-produce some 2,820 to 3,000 assorted 155mm howitzers to equip all its artillery regiments at an estimated Rs 22,000 crore (approximately \$3.3 billion). These include 1,580 towed gun systems (TGS), 814 mounted gun systems (MGS), 100 self-propelled howitzers (SPHs) — all of which are 155mm/52-calibre — and 145 BAE Systems M777 155mm/39-calibre ultra light-weight howitzers. Locally upgraded and retrofit-



The M777 purchase is meant to equip the Indian Army's 17 Mountain Strike Corps, which is presently partially raised for deployment along the disputed border with China.

ted guns will make up additional numbers. While many projects are afoot, none has fructified.

In May 2015, the Ministry of Defence (MoD) approved the import of 145 M777 155mm ultra light howitzer, along with Selex Laser Inertial Artillery Pointing Systems (LINAPS) via the US Foreign Military Sales (FMS) programme. The M777 purchase is meant to equip the Indian Army's 17 Mountain Strike Corps, which is presently partially raised for deployment along the disputed border with China. This deal has been in the process since 2008. Weighing just over 4-tonne due to the use of titanium, the M777 can be airlifted to high-altitude areas of Ladakh and Arunachal Pradesh along the 4,057-km Line of Actual Control (LAC) with China.

Two of the 145 M777 ultra-light howitzers ordered from the United States have arrived in India on May 17, 2017. These two howitzers, which came in a chartered aircraft from the UK, will be taken to the Pokhran ranges for testing and 'compilation of the firing tables' for subsequent use. The firing tables, for these

guns are going to be prepared for different types of Indian ammunition with bi-modular charges, and will take some time to be formulated.

The delivery schedule for the M777 155mm howitzers which are air mobile are being acquired under the \$737 million deal inked with the US in a government-to-government deal. The induction will commence from March 2019 onwards. Induction schedule includes five guns per month from March onwards till all 145 are inducted by June 2021. While the first 25 guns will be imported, the rest 120 will be assembled in India by the manufacturer BAE Systems who have selected Mahindra as its business partner. **SP**



LT GENERAL
P.C. KATOCH (RETD)

M777 howitzer finally debut in India

In what is being described as “laying the Bofors ghost to rest”, the first two M777 howitzer guns manufactured by BAE System of the United States arrived in India and were test-fired at the Pokhran field firing ranges to mark ‘Pokhran Day’, marking the first nuclear test by India at Pokhran on May 18, 1974, described as “peaceful nuclear explosion”.

Arrival of these guns also marks a boost for Indian Army, 30 years after the Bofors howitzers were introduced in the artillery. After almost seven years of discussions, trials and choosing, India and the United States inked a nearly ₹5,000-crore deal for 145 x M777 ultra-light howitzers last year. India signed the letter of acceptance (LoA) on November 30, which formalised the agreement.

This broke the decades long jinx of our artillery having been starved of inducting new artillery guns after the Bofors scandal, following which India blacklisted the Swedish firm. The blacklisting resulted in drying up the supplies of spare parts and assemblies for these guns also. In fact, during the Kargil conflict of the 400 x Bofors guns imported only 100 could be cannibalised. The offsets, under which BAE Systems, the manufacturer of the gun, will invest about \$200 million will be pursued independently. While 25 guns will come to India in a fly-away condition, the rest will be assembled at the proposed assembly integration and test facility for the weapon system in India in partnership with Mahindra Defence. 40 Indian companies will be eligible to be part of the supply chain.

Of the 25 M777 howitzers to be imported, the first two howitzers were to be delivered within six months of the contract being inked – which have just arrived. The rest are to be delivered at the rate of two per month. Army had successfully tried and selected BAE Systems M777 155mm/39-calibre light-weight howitzers guns from the US years back but the procurement was stymied over an anonymous letter alleging bribes. The M777s are ideal for mountains. Besides they can be airlifted swiftly to beef up high-altitude areas along the line of actual control (LAC) with China in emergent situations. These guns will also be mainstay ordnance for artillery regiments of the Mountain Strike Corps.

Built with titanium and aluminium alloys, the M777 is 155mm/39-caliber howitzer that weighs only 4,218 kg, compared to the 155mm towed howitzers that weigh twice as much. This gives the former superior tactical mobility including facilitating their swift deployment in mountains under slung from helicopters. With a range of 35 to 40 km, it is ideal for deployment in mountains along our borders with Pakistan and China. At the same time while the mountainous regions along the western frontier has good roads (where these howitzers can be delivered by truck, the border infrastructure is poor along the China border, where heavy guns cannot be transported due to poor road connectivity, leaving critical gaps. Movement of guns under slung by helicopters or dismantled and airlifted to mountain-

ous regions is possible but should not be permanent arrangement. Therefore, special focus is needed to develop the border infrastructure in that sector speedily. The M777 artillery guns have been used during operations in Afghanistan and Iraq, while more than 1,090 M777 guns are in service globally.

India will be the latest user of these howitzers operated by the United States, Australian and Canadian militaries for accurate artillery fire support. Presently, Indian Army holds 180 pieces of 130mm/39-calibre M-46 Russian guns that were upgraded to 155mm/45-calibre by Soltam of Israel. In addition, in 2012 tenders were floated for 1,580 towed guns of 155mm/52-calibre, 100 tracked guns of 155mm/52-calibre and 180 wheeled and self-propelled guns of 155mm/52-calibre. The Indian Army has some 264 artillery regiments but most of them are equipped with the 1970s era of 105mm Indian Field Gun (IFG), in addition to some regiments equipped with 130mm M-46 howitzer guns supplied by the Soviet Union in the 1960s. The latter howitzer guns have been upgraded to 155mm but such upgraded howitzer guns can hardly compete with modern computer aided artillery howitzer guns in warfare.

Army's long-term plan to replace these with 155mm howitzers recently received a boost after the Defence Research and Development Organisation (DRDO) produced the Dhanush based on specification and manufacturing know-how received under the transfer of technology (TOT) more than three decades ago from Bofors of Sweden. As per reports, the Indian Army is to initially order 114 x 155mm/45-calibre howitzer Dhanush to equip a number of medium artillery regiments.

Subsequently, the Indian Army is to reportedly place an order for another 300 or more Dhanush guns. However, the yearly capacity of the Ordnance Factory Board to produce the Dhanush gun was only 16 till 2015. There were plans to increase the yearly production rate to 36 during year 2016 but whether this has been affected is not known. But even if the production is increased to 36 per year, it will take more than a decade to equip the artillery with 400 plus of Dhanush guns. Acquisition of the 145 x M777 155mm/39-calibre lightweight howitzer guns simultaneous to the indigenous Dhanush will provide the much needed boost to the artillery. The M777 guns will be followed by new 155mm/52-calibre tracked self-propelled guns.

Private sector defence major Larsen & Toubro and South Korea's Hanwha Techwin (HTW) on April 21 signed a \$720-million contract for the artillery gun programme. The Indian Army will be supplied 100 K9 Vajra-T guns. L&T plans to begin production of the guns at Talegaon, near Pune in Maharashtra, and is expected to deliver them within three years. An improved version of HTW's K9 Thunder, the K9 Vajra-T, has been designed to meet Indian requirements, including those of its desert formations. **SP**



AIR MARSHAL
B.K. PANDEY (RETD)

Modernisation of the Armed Forces

Are the Indian armed forces adequately equipped to confront the challenge posed by Pakistan or more importantly, by Pakistan and China acting in collusion?

Hostile activity by elements in the Pakistan-occupied Kashmir (PoK), inimical to the security interests of the nation either by themselves or with active support by the not-so-friendly neighbour Pakistan, has been on the rise especially in recent times. In response to the terror strike by the Pakistan-supported elements on an Indian military base in Uri on September 18, 2016, in which 19 Indian soldiers perished, the Special Forces of the Indian Army carried out a 'surgical strike' with notable success. However, there was an inelegant attempt by the opposition to gain political mileage from the surgical strike and put the BJP government on the backfoot. But what is of concern is that instead of a salutary effect of the surgical strike on the enemy, the hostile elements have become even more aggressive and active all along the line of control. While the Kashmir Valley continues to burn with ever-increasing ferocity, ceasefire violations by Pakistani forces remain unabated and casualties amongst Indian forces have been on the rise.

It is abundantly clear that the Kashmir Valley is India's Achilles' heel and Pakistan will leave no stone unturned to exploit this weakness through proxy war. As India is not in a position to repay Pakistan in the same coin, the most appropriate response would be a massive retaliation by conventional forces to be delivered as a crushing blow. The question is whether the Indian armed forces are adequately equipped to confront the challenge posed by Pakistan or more importantly, by Pakistan and China acting in collusion.

As per media reports, at the Air Force Commanders' Conference, Air Chief Marshal B.S. Dhanoa, Chief of the Air Staff of the Indian Air Force (IAF), directed the commanders to "prepare for short duration, but intense wars of 10 days in case of Pakistan and 15 days with China to maintain razor-sharp operational preparedness and enhanced combat effectiveness." The precise state of operational preparedness, however, can be assessed only after a thorough evaluation of threats and challenges the nation faces, assets available for combat and capability of support elements.

From the information available in the public domain, as against the requirement of 45 combat squadrons to cope with a two-front war, the IAF currently has 32 squadrons, 10 squadrons short of the authorised strength of 42 squadrons. Efforts

were on by the IAF since 2002 to acquire under the newly crafted Defence Procurement Procedure (DPP), a modern fourth-generation combat platform in large numbers. The Rafale aircraft from Dassault Aviation was selected but owing to insurmountable impediments, the project was finally abandoned in 2015. So much for the procurement process! Partial relief to the IAF was provided by a direct deal with the French Government for 36 Rafale jets to be delivered by 2020. Meanwhile, the IAF will phase out a few squadrons of MiG-21 and MiG-27 aircraft that are already obsolete. The rate production of the light combat aircraft (LCA) Tejas Mk I and IA is extremely low and it may take well over a decade for the IAF to induct the six squadrons that are on order. The more capable LCA Mk II is nowhere on the horizon.



Unless the government accords the right priority towards timely and systematic modernisation of the Indian armed forces, allocates the funds required and restructures the DPP to address proactively the imperatives of national security, the capability of the armed forces will remain undermined.

Meanwhile, the Ministry of Defence initiated a project to manufacture in India with collaboration with a foreign original equipment manufacturer (OEM), a reputed single-engine fighter aircraft. The platform selected was the F-16, a product from Lockheed Martin of the United States. The OEM is prepared to transfer its only existing production line in the US to India and manufacture the Block 70 version which is the latest, in large numbers for the IAF as also for other customers across the globe. For the IAF this was the proverbial light at the end of the tunnel. However, nearly a year has passed since the proposal was initiated, but the project appears to be shrouded in uncertainty on account of the policy imperatives of the Donald Trump administration. Meanwhile, the combat fleet of the IAF continues to dwindle.

The plight of the Indian Army is no better. While addressing a defence think tank recently, General Bipin Rawat, Chief of the Army Staff (COAS), said, "Spending on defence is considered a burden by many in the country and the military is not getting its due share." This statement by the COAS is an indication that the Indian Army may not be equipped well enough to fight a full-scale war.

Unless the government accords the right priority towards timely and systematic modernisation of the Indian armed forces, allocates the funds required and restructures the DPP to address proactively the imperatives of national security, the capability of the armed forces will remain undermined. **SP**

Defence Acquisition Council fine tuning private sector participation

Breaking new ground, the Defence Acquisition Council (DAC) under the Chairmanship of Defence Minister, Arun Jaitley, has finalised the broad contours of a policy aimed at engaging the Indian private sector in the manufacture of high-tech defence equipment in India. The policy is aimed at developing the defence industrial eco-system in the country through the involvement of both the major Indian corporates as well as the MSME (medium, small and micro enterprises) sector.

The policy, which was developed through extensive stakeholder consultations with Indian industry, envisages the establishment of long-term strategic partnerships with qualified Indian industry majors through a transparent and competitive process wherein the Indian industry partners would tie up with global OEMs (original equipment manufacturers) to seek technology transfers and manufacturing know-how to set up domestic manufacturing infrastructure and supply chains. The policy will give a boost to the 'Make in India' policy in the Defence sector and set Indian industry on the path to acquiring cutting-edge capabilities which will contribute to the building of self-reliance in the vital sector of national security requirements.



The policy is expected to be implemented in a few selected segments to begin with, namely, fighter aircraft, submarines and armoured vehicles. In future, additional segments may be added. Appropriate institutional mechanisms will be set in place to implement the policy. **SP**

Indian warships visit Jeddah, Saudi Arabia



As part of the Indian Navy's overseas deployment to the West Coast of Africa and the Mediterranean Sea, three Indian warships, INS Mumbai, INS Trishul and INS Aditya, visited Jeddah for three days. The warships engaged extensively with the Saudi Arabian Navy during their stay in the country. The deployment saw professional interactions, sports and social engagements towards enhancing co-operation and understanding between these important navies of the Indian Ocean region (IOR).

The visiting ships were headed by Rear Admiral R.B. Pandit, the Flag Officer Commanding Western Fleet (FOCWF) who was flying his flag on the guided missile destroyer INS Mumbai.

India and Saudi Arabia enjoy cordial and friendly relations, reflecting centuries old economic and socio-cultural ties. Bilateral trade between the countries has shown remarkable growth and has

registered a three-fold increase in the last five years. The 1.8 million-strong Indian community in Saudi-Arabia is the largest expatriate community in the Kingdom and is the 'most preferred community' due to their expertise, sense of discipline, and law abiding nature. The Haj pilgrimage is another important component of the bilateral relations with over 1,65,000 Indians performing Haj every year.

Building upon the rich and longstanding relations that have existed between India and Saudi Arabia, both nations have developed warm relations in several spheres. The current visit seeks to underscore India's peaceful presence and solidarity with friendly countries of the Indian Ocean and, in particular, to strengthen the existing bonds between India and Saudi Arabia. **SP**

INS Sharda foils piracy attempt in the Gulf of Aden

INS Sharda is deployed for anti-piracy patrol in the Gulf of Aden since April 6, 2017. On May 16, 2017, at about 1645 hrs, the ship received a distress call from MV Lord Mountbatten (a Liberian registered ship), in position 230 nm south-west of Salalah (in the Gulf of Aden). The vessel had reported an incident of attempted piracy by two suspicious mother vessels along with eight skiffs. Sharda, which was at that time 30 nm east of the reported position, immediately responded to the distress call and proceeded at best speed to investigate the incident.

Sharda detected two dhows along with eight skiffs in vicinity, three of which fled the area at high speeds on sighting the warship. Indian Navy's MARCOS, with support of the armed helicopter from the ship investigated the dhows and their skiffs by conducting board and search operations. The absence of any fishing gear onboard the two dhows/remaining five skiffs indicated malicious intent and possible piracy-linked intentions. One high calibre AKM rifle along with one filled magazine (28 rounds) was found hidden onboard one of the dhows. The weapon and ammunition has been confiscated to prevent future illegal misuse. **SP**



Left to Right: (Top) Infantry and tanks in offensive manoeuvre; tank manoeuvres in the desert; (above) troops slithering down from a helicopter, tank crossing an assault bridge.

Exercise Thar Shakti concludes

The Chetak Corps of the Indian Army is a Holding Corps or what is termed as a Pivot Corps. While there are many Holding or Pivot Corps in the Army, what is unique regarding the Chetak Corps is that it is a Rapidised Corps implying that it comprises RAPID Divisions (Reorganised Army Plains Infantry Divisions) instead of purely infantry divisions. The basic difference is that RAPIDs have greater fire power and more assets capable of providing rapid mobility and man oeuvre in the plains and desert/semi desert terrain. By virtue of its organisation and equipment it is capable of independently undertaking offensive manoeuvres despite being a defensive/holding corps.

The Chetak Corps recently carried out operational manoeuvres code named Exercise Thar Shakti in the deserts of Rajasthan. The month-long exercise involved approximately 20,000 troops along with tanks, ICVs, artillery guns and advanced surveillance sensors.

Lieutenant General Ashwani Kumar, General Officer Commanding, Chetak Corps along with senior officers reviewed the

manoeuvres during the culmination phase of the exercise. The General officer expressed his satisfaction over the operational preparedness of the Corps and appreciated the troops for braving the high temperatures and harsh desert environment during the conduct of exercise. The exercise culminated on a high note fully achieving the desired aim with respect to capability development and operational challenges in the contemporary battlefield environment.

Generally such training exercises involves step by step training, comprising company/squadron/battery level training followed by Battalion / Regimental level training followed by formation (Brigade and Division) level training and culminating in the Corps level exercise. All training is done by integrating all arms and services so as make the training as realistic as possible to a war setting. Various newly inducted weapons, equipment and surveillance systems are tried out during such exercises to check their efficacy and mode of deployment and employment. **SP**

—Lt General V.K. Kapoor (Retd)

Bilateral exercise SIMBEX-17 commences

As part of SIMBEX-17, the ongoing Bilateral Naval Exercise between Navies of the Republic of Singapore and India, Indian Naval Ships Shivalik, Sahyadri, Jyoti and Kamorta and one P8-I Maritime Patrol and Anti-Submarine Warfare Aircraft are participating. While INS Sahyadri and INS Kamorta are at Singapore since May 12, 2017, INS Shivalik and INS Jyoti would be joining directly for the sea phase of the exercise. The ships are under the command of Rear Admiral Biswajit Dasgupta, YSM, VSM, Flag Officer Commanding Eastern Fleet.

SIMBEX is an acronym for Singapore-India Maritime Bilateral Exercises. Bilateral cooperation between Singapore and India was first formalised when RSN ships began training with the Indian Navy in 1994. This year's edition of SIMBEX-17 being held in the South China Sea would be the 24th in the series and is aimed to increase interoperability between the RSN and IN as well as develop common understanding and procedures for maritime security operations. The scope of the current exercise includes wide-ranging professional interactions during the Harbour Phase scheduled from May 18, to 20 and a diverse range of operational activities at sea during the Sea Phase to be held from 21 May to May 24. The thrust of exercises at sea this year would be on Anti-Submarine Warfare (ASW), integrated operations with surface, air and sub-surface forces, air defence and surface encounter exercises.

During SIMBEX-17, the Singapore Navy is represented by RSN Ships Supreme, Formidable and Victory and Maritime Patrol Aircraft Fokker F50 in addition to the RSAF F-16 aircraft.



The two navies share a long standing relationship with regular professional interactions that include exchange programs, staff talks and training courses. Singapore Chief of Naval Staff, Admiral Lai Chung Han had earlier visited ENC and participated in IFR-16 held in February last year in the City of Destiny, Visakhapatnam. RSS Formidable and a Fokker F 50 aircraft participated in SIMBEX-16 which was held at Visakhapatnam and in Bay of Bengal.

INS Sahyadri, and INS Shivalik-both multi-role stealth frigates – are commanded by Captain Anil Jaggi and Captain R. Vinod Kumar respectively while INS Kamorta, an Anti-Submarine Warfare Corvette is commanded by Commander Vipin Gupta. INS Jyoti, the fleet replenishment tanker is commanded by Captain S Shyam Sundar. **SP**

Eastern fleet's overseas deployment to Singapore

In pursuance of India's 'Act East' policy, Indian Naval Ships Sahyadri, Shivalik, Jyoti and Kamorta are on an overseas deployment to the South East Asia and Southern Indian Ocean under the command of Rear Admiral Biswajit Dasgupta, YSM, VSM, the Flag Officer Commanding Eastern Fleet.

Indian Naval Ships Sahyadri and Kamorta are on a port visit to Singapore from May 12 to 21, 2017, during which the ships will participate in the International Maritime Review and IMDEX-17. Admiral Sunil Lanba, the Chief of Naval Staff, Indian Navy would also be attending the events ashore. During the port visit, various calls by the visiting Fleet would be organised in addition to those scheduled as part of IMR and IMDEX-17. Thereafter the four Indian Naval Ships and an Indian Navy Long Range Maritime Patrol and Anti-Submarine Warfare aircraft P-8I would exercise with the RSN and RSAF as part of SIMBEX-17. Held since 1994, this year would be the 24th edition of the annual maritime bilateral exercise between the two countries which aims to further cement the defence cooperation between the two countries.

The two countries share a rich history and a strategic relationship. A number of bilateral agreements exist between the two countries in various spheres. The visit of the Indian Naval ships seeks to underscore India's peaceful presence and solidarity with friendly and harmonious countries towards ensuring good order in the maritime domain. In addition, as part of the Indian Government's vision of SAGAR (Security and Growth for All in the

Region), the Indian Navy has also been involved in assisting countries in the Indian Ocean Region with EEZ surveillance, search and rescue, and other capacity-building and capability-enhancement activities. The current deployment will contribute towards the Indian Navy's efforts to consolidate inter-operability and forge strong bonds of friendship across the seas. **SP**

Vice Admiral Sunil Anand assumes charge as Controller of Logistics

Vice Admiral Sunil Anand assumed duties of the Controller of Logistics with effect from May 1, 2017 on superannuation of his predecessor Vice Admiral Jaywant Korde. Prior to assuming the present appointment, he was Assistant Controller of Logistics at IHQ MoD (Navy) New Delhi.

An alumnus of Indian Naval Academy, Vice Admiral Sunil Anand, Nausena Medal, was commissioned into the Indian Navy on July 1, 1983. He has rendered sea service onboard INS Viduyt as a Missile Gunnery Specialist. As a Logistics Officer he has served onboard INS Sutlej, INS Krishna as part of the commissioning crew, and INS Delhi a guided missile Destroyer. The officer is also an alumnus of the Defence Services Staff College, Wellington and the Naval War College Goa where he did the Higher Command course. **SP**



Light Utility Helicopter (PT-2) makes maiden flight

On the heels of maiden flight of HTT-40 (PT-2), the Hindustan Aeronautics Limited (HAL) carried out first flight of Light Utility Helicopter (LUH)-PT-2 on May 22, 2017, at its facility in Bengaluru. The chopper was flown by Chief Test Pilot Wing Cdr Unni K Pillai (Retd) and Test Pilot Wing Cdr Anil Bhambhani (Retd). The flight duration was about 22 minutes and pilots reported nil snag.

These maiden flights of indigenous aircrafts are testimony to HAL's rapid progress towards 'Make in India' campaign both in fixed and rotary wing segments. These prototypes add strength to ongoing test flights to achieve operational clearance cutting the time frame", said T. Suvarna Raju, CMD, HAL.

The LUH PT2 has modified tail boom and incorporates improvements based on feedback from testing of LUH PT1. The first flight of LUH PT1 was carried out on September 6, 2016 and further envelope expansion flights are in progress. LUH PT-1 made its flight demonstration during the international air show Aero India-2017 held in February 2017.

HAL plans to carry out further flight testing on PT1 & PT2 in the months ahead to freeze the helicopter configuration by end of this year. Senior officials from HAL, representatives from RCMA(H/c), AQA, IAF and Army were present during the flight

The LUH is a 3-tonne class, new-generation helicopter being indigenously developed by HAL to meet the requirements of both



military and civil operators. The helicopter with glass cockpit will be deployed for reconnaissance, surveillance roles and as a light transport helicopter. The helicopter will be capable of flying at 220 kmph, with a service ceiling of 6.5 km and a range of 350 km with 400 kg payload. The LUH is powered by TM/HAL Arddiden 1U/Shakti 1U single turbo shaft engine with sufficient power margins to cater to demanding high altitude missions.

An integrated facility for manufacturing the LUH along with systems, components and the engine is planned at Tumakuru, near Bengaluru in Karnataka. **SP**

Air Marshal P.N. Pradhan takes over as DCIDS

Air Marshal P.N. Pradhan has taken charge as Deputy Chief of Integrated Defence Staff (Operations), HQ IDS. He was commissioned as a pilot in the transport stream of the Indian Air Force in 1981.



Whilst posted at transport squadrons, he qualified on all operational roles, especially in forward areas and ALGs in the North-East and Jammu and Kashmir. He is a qualified Flying Instructor and has been a pilot examiner on the Boeing and An-32 aircraft. He was closely associated with the induction and operationalisation of Embraer-135, BBJ and C-130 fleets in the IAF.

He has had four command tenures including command of two operational bases & an Air Force Selection Board. He

has held several important appointments at Command and Air Headquarters which include Assistant Chief of Air Staff (Transport and Helicopters) and Assistant Chief of Air Staff (Personal Airmen & Civilians) at Air Headquarters and served as the Senior Air Staff Officer of Southern Air Command. For his distinguished service of an exceptionally high order he was awarded Ati Vishisht Seva Medal on January 26, 2014. **SP**

Tejas tests Derby air-to-air beyond visual range missile

Tejas, the light combat aircraft (LCA) successfully demonstrated an air-to-air beyond visual range (BVR) missile firing capability by releasing Derby missile in radar-guided mode. The missile launch was performed in lock-on after launch mode for a BVR target in the look down mode and the target was destroyed.

The objective of the test was to assess the Derby integration with aircraft systems on-board Tejas including the aircraft avionics, fire-control radar, launchers and missile weapon delivery system and to verify its performance.

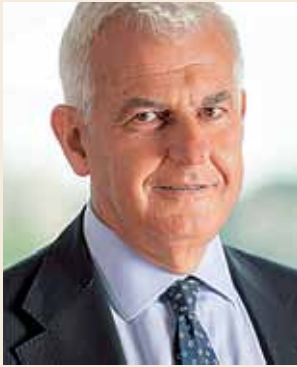
The test was conducted on a manoeu-



vable aerial target at the interim test range (ITR), Chandipur. The sensors at ITR also tracked the target and missile.

A safe separation was followed by missile guidance towards radar acquired target. The flawless launch was demonstrated with all on-board systems performing satisfactorily and the missile scored a direct hit on the target with complete destruction of it. The test firing achieved all its planned objectives. The Derby firing is a major step towards clearing BVR capabilities on LCA aircraft for FOC. **SP**

Leonardo appoints Alessandro Profumo Chief Executive Officer



The Leonardo board has appointed Alessandro Profumo as the Chief Executive Officer, giving him all the attributions for the unitary management of the Company and the Group. Alessandro Profumo stated "I am honoured to have been entrusted with this role, and I thank the shareholders and the members of the Board of Directors for putting their trust in me. I am aware of the great responsibility that comes with being at the helm of a company such as Leonardo, a high-tech champion and world-leader in the Aerospace, Defence and Security sector.

"Leonardo has always been able to attract the best technical engineering talents, and in order to sustain excellence in its products and technologies, it must seek to exploit fully this capability both in Italy and abroad.

"International competition is based increasingly on human capital, on knowledge and on the ability [to] be in tune with the customer, providing them with sustainable solutions that are geared to their requirements; in addition to a strong focus on financial and economic robustness.

"Today Leonardo is a solid business with all the characteristics needed to compete in global markets strengthening its position in different sectors." **SP**

Launch of Saudi Arabian National Defense Company

The Saudi Arabian Public Investment Fund (PIF) has announced the creation of a new national military industries company. Saudi Arabian Military Industries (SAMI) will manufacture products and provide services across four business units: Air Systems, which includes maintenance and repair of fixed-wing aircraft as well as manufacturing and repair of unmanned air vehicles; Land Systems, which includes manufacturing and repair of military vehicles; Weapons & Missiles – including ammunition – and Defense Electronics, which includes radars and sensors as well as communication systems and electronic warfare.

Wholly government-owned, SAMI aims to become one of the world's top 25 defense companies by 2030. It will directly contribute around SAR 14 billion to the Kingdom's GDP in 2030, invest over SAR 6 billion in research and development by 2030, and create over 40,000 jobs, many of which will be in the engineering and technical fields. By partnering with universities, SAMI will provide students with apprenticeships and careers in cutting edge technologies which were previously unavailable in the Kingdom. **SP**

New Raytheon Arabia business unit to be established

In a ceremony witnessed by King Salman bin Abdulaziz Al Saud, and President Donald J. Trump, Raytheon Company and the Saudi Arabia Military Industries Company signed a Memorandum of Understanding (MoU) to cooperate on defense-related projects and technology development on May 20, 2017.

The agreement will enable continued global growth for Raytheon in key market areas such as air defense systems, smart munitions, C4I systems and cyber security of defense systems and platforms. This partnership will also contribute directly to the Kingdom of Saudi Arabia's localised defense ecosystem with regional expert capabilities, and will provide a long-term foundation for Saudi Arabia's economic development.

"This strategic partnership is the next step in our over 50-year relationship in the Kingdom of Saudi Arabia and a strong indicator of our continued global growth," said Thomas A. Kennedy, Raytheon Chairman and CEO. "By working together, we can help build world-class defense and cyber capabilities in the Kingdom of Saudi Arabia."

As part of this new agreement, Raytheon announced plans to establish Raytheon Arabia, a Saudi legal entity wholly-owned by Raytheon that will focus on implementing programs to create indigenous defense, aerospace and security capabilities in the Kingdom. The new company will be based in Riyadh and is expected to include in-country programme management, supply and sourcing capabilities, improved customer access and centralized accountability. These programs will positively impact Saudi and US economies including job creation. **SP**

Business agreements strengthen Boeing, Saudi Arabia partnership

Several defense and commercial agreements announced yesterday will further strengthen Boeing's partnership with Saudi Arabia, create or sustain thousands of jobs in both the United States and Saudi Arabia, and enhance national security in the region.

President Donald Trump and Secretary of State Rex Tillerson were joined by King Salman bin Abdul-Aziz Al Saud, Crown Prince Mohammed bin Naif Al Saud and Deputy Crown Prince Mohammad bin Salman Al Saud at a signing ceremony that included Boeing products and services. Among the announcements were: Agreements to purchase Chinook helicopters and associated support services as well as guided weapon systems; Saudi Arabia's intent to order P-8 maritime, patrol and reconnaissance aircraft, which are based on the Boeing 737 commercial airplane; a joint venture with the Kingdom to provide sustainment services for a wide range of military platforms. The agreement also supports Saudi Arabia's efforts to grow its indigenous aerospace industry and ecosystem through its Vision 2030 initiative; a commercial registration certificate for the Saudi Rotorcraft Support Company, a newly formed joint venture between Boeing, Alsalam Aerospace Industries and Saudia Aerospace Engineering Industries with bases in both Riyadh and Jeddah that will provide support for both military and commercial helicopters and an agreement between Boeing and SaudiGulf Airlines to negotiate the sale of up to 16 widebody airplanes.

"These announcements reaffirm our commitment to the economic growth, prosperity and national security of both Saudi Arabia and the United States, helping to create or sustain thousands of jobs in our two countries," said Boeing Chairman, President and CEO Dennis Muilenburg, who also participated in the Saudi-US CEO Forum. **SP**

Security lapses' in Erdogan visit

Turkey summoned the US Ambassador John Bass to protest “aggressive behaviour” by American security personnel and “security lapses” during Turkish President Recep Tayyip Erdogan’s visit to Washington recently. The visit was marred by bloody clashes that took place outside the Turkish ambassador’s residence after Erdogan met American counterpart Donald Trump.

US officials and police have blamed Erdogan’s bodyguards for the incident, accusing them of attacking a small group of pro-Kurdish protesters gathered outside the building and the incident ignited a storm of controversy. **SP**



Digital heist that terrorised the world

Robert Gren had 26 minutes left to decide whether to pay the ransom. It was Monday, May 15, three days after the global cyberattack now known as WannaCry had begun, and a clock on Gren’s computer screen was counting down.

Above the clock, there was a warning: “Payment will be raised on 5/15/2017 21:13:40.”

The ransomware on Gren’s desktop computer had encrypted his files and demanded he pay \$300 in bitcoin to get them back. In 26 minutes, the price would double. He was willing to pay, because the files he’d lost represented his entire digital history: family photos, work files, music. It would all be gone. But he didn’t believe the hackers would decrypt his files even if he paid.

The ransomware that had just found its way onto Gren’s desktop was simultaneously installing itself onto tens of thousands of other Windows computers across Europe, Asia, and parts of North America. About 30 minutes after Gren’s screen had gone black, the National Health Service in the UK announced that computers in 16 of its health facilities had been infected. Doctors were unable to access patient records and emergency rooms were forced to turn people away. Soon, it was 33 facilities. Then there was a telecommunications company in Spain, a cell phone carrier in Russia, and the French automaker Renault. Anyone using certain versions of Windows that hadn’t been updated within the last month was vulnerable. Within hours, it was being called the most successful ransomware attack of all time. **SP**

Zomato hacked: 17 million user data stolen

According to Hackeread.com, a user by the name of “nclay” claimed to have hacked Zomato and was willing to sell data pertaining to 17 million registered users on a popular Dark

Web marketplace. According to Hackeread.com, a user by the name of “nclay” claimed to have hacked Zomato and was willing to sell data pertaining to 17 million registered users on a popular Dark Web marketplace.

Zomato has suffered a security breach with over 17 million user records stolen from the food-tech company’s database. The stolen information has email addresses and hashed passwords of customers. According to Hackeread.com, a user by the name of “nclay” claimed to have hacked Zomato and was willing to sell data pertaining to 17 million registered users on a popular Dark Web marketplace. This included emails and password hashes of registered Zomato users with the price set for the whole package at \$1,001.43. Hackeread adds the vendor also published data and evidence to prove it was genuine. **SP**

Netflix’s ‘Orange is the New Black’ breach

The upcoming fifth season of Netflix’s ‘Orange is the New Black’ may turn out to be Hollywood’s biggest breach since the Sony hack in 2014. But security experts aren’t surprised by the incident, even as details about it still emerge. That’s because many have been warning of weak security at third-party vendors for years.

“Third-party vendors have been a problem for a long time and will continue to be in the future,” said PwC principal Mark Lobel during an interview with Variety. Lobel declined to specifically comment on this weekend’s Netflix leak, which appears to be based on a security breach at Larson Studios, an audio post-production company that has also been working on shows like “ Fargo,” “ Designated Survivor” and “ NCIS Los Angeles.” But he argued that security for third-party vendors continues to be a weak link for Hollywood. **SP**

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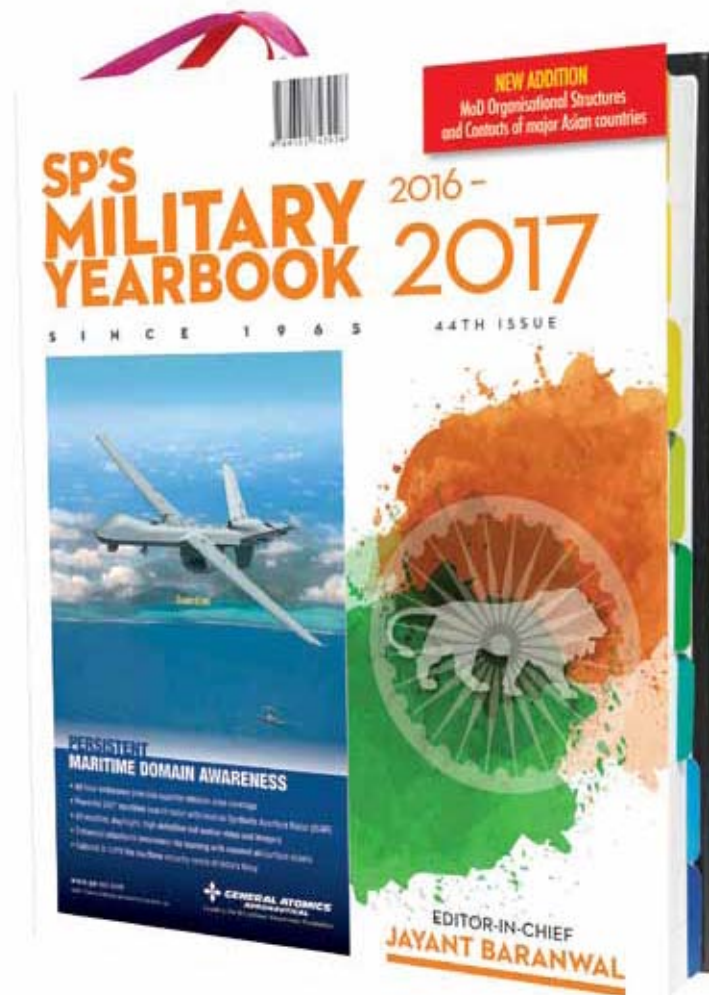


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