

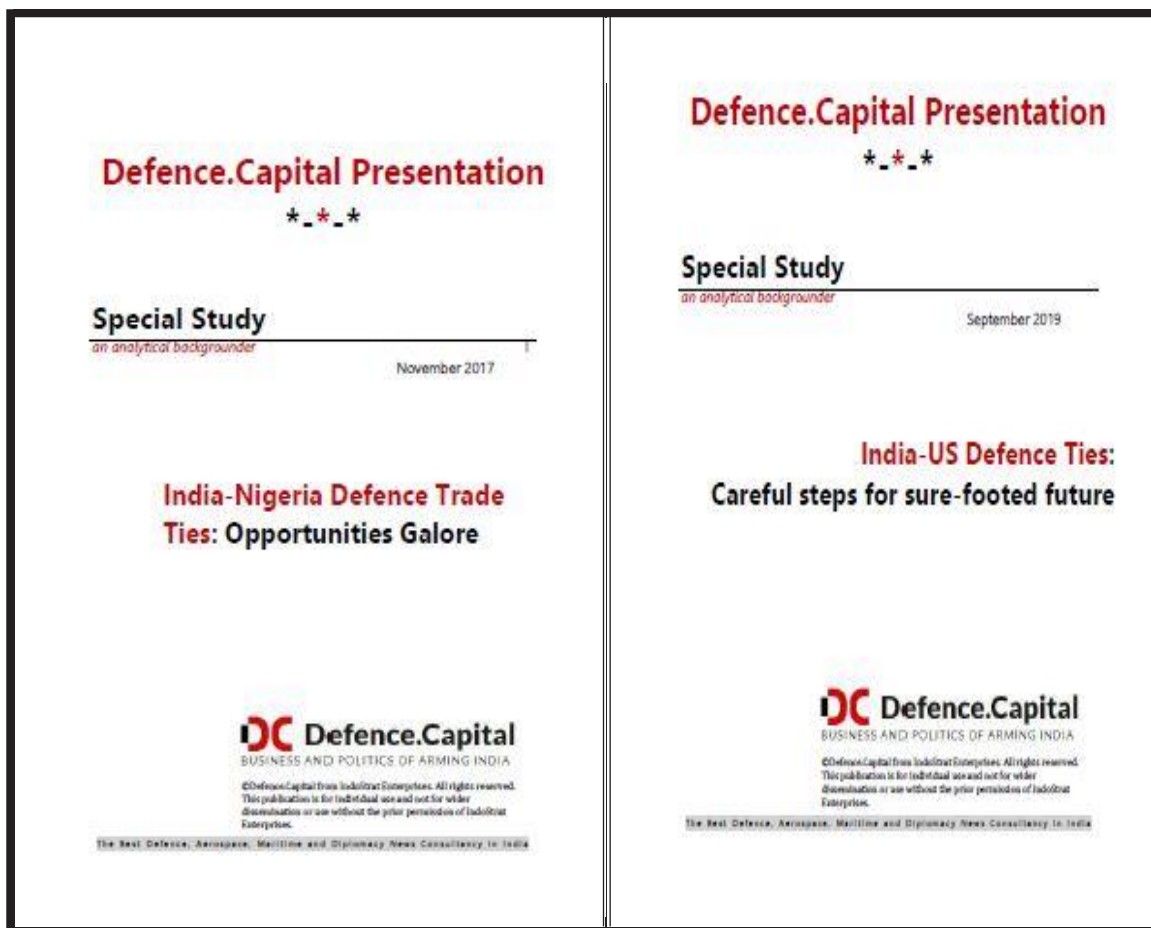
CDS: An uphill task

Three years may be too short a tenure
for General Bipin Rawat

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EDITORIAL



Dear Reader,

It truly gives me immense happiness to greet as you step into New Year 2020. I am doubly happy because it has been our singular privilege to present to you Defence.Capital, a uniquely placed news portal and monthly magazine focusing on the defence, aerospace, homeland security and shipping sectors.

Am sure the discerning reader and observer in you will lap up this product from the IndoStrat Enterprises stable. While the online portal will be a platform to provide you breaking news, the monthly magazine in a print form and in the electronic, soft copy format will be explainers of issues that are gripping the focus sectors.

The January 2020 edition of Defence.Capital with special focus on the Army Day is the first ever of the printed magazine and the ezine editions, though the online product is already six months old. The editorial team looks forward to your valuable suggestions and feedback on the product and ways to improve it further, so that the website and the magazine become the first stop of all the stake-holders in the sectors from which we will be bringing news that you can use.

Defence Budget 2020-21

It is but customary that the Indian government presents the general budget for the 2020-21 fiscal within a month or so of entering a new year. This year, Minister of Finance Nirmala Sitharaman will be presenting only her second budget on Jan. 31, according to the parliamentary schedule that is available as we go to print. Sitharaman has previously been the Minister of Defence in the first Narendra Modi government and very well understands and realises the dire need of the armed forces to stay contemporary and modern to be warfighting ready.

The first five years of the Modi government has been a huge disappointment for the defence sector in terms of military budget for capital and revenue expenditure for procurement. It has always been an incremental increase of seven per cent to 10 per cent from the previous defence budget, which actually caters only to meet the inflationary effects of the economy on the defence spending itself.

The hike in capital allocation in the defence budget has been pitiful and piddly that it has failed to fund new procurement and investment in national security. The capital allocation has been inadequate to even meet the committed liabilities of the armed forces and hence just about 10 per cent of the total capital budget has been available for new equipment to be bought by the armed forces.

It isn't necessary to state the obvious that military equipment don't come cheap, even when procured indigenously from the Indian defence state-owned units or the private sector. There is a huge cost involved when the procurement is through the import route, as India would have to pay for the development cost of the equipment too and for the Intellectual Property of the foreign original equipment manufacturers.

There is a national cost involved and it would only be prudent that the government be ready to pay more for India-made equipment, thus encouraging development of domestic industrial and technological capabilities, both in the government and the private sectors. If India seeks strategic independence, then the government has to encourage local domestic manufacturers and investors to put their money in the defence sector. It is the duty of the government, which is the sole customer to the defence manufacturers, to see to it that those investments succeed.

There is no second option available but to favour Indian private sector, and the government shouldn't shy away from it, fearing an Opposition backlash and unjustified accusations of crony capitalism. A nationalist will know, understand and realise the imperatives of India's strategic independence and promoting local industry. Anyone not doing so is certainly an anti-national.

NC Bipindra
Editor

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Indian Army equipping for future two-front and new-age wars

India's new Chief of Army Staff General Manoj Mukund Naravane is a counter-insurgency expert. But his understanding of conventional warfare and the nature and character of future warfare is equally note-worthy. The General, who has previously served as the Vice Chief of Army Staff and as the Army Commander responsible for the defence of the nation against China in the eastern sector, says that both of India's adversaries in the immediate neighbourhood could collude against India anytime in the future and hence, the Indian Army needs to be fully prepared for a conventional two-front war. In this exclusive interview to Defence.Capital editor N. C. Bipindra, General Naravane also talks about the procurement programmes of the infantry, armoured, artillery and the key ammunitions for the equipment possessed by the 1.3-million-strong Indian Army.

Q. Since the 1971 Bangladesh Liberation, the Indian Army has not fought a conventional war. Do you think this

could have any impact on the Indian Army's warfighting capabilities? Is this a disadvantage for the Indian Army?

A: Let me first assure you that despite being deeply involved in the counter-terrorism and counter-insurgency operations in Jammu and Kashmir and in the north-eastern states, the Indian Army is fully oriented and well-prepared for its primary task of fighting a conventional war against external adversaries.

At the same time, we would go horribly wrong if we start looking at the Indian Army's efforts towards complex issues of national security through statistics. With the increasing blurring of boundaries between various levels of conflicts, adapting to new, emerging threats and challenges is the norm. We should focus on identifying the correct response to an external belligerent within the conventional domain, even as we contain the internal security situation and to dominate the operational space.

The Indian Army is well aware that a small military situation or skirmish on the borders can develop into a major

military conflict. In such a scenario, India's adversaries are likely to employ a maximum or regular and irregular force to achieve their military aims. Thus, it is the ability to effectively respond to hybrid threats and challenges, including threats from non-state actors, that has to be factored into our operational planning.

In consonance with our national strategy, the Indian Army remains ready to carry out any operation or responsibility across the full spectrum of conflict and towards that, the Indian Army remains prepared for every contingency with a capability to adapt to emerging threats and challenges, as they happen. It is important to stress here that counter-terrorism response by the Indian Army is not in isolation but an aggregation of capabilities of all agencies involved directly or indirectly in national security.

While discussing conventional options in the current geo-political context in our immediate and extended neighbourhood, we must not overlook options other than a full-scale war. Low intensity conflict is a reality which has kept us engaged for some time and options short of war are available to us to provide a befitting reply to our adversaries.

Q. What could emerge as India's future threats that its Army may have to tackle? How is the Indian Army preparing to fight future wars? Please list out those preparations for the benefit of our readers.

A. There are a number of external and internal threats to our national security, but the most significant external threat is the proxy war being waged by Pakistan.

Future Threats: The unresolved borders on both the northern and western fronts leading to conventional external threats. Cyber threat in conjunction with involvement of non-state actors will constitute hybrid threats.

Future Wars: Future conflicts to be more violent and unpredictable and battle spaces severely contested, seamlessly connected, and constrained by indeterminable factors. Technology will become the key driver of future wars. The spectrum of conflict having broadened, has brought almost all the organs of the state within the ambit of conflict. The response, therefore, will have to be planned and integrated at the apex level.

Cyberspace is likely to be fiercely contested in future with threats of cyber-attacks to critical national infrastructure. Non-kinetic, non-contact means are likely to see more engagements. Battle of narratives, climate change leading to mass migrations and competition for natural resources, ideologically driven radicalised 'proxies' are likely to enhance the operating space.

The armed forces would need to be conscious about the dynamic and rapid technological advancements in space, its militarisation and increasing integration of space capabilities with future war fighting. Need to protect the nation's security interests will increase and hence geo-strategic imperatives dictate possession of commensurate capabilities.

Preparedness: We are closely monitoring the security situation, assessing manifestations of future threats and analysing the changing character of conflict, updating our doctrines and response options in the process. We have a well-established system of capability building through Long

Term Perspective Plan, which is being pursued vigorously within the given budgetary envelope. Numerous measures in terms of procurement through emergency powers, fast track procurement, inter-governmental agreement and foreign military sales are being optimally exploited to bring capability gaps.

The nature of future military and non-military security, therefore, implies the imperative need for the Indian Army to be prepared for multi-spectrum challenges. It needs to remain prepared and trained to fight a conventional war, which continuing to deploy large numbers to guard our multi-front borders countering proxy war and fighting insurgencies, and also provide troops to UN and OAC missions, all at the same time.

Q. Even as the Indian Army is preparing for future warfare, is it ready to fight a conventional two-front war with our western and northern neighbours simultaneously?

A. The current security environment in India's immediate neighbourhood is marked by an assertive China, intransigent Pakistan, growing Sino-Pak collusiveness and continued role of non-state actors, which in sum dictates that the Indian Army must always be prepared for full spectrum of conventional war. Combat power of any fighting force or armed force is a function of six key components, namely, doctrines and concepts; force structure; manpower and training; equipment, armament and ammunition; mobilisation and logistics; and infrastructure.

The doctrinal and conceptual components provide the framework and foundation of warfighting. In our case, there are no major manpower shortages and the human resources factor is well addressed. However, equal attention needs to be paid on the state of equipment, armament and ammunition, along with infrastructure development, to ensure the desired levels of operational preparedness.

The authorisation and holding of equipment is as per operational requirements of the Indian Army, to prosecute the tasks laid down in the Defence Minister's operational directive. While availability of armament, equipment and ammunition, in the desired numbers, with combat units is a mandatory requirement; adequate reserves have been authorised in terms of War Wastage Reserves to cater for contingency during war. Criticalities in equipment holdings, ammunition and force levels, along with associated infrastructure including roads in border areas, have been identified. Continuous efforts are being made to make up operations voids and overcome shortages, to achieve the desired minimum levels of reserves.

While deficiencies related to weapons, equipment and ammunition exists, the Indian Army is capable of meeting any external threat to safeguard national security, with the resources available.

Q. The Indian Army's bid to change the existing standard infantry weapons hasn't made much progress. What's the plan now to acquire the standard assault rifles, light machine gun, close-quarter battle carbines and the sniper rifles? How would the delay in procurement of these new weapons impact infantry performance?



General Manoj Mukund Naravane taking over from General Bipin Rawat as Chief of Army Staff.

A. The Indian Army is going ahead with its acquisition plans as a process for modernising the infantry. The progress in the procurement of small arms for the infantry men, the boots on the ground, has been satisfactory.

Assault Rifle: The procurement of 72,400 assault rifles for the Indian Army has been contracted for and 10,000 of these rifles have already been delivered for deployment. Another procurement programme for more assault rifles is being pursued through the Inter-Governmental Agreement route with Russia, for which a joint venture, Indo-Russian Rifles Private Limited, has been formed between the Ordnance Factory Board and the Kalashnikov. Request for Proposals for this rifle's procurement has been issued and is being progressed as per laid down procedures.

CQG Carbine: The scheme for the Close Quarter Battle carbine for immediate requirement under the fast track procedure of procurement is at an advance stage of acquisition. For more carbine requirement, a separate case is being processed.

LMG: The procurement of the Light Machine Guns under the fast track procedure of procurement is at the stage of approval from the competent financial authority and the acquisition will be progressed as per procedure.

The above procurement by no means is an exhaustive list.

To ensure cutting edge of infantry, due emphasis has been given to all facets of its capability development.

Q. How satisfied is the Artillery Directorate with the M777, the K9 and the Dhanush artillery guns? Can we expect more orders for these artillery weapons? What's the requirement that has been projected for these weapon systems? How is the Mounted Guns System procurement progressing? Now that a few of the artillery guns procurement has taken place, what could be the future line up of the artillery regiments be in composition? What could the artillery inventory look like in the next five years?

A. Modernisation efforts of the Artillery Systems in the Indian Army have now resulted in the induction of the state-of-the-art heli-portable 155mm/39calibre Ultra Light Howitzers and the self-propelled guns like the 155mm/52calibre K-9 Vajra guns into the inventory. Similarly, induction of the 155mm Dhanush, 155mm Towed Gun Systems and the 155mm Upgunned systems are in advanced stages. Induction of additional indigenously produced Pinaka rocket system will further strengthen our arsenal of long-range vectors.

Induction of the new 155mm gun system will enable gradual de-induction of the vintage 12mm Mortar, 105mm



IFG, 130mm and 130mm Catapult regiments. About 30 per cent of the artillery inventory would have converted to a 155mm medium profile in the next five years.

Q. The Army had begun the process of designing a future-ready combat vehicle over a few years ago. Is there clear-cut progress on the FRCV project since that process began with RFI? What progress has been made regarding the other FICV project with the Indian industry partners? What's going to be the timelines for the two projects to bear the desired fruit?

A. The FRCV Request for Information was uploaded on the Ministry of Defence website on Nov. 8, 2017 with the date of response submission as Jun. 30, 2018. The process for ratification of the Services Qualitative Requirements for the FRCV is currently under progress. The FRCV project is progressing as per laid down guideline of the Strategic Partnership model.

With regard to the FICV, there have been interactions with the stakeholders on progressing the procurement case expeditiously. We have considered various models for this process, such as issuing a fresh Request for Information for the project. The fresh RFI stands prepared already. This RFI will be shared with the industry in sometime from now. Keeping with the pace of the phasing out of the existing platforms, the Indian Army is making efforts to achieve the FICV induction by 2026-27.

Q. What are your plans on the induction of the Arjun MBTs now that it is nearly certain that the Army is looking for a future battle tank that is contemporary and futuristic in terms of its technology? Has the DRDO and its labs been able to rectify the issues with the Arjun tanks pointed out by the Indian Army? Please list those positive changes that were achieved.

A: I must state clearly here that the MBT Arjun has met the operational requirements as laid out by the Indian Army. The DRDO has further upgraded the tank and the new Arjun Mk1A tanks being inducted into the Indian Army will come with these upgrades incorporated. Some of the upgrades include the Commander's Panoramic Sight, Mine Ploughs for mobility, ERA panels and a Laser Warning and Counter Measure system. An interesting development is that the user trials for the Armour Piercing Fin Stabilised Discarding Sabot MkII have been successfully concluded in Nov. 2019, enabling induction of this ammunition for the Arjun tanks soon.

Q. Would you be looking to buy a contemporary tank from overseas sources or continue with the T-90s? What could the likely numbers for these tanks be? Are tank battles now only part of folklore and the world may not see another battle of the tanks due to the technological progress that warfare has made since the World War-II?

A. Undoubtedly, futuristic warfare is evolving with advancement in technology. Cyber, Space and Information are emerging as new domains of modern warfare. In our context, we have disputed borders on both the western and northern front. To maintain punitive deterrence, especially against our western adversary, the Indian Army's capability

including Mechanised Forces must maintain an edge over them. Notwithstanding our thrust on development of niche technologies, our emphasis on capability development with reference to the Mechanised Forces remains a focus. The world over, tanks and infantry combat vehicles are being employed innovatively in conflict zones to achieve decisive victory.

Q. The Indian Army plans over the last couple of years to manufacture its needed ammunition from Indian industry hasn't taken off. What are the compelling reasons for the plans not going ahead? What alternative plans does the Indian Army has now for the required ammunition? How are the WWR levels being met?

A: The primary source of ammunition for the Indian Army has been the Ordnance Factories till financial year 2016-17. However, to make up the critical deficiencies of ammunition manufactured by sources other than OFB post the Uri incident, emergency powers were delegated to the Vice Chiefs under Schedule 23 of the DFPDS 2016 on Oct. 5, 2016 and further full powers were delegated to the Vice Chiefs on Dec. 30, 2016 for making up critical deficiency of ammunition.

Make in India: OFB has been the backbone of the defence industry and has been supplying ammunition worth Rs 4,500 crore annually. Ammunition manufactured by the OFB is held at sufficient stock levels. Eight critical ammunition have been identified to be offered to the Indian industry under the 'Make in India' initiative so as to reduce our ex-import dependence of critical ammunition.

There were deficiencies in various ammunition categories. The myriad issues related to the complex procurement processes have been addressed via multiple channels over the last five years. A comprehensive ammunition roadmap has been sanctioned by the Ministry of Defence. While challenges do remain and our efforts are ongoing to overcome them, there has been improvement in the WWR stock levels over the previous years to cater for any eventuality.

Q. It has been a while since the Army proposed induction of Attack helicopters in its aviation wing. How has this idea of attack helicopters to be flown by Army pilots progressed? Have you made any preparations in anticipation of inducting attack helicopters?

A. Ownership of the attack helicopter platforms for future inductions was transferred to the Indian Army by the government of India in 2012. 'In Principle Approval' of the Defence Minister exists for three attack helicopters squadrons, based on which procurement of six Apache helicopters was initiated in Aug. 2017 for Indian Army.

Preparation for induction of the attack helicopters platforms into the Army Aviation has been ongoing since long with Army Aviation pilots undergoing cross attachment with existing Indian Air Force helicopter units. Induction and operationalisation of Advanced Light Helicopter-Weapon System Integrated platform has further expanded the pool of available expertise. Currently, preparation of infrastructure and selection of air crew to absorb these force multipliers are underway.

COVER STORY



India's CDS gets three years to move mountain

By N. C. Bipindra

Sixteen years after the idea was first propounded, India got its first-ever Chief of Defence Staff (or CDS) in former Chief of Army Staff General Bipin Rawat. His appointment came on the eve of New Year 2020. The top-most Indian military officer today will be the single point military advisor to the defence minister on military affairs. Being the nation's first CDS, he has been given a full three-year tenure to establish systems, processes and procedures for achieving jointness in military operations, procurement and training of the three armed forces.

The CDS has been hailed as the 'First Among Equals'. Though the CDS will be senior to the chiefs of the army, the navy and the air force, both in age and in service, the officer -- be he a General or an Admiral or an Air Chief Marshal -- will still hold the same four-star rank and continue to draw the same pay and perks. However, the CDS will not be operationally in command of the army, the navy and the air force, which will continue to be the responsibility of the respective service chiefs.

The CDS will be responsible, though, for creating and sustaining synergy among the three armed forces of the Union of India. The appointment has been hailed by most military veterans and strategic thinkers as a positive development for India's higher defence management.

The Situation

On Aug. 15 last, Indian prime minister Narendra Modi surprised the nation and the strategic community when he announced the intent to get the CDS appointed at the earliest. Modi was addressing the nation from the ramparts of Red Fort, a former Mughal seat of power, in the old Delhi area in the national capital.

"India should not have a fragmented approach. Our entire military power will have to work in unison and move forward," Modi had said then. "All the three (Services) should move simultaneously at the same pace. There should be good coordination and it should be relevant to the hope and aspirations of our people. It should be in line with the changing war and security environment with the world. After formation of this post (CDS), all the three forces will get effective leadership at the top level."

On Dec. 24, the CDS post was formally created through an approval from Cabinet Committee on Security (CCS), chaired by the prime minister. The CCS also approved the creation of a new Department of Military Affairs in the Ministry of Defence to be headed by the CDS as the department's secretary. However, the Defence Secretary, at present Dr Ajay Kumar, will continue to be in charge of defence policy making.

The CDS, as the head of the Department of Military Affairs, will deal with these following areas:

- * The armed forces of the Union, namely, the army, the navy and the air force.
- * The Integrated Headquarters of the Ministry of Defence comprising the Army Headquarters, Naval Headquarters, Air Headquarters and Defence Staff Headquarters.
- * The Territorial Army.
- * Works relating to the army, the navy and the air force.
- * Procurement exclusive to the Services, except capital acquisitions, as per prevalent rules and procedures.

Apart from the above, the mandate of the Department of Military Affairs will include the following areas:

- * Work exclusively pertaining to military matters, while the Department of Defence will deal with larger issues pertaining to defence of the country.
- * Promoting jointness in procurement, training and staffing for the Services through joint planning and integration of their requirements.
- * Facilitation of restructuring of Military Commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands.
- * Promoting use of indigenous equipment by the Services.

The CDS will also be the Permanent Chairman of the Chiefs of Staff Committee. He will act as the Principal Military Adviser to the Minister of Defence on all tri-Services matters. The three armed forces chiefs will continue to advise the defence minister on matters exclusively concerning their respective Services. The CDS will not exercise any military command, including over the three armed forces chiefs, so as to be able to provide impartial advice to the political leadership.

As the Permanent Chairman of Chiefs of Staff Committee, the CDS will perform the following functions, which are about tri-services military formations and strategic weapons command and control:

- * The CDS will administer tri-services organisations. Their military command will be with the chief of the duly notified service, which has a predominant role in effective functioning of that specific tri-service organisation. Tri-service agencies/organisations/commands related to Cyber and Space will be under the command of the CDS.
- * The CDS will be member of Defence Acquisition Council chaired by the defence minister and Defence Planning Committee chaired by the National Security Adviser.
- * Function as the Military Adviser to the Nuclear Command Authority.
- * Bring about jointness in operation, logistics, transport,



training, support services, communications, repairs and maintenance, of the three Services, within three years of the first CDS assuming office.

- * Ensure optimal utilisation of infrastructure and rationalise it through jointness among the services.
- * Implement the five-year Defence Capital Acquisition Plan (DCAP), and the two-year roll-on Annual Acquisition Plan (AAP), as a follow up of Integrated Capability Development Plan (ICDP).
- * Assign inter-Services prioritisation to capital acquisition proposals based on the anticipated budget.
- * Bring about reforms in the functioning of three Services aimed at augmenting combat capabilities of the armed forces by reducing wasteful expenditure.

The Background

India's 1999 short, limited battle with Pakistan in the Kargil sector opened the eyes of the then Atal Bihari Vajpayee government and its leadership on what was lacking in the military's decision-making capabilities -- an unbiased, viable and actionable military advise on options before the political

leadership. This realisation dawned when the three armed forces could not come up with a common military plan to achieve the strategic goal of taking back the Kargil heights that were occupied by Pakistan Army regulars in the winter of 1998-99 when the Indian Army troopers had vacated the positions. Soon after the Kargil battle was won with the recapture of the positions, the Vajpayee government ordered a review of the whole gamut of issues concerning military management and decision-making. What followed was the recommendation for the creation of the CDS to be the single-point military adviser to the government to provide a wholesome strategy in times of a military crisis.

Those recommendations were approved in 2003 by a Group of Minister headed by the then Deputy Prime Minister Lal Krishna Advani. However, the precursor to the CDS had already been put in place in 2001 with the creation of the Headquarters Integrated Defence Staff (IDS) headed by a three-star officer, who will service as the adviser for the Chairman, Chiefs of Staff Committee (COSC), hitherto held by the senior-most among the three armed forces chiefs on rotation. Along with the Headquarters IDS, the government also created the tri-services Andaman and Nicobar Command at Port Blair and the Strategic Forces Command at New Delhi, the latter handling all nuclear weapon platforms of the Indian armed forces. Even ahead of that, the Vajpayee government had come out with its 'No First Use' nuclear doctrine apart from setting up civilian control over the Strategic Forces and the nuclear weapons by establishing the Nuclear Command Authority to be headed by none other than the prime minister.

The idea of CDS, though, began gathering dust after the Vajpayee government lost power in the elections that followed in the year 2004. The reason cited by the then leadership in the defence ministry under the Manmohan Singh government was lack of consensus among political parties and the armed forces in having a CDS. The proposal was in the backburner for 10 years but got revived with Modi storming to power in 2014. It took the next five years for the Modi government and its defence ministers -- Arun Jaitley, Manohar Parrikar and Nirmala Sitharaman -- to work on the military leadership to arrive at a common ground.

The Argument

The creation of the post of the Chief of Defence Staff and the structural changes that India's Ministry of Defence, responsible for the nation's defence from external aggression, can either make the Indian armed forces more efficient and powerful or mar its capabilities and weaken operational readiness.

This reform in the higher defence management would enable the armed forces to implement coordinated defence doctrines and procedures and go a long way in fostering jointmanship among the three Services. The idea is to help the nation benefit by the coordinated action on greater jointmanship in training, logistics and operations, as well as prioritisation of procurement.

The aims and objectives behind this particular reform in the country's higher defence management was to bring about jointness among the armed forces of the country in



training, procurement, staffing and operations; to enhance the quality of military advice to the political leadership through integration of service inputs; and to develop and foster expertise in military affairs in particular and in defence matters generally.

The government of India has been conscious of the national security challenges and the changing nature of war and security environment. The military expertise in the department's decision making needs to be recognised. The silos in which the armed forces and the Ministry of Defence worked until now need to be broken. The imperative of integration, collaboration, convergence and rationalisation of the armed forces and the civilian leadership needs little emphasis.

India's defence and strategic affairs experts have, since the appointment of the CDS, argued that his first agenda item should be the formulation of integrated operational plans for the three services and to obtain the defence minister's approval for an integrated tri-service operational directive. "It is well known that the operational plans of the armed forces are single-service plans, and they lack the synergy that comes from integrated planning," argues Brigadier Gurmeet Kanwal (retired), who has served post-retirement as the director of the Centre for Land Warfare Studies (CLAWS).

Kanwal, in his opinion piece written for the *Hindustan Times*, notes that in 1962, the Indian Air Force (IAF) was not given any strike role to play during the war with China when it could have made a huge contribution and in 1965, the Indian Navy was not even informed about the plans to launch a three-pronged attack across the international boundary (IB) into Pakistan. The 1971 war was a well-coordinated tri-service effort that led to a grand victory. The rather limited coordination that was achieved during the war with Pakistan in 1971 was mainly due to the personalities of

the army, navy and air force chiefs. During the 1971 war, Field Marshal Sam Manekshaw was able to carry his naval and air force colleagues along with him due to the personal rapport that he had established with them. Yet, there were several glitches in the planning and conduct of the land and air campaigns and it cannot be stated that India fought a coordinated "air-land" war.

"The Kargil conflict of 1999 is the only real example of a coordinated effort. Even here, there were initial hiccups and it took the IAF several weeks to begin bombing the Pakistani intruders' sangars (ad hoc bunkers) on the Indian side of the LoC. Hence, it emerges that operational planning must be seamlessly integrated in modern conventional conflict. After gaining some experience with the CDS-led operational planning, it will be time to graduate to integrated theatre commands to further optimise the planning and execution of joint operations."

Anit Mukherjee, assistant professor in the South Asia Programme at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore, agrees on this score. "Now that the CDS is in place, the next logical progression would be towards creating joint theatre commands. In addition to changing the prevailing single service approach, professional military education requires serious attention, and the proposed National Defence University offers an opportunity," Mukherjee said in a Q&A with *The Times of India*.

"After that, the focus should shift towards service-specific reforms. For the army, one must accept that the current levels of manpower will not allow for military modernisation. The navy and air force need to build up their capital assets, but questions need to be asked about the desirability of capital-intensive platforms, like aircraft carriers, versus investing in drones and emergent technologies."

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Hon'ble Union Home Minister of India



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-Shri Manohar Lal
Hon'ble Chief Minister of Haryana

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Why body armour acquisition continues to be a challenge?



By Ayaskant Das

New Delhi: Acquisition of bulletproof jackets for armed forces' personnel continues to remain a challenge for the Indian government even as technology continues to increasingly dominate modern warfare, thereby necessitating state-of-the-art arms and protective gear for soldiers.

Lengthy capital procurement procedures for the Indian defence forces have resulted in lack of adequate protective gear for soldiers posted in conflict zones and high-risk areas such as the Line of Control with Pakistan, in the Jammu and Kashmir hinterland and the northeastern states and they remain exposed to the bullets from the enemies' weapons.

The central government has in recent times, claimed to have met the immediate, pressing need for bulletproof jackets for the Indian Army through various procurement measures. In September 2019, Prime Minister Narendra Modi, addressing a public rally in Nashik district of Maharashtra, said bulletproof jackets manufactured by India are now being exported to as many as 100 different countries across the globe.

However, the government is yet to fully meet the need for body armour raised by the army almost 10 years ago. In addition, given the long-winding procedures involved in capital procurement, has resulted in the bulletproof jackets that have already been procured turn obsolete in a rapidly evolving technology-driven arms-manufacturing market.

The Defence Acquisition Council (DAC) had in Oct. 2009 cleared a proposal for capital procurement of 353,765 bulletproof jackets for the forces. Under the Acceptance of

Necessity accorded then, the army was to procure 1,86,138 bulletproof jackets under the 11th Five-Year Plan of the government between 2007 and 2012. In continuation of that procurement proposal, during the 12th Five-Year Plan period from 2012 to 2017, the army was to procure a further 167,597 bulletproof jackets.

Unfortunately, the army is yet to fulfil its requirement even of the 11th Five-Year Plan period, even though a decade has lapsed since the demand was first raised. In the 47th report of the Standing Committee on Defence, tabled in the Parliament in January 2019, the Ministry of Defence has noted that delivery of 186,138 bulletproof jackets for which a contract was signed with an Indian private firm in April 2018 is yet to be completed, while 50,000 jackets have been procured through the revenue route to meet immediate requirements.

"Procurement of quantity 50,000 BPJ through revenue route (GSQR 878) was contracted in March 2016 and delivery of the entire quantity has been completed. The contract for capital procurement of 186,138 Bullet Proof Jackets (BPJs) has been signed on 09.04.2018. As per delivery schedule in the contract, the delivery of BPJs is to commence at the earliest and is to be completed within three years," the standing committee report said.

The cost incurred by the government for getting the 50,000 jackets through emergency route was Rs 140 crore. The decision was taken soon after Manohar Parrikar took charge as India's Minister of Defence in November 2014.

"The number of bulletproof jackets required are too large and user trials, as a part of the procurement procedure, take



a lot of time. Each trial brings forth certain shortfalls in the product, which are then sought to be amended and placed for a fresh set of trials. The procurement of 50,000 jackets through the emergency route was to meet immediate and urgent requirements as user trials had been taking a lot of time,” former Northern Army Commander Lieutenant General Deependra Singh Hooda (retired) told Defence.Capital.

The committee further observed in the report that when trials for a bulletproof jacket (or any other capital procurement for that matter) is rejected, all the expenditure incurred from the stage of sanction of procurement up to the trial stage goes in vain.

The report said the Acceptance of Necessity for procuring 353,765 bulletproof jackets, out of which 186,138 were to be got in the 11th Plan period, was cleared by the Defence Acquisition Council on 19 October 2009 under the category ‘Buy (Indian)’ for purchase from indigenous manufacturers. The Request for Proposal (RFP) was issued on Mar. 3, 2011. But there were two amendments made to the RFP later on. The fresh RFP was issued on Dec. 7, 2012 to 39 vendors. Six vendors responded. Ballistic evaluation of samples provided by these six vendors was conducted at the Terminal Ballistic Research Laboratory in Chandigarh in between Mar. 12 and Jun. 16, 2015.

However, all samples in the trials conducted by the Indian Army were rejected and the Request for Proposal was finally retracted on Oct. 5, 2015. Analysis of the trials revealed lack of technology and manufacturing expertise as reasons behind failure of the ballistic samples.

Later, the Defence Research and Development Organisation (DRDO) developed a product that cleared all ballistic trials on Jan. 20, 2016. A fresh Request for Proposal, without any change in qualitative requirements, was therefore issued on Apr. 4, 2016. Five Indian vendors responded to it and field trials were conducted from Apr. 3, 2017 to Dec. 12,

2017. The evaluation trials were successful, one of the vendors was shortlisted, and the deal was signed with the private domestic defence manufacturer, SMPP Private Limited, for a cost of Rs 639 crore (\$90 million) on Apr. 9, 2018.

User trials conducted in field conditions depending on the formation that requires the bulletproof jackets take a lot of time, according to Indian Army officers with knowledge of body armour procurement procedures.

“Field conditions vary from high altitudes, where the user might require more storage pouches, to deep waters, where buoyancy pouches are required. The extent of threat perception has also to be factored in. The entire ergonomics of the bulletproof gear is tested while walking, running, swimming or climbing high altitudes. The outer tactical vest design in finalised as per user requirement,” a senior army officer, with knowledge of the user trials, said, asking not to be identified as he is not authorised to speak to the media.

Technology for manufacturing the jackets is transferred only after field trials are successfully completed and orders are placed by the vendor. “A minimum of sixty weeks generally lapses in between the day when the first field trial is conducted to the day when the first product is delivered by the manufacturer,” added the official.

A bulletproof jacket developed by the Kanpur-based state-owned Ordnance Equipment Factory with technology transferred to it by the Bhabha Atomic Research Centre is awaiting clearance from the Bureau of Indian Standards (BIS). The jacket is apparently strong enough to withstand bullets with speeds of 630 metres per second, offers 360-degree protection and weighs just about 9.2 kg. It conforms to the Level III+ protection standards of the US-based National Institute of Justice (NIJ) and is also capable to withstand fire from AK-47 assault rifle and 5.56 INSAS rifle. However, as per BIS standards the jacket should be able to withstand bullets with speeds of 700 metres per second for which further trials are underway on it.

The Parliamentary Standing Committee on Defence, mentioned earlier, also mentions the extent of gaps in the meeting the requirement of full bulletproof bodysuits with the defence forces of India.

“To the concern expressed by the Committee on the issue of ‘full body jackets’, the ministry informed that as per available information, there are no full body proof suits in the international market. This is due to the restriction such suits impose on the body movement as also the weight such suits would have,” states the report.

However, the Indian Army has claimed this year to have indigenously developed the world’s lightest full-body bulletproof suit (or a modular jacket) at the College of Military Engineering in Pune, Maharashtra. The suit has the capability to withstand 9-mm bullets fired using MP9 carbine from a distance as less as five meters, sniper bullets fired from a distance of 10 meters, burst rounds of MP9 carbine and grenade splinters of 2 to 4 mm diameter from point blank range.

The full bodysuit comprises of two parts: a full-body soft armor, which is flexible and offers protection from the neck to ankle level, and a hard armor, which protects the chest,



back and the sides laterally. It has been named Sarvatra Kavach, by its developer Major Anoop Mishra, for offering 360-degree protection to the human body against sniper bullets. At a weight of 14.5 kg, the bodysuit is at least 25 per cent lighter than the best internationally available bulletproof full body suits. The hard armor of Sarvatra Kavach confirms to NIJ Level IV standards while the soft armor confirms to Level III+ standards.

The use of modular jackets has been on the rise with advanced militaries across the globe given the changing requirements and dynamics of modern warfare. These jackets, which can be retrofitted with a range of attachments and detachments based on actual threat perceptions and requirements by field formations. These jackets are lightweight, offer better protection in terms of trauma package and also come in different sizes.

However, it is yet to be seen if the Indian government, which plans to transfer the indigenously developed bodysuit bulletproof technology to global manufacturers, will procure the product for use by its own armed forces.

“The delay in procurement of bulletproof jackets was inevitable. Initially, there were too many vendors and procedural issues in trial and evaluation of all products were inordinately lengthy and cumbersome. Costs for procurement obviously went up by the time orders started coming in after resolution of all the procedural issues. There need to be speedy processes for procurement. The government should encourage indigenous industries and procedures must be made friendly not only for the sake of procurement but also for the sake of manufacturers,” former Director General of Military Operations Lieutenant General Vinod Bhatia (retired) told Defence.Capital.

India policy assures business to JVs with Russian firms for military spares



By N. C. Bipindra

New Delhi: India has come out with a set of new guidelines to govern India-Russia Joint Ventures for spares, and committed orders to such business entities are among the attractions. The eight-page policy document envisages allowing even single-vendor situation to sign contracts. Single-vendor situation in an acquisition programme is a 'no-go' under the existing Defence Procurement Procedure and requires special approvals from the Minister of Defence before the contract can be signed.

Under single-vendor situations, the contracts shall be signed under the new guidelines, provided the India-Russia joint venture shows it can produce the spares and components for Russian-origin and Soviet-era military equipment at a price lower than the imported items, reduce the supply timelines, and there is progressive indigenisation of the product.

The new guidelines were framed as a follow up to the Inter-Governmental Agreement (IGA) on 'Mutual Cooperation

in Joint Manufacturing of Spares, Components, Aggregates and other Material Related to Russian/Soviet origin Arms and Defence Equipment' signed during the 20th India-Russia Bilateral Summit held at Vladivostok on Sep. 4. Prime Minister Narendra Modi was in Vladivostok for Eastern Economic Forum hosted by Russian President Vladimir Putin when the Summit took place.

The guidelines stipulate the processes to be followed by various stake-holders towards facilitating setting up of manufacturing units in India by Indian companies in collaboration with Russian Original Equipment Manufacturers (OEMs) for implementation of the IGA, that is, from the initiation stage of 'identification of parts/material' to the stage of 'implementation of contracts'.

The objective of the IGA is to enhance the 'After Sales Support' and operational availability of Russian-origin equipment currently in service in the Indian armed forces by organising production of spares and components locally by the Indian industry by creating joint ventures and partnership with Russian OEMs under the 'Make in India' initiative.

India navy comes up with 3-year aviation indigenisation roadmap till 2022



By N. C. Bipindra

New Delhi: The Indian Navy has come up with the latest edition of its 'Naval Aviation Indigenisation Road' (NAIR) for a three-year period till 2022, which includes spares and parts for its aviation assets including the Russian-origin MiG29K variants and the US-made P8I maritime surveillance aircraft from Boeing Co.

The 160-page document titled 'Naval Aviation Indigenisation Roadmap (2019-22)' encompasses approximately 575 items of flight and non-flight critical nature. The approximate quantity of the items required is also mentioned in this document, for the benefit of the indigenisation partners.

The Indian Navy published the first version of the Naval Aviation Indigenisation Roadmap (2017-22) in Oct. 2017. The roadmap was shared through extensive interactions held across more than 10 cities, with many industries, academia, incubators, federations, chambers, associations of industries and other agencies keen on design and development of aircraft components, ground support equipment and other items related to aircraft maintenance.

Since the indigenisation process of aviation spares is governed by stringent procedures, a 'Naval Aviation Indigenisation Guidebook' was also released in May 2018 to serve as a ready-reference and primer for agencies keen on undertaking indigenisation.

The first version of the NAIR has now been revised after taking into consideration the changing requirements, based on various factors such as user demands, actual consumption, availability, strength and expertise of domestic industries. Photographs of components, where available, and their nature such as flight or non-flight critical, have also been mentioned, aircraft-wise.

The two Naval Aircraft Yards (NAYs) at Kochi and Goa, along with the Naval Aircraft Servicing and Development Organisation (NASDO) at Goa, continue to spearhead aviation's indigenisation efforts. NAY (Goa) is responsible for Russian-origin spares, NAY (Kochi) for western-origin spares and NASDO focuses on common equipment. These organisations are known as the 'In-house Indigenisation Committees (IICs)'.

The industry may identify the items they can indigenise and directly approach the respective IIC to initiate the process. The projects can then be pursued under Revenue procurement route or through 'Make-II' of the Defence Procurement Procedure (DPP) or other appropriate channels, according to Indian Navy officials.

The NAIR is expected to drive the government's 'Make in India' initiative and the concerted efforts of the stakeholders would ensure indigenous availability of required equipment and self-reliance.

India plan for \$3-bn Airbus cargo plane goes to cabinet for decision

By Ayaskant Das

New Delhi: India's \$3.15-billion plan to buy 62 Airbus C-295 medium lift transport aircraft for its air force and coast guard is all set to go to the central cabinet for a decision, people familiar with the development said.

The proposal to buy the C-295, which will be made in India for the Indian armed forces, will be taken up by the Cabinet Committee on Security (CCS) headed by Prime Minister Narendra Modi in the new year.

The process for the purchase plan — 56 of the planes will go to the Indian Air Force and the rest six will go to the Indian Coast Guard — going to the CCS for the decision to sign the contract has been initiated already, the people said, asking not to be named as the information is not yet public.

The contract negotiations committee of the Ministry of Defence had in March concluded the talks with India's Tata Advanced Systems Limited (TASL), which has formed a joint venture with European major Airbus to execute the deal, for the purchase of the 62 twin-engine turboprop aircraft. The cost of the deal is expected to be Euro 2.8 billion (\$3.15 billion). Under the contract proposal, a total of 16 C-295 aircraft will be delivered by Airbus in a fly-away condition while the rest 46 will be produced at the TASL-Airbus joint facility, to be set up in Bengaluru, Karnataka, through a technology transfer.

APPOINTMENTS



Lt Gen Rajeshwar takes over Andaman & Nicobar Command

Port Blair: Lt Gen Podali Shankar Rajeshwar, an army aviator, has taken over as the 14th Commander-in-Chief of the Andaman & Nicobar Command (CINCAN) on Dec. 1, 2019. He is a graduate of Indian Military Academy and was commissioned into the Regiment of Artillery in December 1980.

A gunner and aviator, he is an alumnus of the Defence Services Staff College, Army War College and National Defence College in New Delhi and Philippines.

Lt Gen Rajeshwar has actively taken part in Operation Meghdoot and Operation Rakshak. Further, he has commanded a Medium Regiment in Operation Parakram, an infantry brigade on the Line of Control, Counter Insurgency (Romeo) Force in Jammu & Kashmir and a Corps in the Desert sector. He has served on various staff assignments and also been UN Military Observer in Mozambique and Rwanda.

Before assuming the present appointment, he was Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee (CISC).

VAdm Ravneet Singh is navy's Chief of Personnel



New Delhi: Vice Admiral Ravneet Singh has taken over as the Indian Navy's Chief of Personnel from Vice Admiral R Hari Kumar on Dec 2, 2019. Commissioned on Jul. 1, 1983, Vice Admiral Ravneet Singh is a qualified flying instructor with Master Green Instrument Rating.

As a Flag Officer he has held appointments as Assistant Controller Carrier Project and Assistant Controller

Warship Production and Acquisition at IHQ MoD(N), Flag Officer Goa Area/ Flag Officer Naval Aviation at Goa,

Flag Officer Commanding Western Fleet at Mumbai, Chief of Staff at Headquarters Western Naval Command at Mumbai and Director General Project Seabird at IHQ MoD(N).

As Chief of Personnel, he heads the Personnel Branch of the Indian Navy and is responsible for all personal issues of Service and Civilian manpower of the Navy including Induction, Training, Career Management, Discipline, Pay and Allowances.

Vice Admiral R Hari Kumar has been appointed as Chief of Integrated Defence Staff Headquarters.

Air Marshal D Choudhury is the new Commandant of National Defence College



New Delhi: Air Marshal D Choudhury took charge as Commandant of National Defence College from Vice Admiral Srikanth on Dec. 16, 2019. Prior to this appointment Air Marshal Choudhury was Senior Air Staff Officer at the Headquarters of Western Air Command, New Delhi. Air Marshal Choudhury is an alumnus of the National Defence Academy and was commissioned into the fighter stream of the India Air Force on Dec. 22, 1983. The Air Marshal also an alumnus of the Royal College of Defence studies, United Kingdom, Post Graduate in Strategy and International Security from King's College London and also holds an M. Phil degree in Defence and Strategic Studies.

He has a vast operational flying experience on all variants of the MiG-21, MiG-27, MiG-29 and Su-30 aircrafts. He is a Fighter Combat Leader and Instrument Rating Examiner. He has commanded a frontline fighter Squadron and two frontline fighter bases apart from heading the prestigious Tactics and Air Combat Development Establishment and the Composite Battle Response and Analysis (COBRA) Group. He has been actively involved in planning and execution of air operations at Strategic, Operational and Tactical levels. He has held important appointments at the Air Headquarters and operational Command Headquarters.

The National Defence College, established on 27th April 1960, is a premier Institution under the Ministry of Defence and is the highest seat of Strategic Education of the Nation. It's prestigious annual Course of 47 weeks duration on 'National Security and Strategic Studies' is therefore in great demand both nationally and internationally. Its present Alumni strength is nearly 4000 includes Four Heads of State, numerous Chiefs of Armed Forces in India and abroad, substantial number of high ranking military and civilian officers.

APPOINTMENTS



Lockheed Martin names William Blair as India chief

New Delhi: American defence major Lockheed Martin (NYSE: LMT) has appointed William (Bill) Blair as vice president and chief executive for the company's operations in India.

In this role, Blair will lead the growth and development of Lockheed Martin's business in India and serve as the executive representative for all of Lockheed Martin's programmes, products and services in the country. He will report to Timothy Cahill, senior vice president for Lockheed Martin International.

Immediately prior to assuming this post, Blair was vice president, strategic solutions and Middle East executive with Lockheed Martin's Space Systems, where he led and developed strategic solutions and expanded business opportunities in countries within the Gulf Cooperation Council, and Israel.

"I am deeply excited to lead the business during this defining period of evolution in India's defence capabilities. As the leader in state-of-the-art defence capabilities for use in air, sea and space domains, Lockheed Martin seeks to develop advanced solutions aimed at enhancing Indian national defence and security," Blair said on Dec. 3, 2019, in a Lockheed Martin statement on his appointment.

"We will continue to partner with our customers, partners, national agencies, local industry and research organizations in line with the national missions of 'Make in India', 'Skill India', 'Startup India' and 'Swachh Bharat' to contribute to the development of industrial capability and the aero-

space ecosystem," he said.

"I am grateful for and look forward to building on the great work achieved by Phil (Shaw) and the team over the last seven years."

In a career spanning 30 years, he has held roles of increasing responsibility, with global assignments including in India, where he was based on several prior occasions.

Blair's appointment signals a deliberate evolution and enhancement of Lockheed Martin's business in India, underscoring the importance of the Indian market to the Corporation, the company said in a statement here.

Blair assumes the role from outgoing Chief Executive and Director for Lockheed Martin India, Philip (Phil) Shaw.

"I am privileged to have played a part in the growth of the company in India and contribute to the evolution of indigenous defence manufacturing here. As I plan my transition, I am proud of the strong team we have built in India and the work we have done together," Shaw said.

"I am excited for Bill (Blair) and am glad to be passing the reins on to him; his international experience and the years he has spent working in India, his proven track record in our business and strategic vision will be instrumental not only to Lockheed Martin, but for the entire Indian aerospace and defence industry."



Pratt & Whitney appoints Ashmita Sethi as India managing director

New Delhi: Facing a huge challenge over in-flight shutdowns in its engines fitted on Indian affordable airline IndiGo's Airbus A320neo aircraft, American firm Pratt & Whitney on Dec. 19, 2019, announced the appointment of industry veteran Ashmita Sethi to the leadership role of managing director for the South Asian nation.

In a statement, the United Technologies division said Sethi, as the senior-most leader, will provide strategic direc-

tion for the company's growth and business goals in India.

"India was an early adopter of the Geared Turbofan (GTF) engine, seeing its potential to support growth in the commercial airline sector," Pratt & Whitney's Chief Commercial Officer Rick Deurloo said.

"Having Ashmita join our team as the country-head of India will bolster our support for our customers in the India market. Ashmita brings leadership, industry knowledge and experience to this role, and we welcome her to the Pratt & Whitney team."

Sethi, who was till recently Boeing Co. India communication director, will drive all of Pratt & Whitney's operations in the country, including customer relations and support, the company's customer training centre in Hyderabad, communications, and government affairs.

With over 20 years of experience in the defence and aerospace industry prior to her appointment to this role, Sethi joins Pratt & Whitney following a distinguished career in corporate and public affairs, and communications in global companies, including Rolls-Royce in India.

"I am very excited about the future of Pratt & Whitney in India, and this is a thrilling time to join this team," Sethi said.

"The GTF engine is the most innovative and competitive product in commercial aviation today, as Pratt & Whitney continues to innovate across all of its products and services to better serve its global customers."

India's civil aviation regulator had in late October ordered IndiGo to modify its 16 Airbus A320neo aircraft fitted with Pratt & Whitney engines within 15 days to avoid their grounding.

IndiGo's planes fitted with Pratt & Whitney 1100 series engines that have clocked more than 2,900 hours must have at least one modified engine, the Directorate General of Civil Aviation (DGCA) said in a statement then.

India, in late November, asked the low-cost airline to ground one of its Airbus A320neo plane fitted with unmodified Pratt & Whitney engines for every addition it makes to its fleet. The order from the DGCA came following a series of troubles on the carrier's aircraft.

The order from the Indian civil aviation regulator would mean one of the world's fastest-growing airlines' expansion and plans for new routes and increasing frequencies could be impeded till the Pratt & Whitney engine issues are resolved.

Hari Mohan, an armoured vehicles expert, is India Ordnance Factory Board chairman

New Delhi: Hari Mohan, an ordnance factory service officer with vast experience in armoured vehicles manufacturing, has taken over as Ordnance Factory Board (OFB) chairman and director general on Dec 1.

He has succeeded Saurabh Kumar, who superannuated from the services. Hari Mohan is a 1982-batch Indian Ord-



nance Factories Service (IOFS) officer with a post graduate degree in mechanical engineering.

The officer has worked throughout his 39-year career in the OFB in the field of manufacturing armoured infantry vehicles, artillery, battle tanks, small arms and ammunition, and has shown versatile inclination towards projects management and corporate governance, among other areas, according to a Ministry of Defence statement.

Hari Mohan had been a topper of University of Allahabad and University of Pune while obtaining his Bachelor and Masters in Mechanical Engineering. He holds an Master of Philosophy in Public Administration.

He has contributed significantly in various positions at Bharat Heavy Electricals Limited (BHEL) at Haridwar, Vehicle Factory at Jabalpur, Engine Factory and Heavy Vehicles Factory at Avadi, Ammunition Factory at Khadki, and Ordnance Factories at Bolangir, Chanda, and Dehu Road, apart from OFB New Delhi Office and Ministry of Steel and Ministry of Mines.

He has made significant contributions in improving the production of Armoured Fighting Vehicles like Ajeya Tanks, MBT Arjun, Bridge Layer and Trawls Tanks. He has also made significant contribution to the modernisation of steel plants of the Steel Authority of India limited (SAIL) during his tenure in ministries of Steel and Mines.

Hari Mohan has held various senior positions such as General Manager at Dehu Road in Pune, Senior General Manager at Heavy Vehicles Factory at Avadi (HVF, Chennai). He was also awarded the 'Ayudh Ratna' award in 2018 for his services at the HVF.

Before taking over as Director General of Ordnance Factories and OFB Chairman, he was holding charge as Member of the OFB and was in charge of the Weapons, Vehicles and Equipment (WV&E) division.

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Two-front game

Threat of collusion between China and Pakistan