NEST, THE MILITARY AND DEFEXPO PAGE 4

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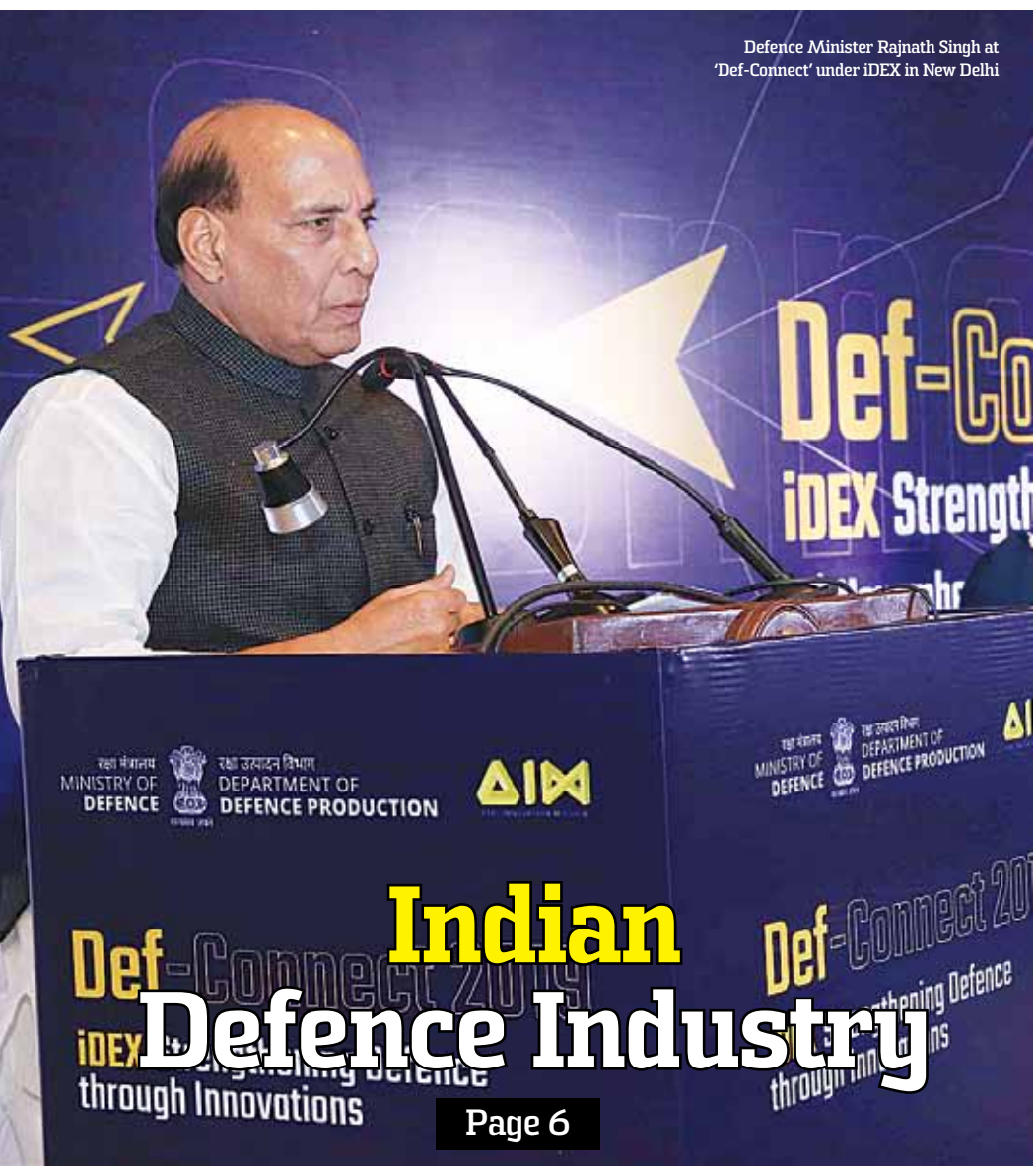

Defence Minister Rajnath Singh at 'Def-Connect' under iDEX in New Delhi

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PHOTOGRAPH: Indian Army

Lt General Satinder Kumar Saini assumes appointment of VCOAS

Lt General Satinder Kumar Saini on assuming the charge of Vice Chief of the Army Staff paid tributes at the National War Memorial on January 28, 2020. Before assuming the appointment of Vice Chief of the Army Staff, the General Officer was heading the Southern Command of the Indian Army.

Lt General Satinder Kumar Saini is an alumnus of the National Defence Academy and the Indian Military Academy. He was commissioned into the 7th Battalion, The JAT Regiment in June 1981. He brings with him an enormous amount of experience in serving in the most challenging areas. In his last appointment as GOC-in-C, Southern Command, he steered transformation of the Operational Philosophy of the Southern Army to overwhelm the emerging threats and validation of many new concepts during training exercises.

The General Officer is a graduate of the Army Command and Staff Course at the Staff College, Camberley in UK and has studied at the Royal College of Military Science, Shrivenham, UK. He is also a graduate of the Higher Command Course and the National Defence College, Bangladesh. He has also served as the Deputy Chief Military Personnel Officer in the UN Mission in Iraq-Kuwait, attended an exercise on peacekeeping conducted by the Global Peace Operations Initiative in Mongolia and a counter terrorism exercise in Australia.

The General is a highly decorated and accomplished Officer who has been awarded a number of awards, both for gallantry and distinguished service, including the "Chief of Army Staff Commendation", the "Army Commander Commendation", "Yudh Seva Medal", "Vishisht Seva Medal", "Ati Vishisht Seva Medal" and "Param Vishisht Seva Medal". SP

Cover:
In order for India to possess a technologically advanced and self-sufficient defence industry, a lot will depend on maintaining a conducive eco-system for all stakeholders and a robust framework for effective implementation of reforms.

Cover images: PIB, Indian Army, Vivek Lall

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56 YEARS OF ENLIGHTENING

The key to growth is sustained and evolved indigenisation programmes

It is that time of the year when all roads for the Defence Industry - domestic and international, lead to Lucknow, the venue for the upcoming DefExpo 20 – a major biennial international event organised by the Defence Exhibition Organisation of the Ministry of Defence (MoD). It is being held from February 5 to 8 this year, for the first time in Lucknow, the capital of the state of Uttar Pradesh (UP). Christened as DefExpo 2020, the theme of the 11th edition of the event is 'India: The Emerging Defence Manufacturing Hub' and the focus is on 'Digital Transformation of Defence.'

The Government plans to make India a $5 trillion-dollar economy by 2025 and aims to double and then treble its aerospace and defence focused exports in the next five years to $ 26 billion by 2025. Such economic growth requires foundational pillars of a matching defence capability energised by a strong indigenous defence industrial base. The key to growth is sustained and evolved indigenisation programmes.

With the overall aim to boost defence manufacturing and achieve self-reliance and strategic autonomy, the idea behind organising an event of this magnitude at this level is to showcase and promote the defence manufacturing capabilities of Indian companies - Defence Public Sector as well as the Private sector to the world community while also inviting global OEMs to participate in the modernisation of Indian armed forces either directly or in strategic partnership with an Indian partner. It will also highlight emergence of the state of UP as an attractive destination for investment in the defence sector and act as a platform for alliances and joint ventures with the leading aerospace and defence majors in the global defence industry. Choice of Lucknow as the venue for DefExpo 2020 is significant as the MoD has already announced plans for the establishment of the UP Defence Industry Corridor for manufacturing military hardware.

Now that General Bipin Rawat has taken over as India's first Chief of Defence Staff, discussion on what is his mandate and what should be his priorities are rife. Rules of Business notified by the Government continue to include 'defence of India' and 'defence policy' in charter of the Defence Secretary. CDS will act as the Principal Military Adviser to Raksha Mantri on tri-Services matters but Service Chiefs will continue to advise RM on matters of respective Services. CDS will head the Department of Military Affairs (DMA), having military and civilian mix, as its Secretary, to facilitate restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands. Also, General Manoj Mukund Naravane has taken over as the next Chief of the Army Staff. In the course of his distinguished career, he had commanded the Eastern Command and the Army Training Command before his last appointment as the Vice-Chief of Army Staff. While covering the expectations from these appointments in this issue, *SP's M.A.I.* wishes the new CDS and the new COAS a highly successful tenure.

SP Guide Publications is proud to share that 7 articles by our journalists, in four categories, have been shortlisted for finals in the upcoming Aerospace Media Awards - Asia. These are the most prestigious awards in Aerospace Media and the number of nominations for finals received by us are amongst the highest by a publishing company, which includes global leaders and heavyweights. Details of the nominations can be seen on pages 12 and 13 inside.

Wishing all our readers a Happy New Year, we invite you all to DefExpo 2020 in Lucknow. Do come and pay us a visit at Hall 3 Stall Q47.

Jayant Baranwal
Publisher & Editor-in-Chief

NEST, the Military and DefExpo

LT GENERAL
P.C. KATOCH (RETD)

According to media reports, the Ministry of External Affairs (MEA) has established a new ministerial division termed 'NEST' denoting New, Emerging and Strategic Technologies. This is an excellent addition since so far the focus in hardly went beyond cyber diplomacy and NBC (nuclear, chemical and biological) weapons disarmament. The speculation is that NEST has been formed in the wake of the 5G controversy offered by global giants, especially by China's Huawei which is inexorably linked to the PLA and is known to use backdoor Trojans that are largely undetectable and can be activated on Beijing's wish. It is in the backdrop of this clash between futuristic technology systems that has required MEA to dedicate NEST dedicated an entire functioning unit to cutting-edge science and technologies, technology systems and the manufacturing and service industries emanating from them, which are becoming flashpoints.

The report goes on to say that NEST is likely to become a foreign policy sentinel for the government to understand emerging technologies, particularly the current domains of artificial intelligence, robotics, nanotechnology, genetics or next-generation telecommunications. It can also merge technology policy with foreign policy as technologies are converging to create disruption with drastic regional and global geopolitical consequences. Since NEST is not only for the MEA, but can also be a key element in the entire national security policy set with three Cabinet Committees at the apex (on Security, Economic Affairs, and Investment and Growth), addition of a Cabinet Committee on Futuristic Technologies would be the required. The Cabinet Committee on Futuristic Technologies would need participation of ministries dealing with Department of Atomic Energy (DAE), Department of Space (DoS), DRDO, Earth System Organisation, Council on Scientific and Industrial Research (CSIR), Department of Science and Technology (DoS&T), Department of Biotechnology, Cyber and Information Division, Disaster Management and the like. NEST should also have a fair complement of technocrats to make it effective. Resisting this will make it largely lose its effectiveness as has happened with the Department of Defence Production (DoPD) in the Ministry of Defence (MoD) wholly manned by generalist bureaucrats who have little technical knowhow. But while technologies like 5G are relevant to security at the national level, the defence establishment has to focus more deeply at futuristic technologies that must be inducted in Armed Forces relative to fast-paced technological developments around the world, especially in China.

But while technologies like 5G are relevant to security at the national level, the defence establishment has to focus more deeply at futuristic technologies that must be inducted in Armed Forces relative to fast-paced technological developments around the world, especially in China.

The MoD issues the 'Technology Perspective & Capability Road Map' (TPCR) from time to time spanning a 15 year period; the last two were issued in 2013 and 2018. These are guidelines for development of technologies by the industry. However, not much is on ground from what is spelt out. The preamble or first chapter of each TPCR must bring out what has been the progress on the previous TPCRs, which is never covered to cover up lack of monitoring and accountability, The second flaw is that participation of private sector is still small because of the nexus between MoD's DoPD and DRDO/DPSUs/OFB. The result is that we have made little progress in autonomous weapons including quantum drones; stealth technologies, precision guided firearms, high-energy lasers, space-based weapons, hypersonic aircraft, active denial systems – millimeter wave or microwave beams, tasers, e-bombs, quantum communications, electromagnetic rail-gun, hand-held EW weapons, psychotropic weapons and the like. Decisions for planning defence resources including futuristic technologies need to be based on concrete analysis that breaks down the categories of major military technological inventions and innovations one by one and examine each individually.

The requirement would be to mitigate own vulnerabilities by most in areas where military technologies are changing fastest, as also creative thinking about how to modify tactics and operational plans to combat the adversary that has or is about to acquire advanced technologies. Such challenges can hardly be met by the routine TPCR issued by the MoD. Ideally, this should be handled by the just established Chief of Defence Staff (CDS). But the CDS is severely handicapped in meeting requirement role because of the limited role allotted to him, with all the power and finances including capital acquisitions under the Defence Secretary. Neither does the CDS have any operational powers nor a lien on defence production nor R&D. Government needs to seriously examine these issues. Given the right role and powers, the CDS can effectively usher true revolution in military affairs (RMA) in the Armed Forces to meet future challenges. He can evolve a true TPCR relevant to the RMA and monitor its implementation. He would be looking to optimise events like DefExpo 2020 more holistically rather that the Defence Secretary looking for patchy deals under 'Make in India' that are financially most beneficial. SP

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

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MAJOR GENERAL ARUN KUMAR VARMA (RETD)

In order for India to possess a technologically advanced and self-sufficient defence industry, a lot will depend on maintaining a conducive eco-system for all stakeholders and a robust framework for effective implementation of reforms.

Indian Defence Industry

In 1947, the defence infrastructure and equipment in India was inherited from Britain. In 1956, the revised Industrial Policy Resolution reserved the arms and ammunition industry with the public sector and the ordnance factories set up under the British rule became the core group of industries. India focused on its capability to indigenously produce equipment with little technical know-how, leaving the advanced equipment requirements to be addressed through imports.

Reverses in its conflict with China in 1962 and the embargo imposed by the USA on the export of arms to India post 1965 war with Pakistan gave an impetus to India's defence industry. This also heralded an era of defence ties with the Soviet Union, and, to this day, bulk of requirement of advanced weapon platforms has been supplied by the Soviet Union/Russia. India even commenced manufacturing of equipment, albeit by way of license. Although the nation received advanced weapons, manufacturing/assembling via the license route led to stagnation in India's domestic capabilities in terms of research, development and production.

Towards the onset of the 21st century, India opened its doors to liberalisation and progressive economic reforms. The era of State run enterprises and centrally planned economy took a back seat and paved the way for arrival of the private sector. The private sector was given access to the defence industry and introduction of the 'Make' type of procurement in the Defence Procurement Policy (DPP) 2006 allowed the industry to develop and produce advanced defence equipment.

However, lack of focus and funding for research and development (R&D) in the public sector, coupled with absence of an enabling eco-system for flourishing of foreign direct investment (FDI) and the private sector, prevented India from building its indigenous defence capabilities. Thus, India continued its reliance on import of advanced weaponry.

In an attempt to boost domestic procurement, the Government changed the order of preference in procurement under DPP 2013, making it a preferred choice to develop, design or manufacture defence equipment indigenously. Apart from simplifying the licensing policy and providing a level playing field to the private sector vis a vis the public sector, DPP 2016 introduced Buy (Indian IDDM)) and Buy and Make (Indian) categories of procurement to promote the 'Make in India' initiative.

Industrial Overview

India has the third largest armed forces in the world, however, has remained the world's largest importer of major weapons with 13 per cent share in the global import of arms. The rise in the defence budget of India over the past two decades has been noteworthy, however, the bulk is consumed by the revenue expenditure and committed liabilities, leaving a minuscule amount for capital acquisitions. In 2015, India was recognised as the seventh largest military spending nations, after USA, China, Russia, Saudi Arabia, France and UK. In 2019, India moved up to the third largest military spending nations in the world.

Public Sector. India has a huge defence industrial base with 41 Ordnance Factories under the Ordnance Factory Board (OFB) and nine Defence Public Sector Undertakings (DPSUs), collectively forming the public sector component. In addition, the Defence Research and Development Organisation (DRDO) have over 50 laboratories under its aegis.

Private Sector. The sensitive and strategic nature of the defence industry was cited often to thwart the entry of private sector in defence, and, its contribution was restricted to supplies of raw materials, semi-finished products, parts and components to OFB and DPSUs. However, post liberisation, and the relative lack lustre performance of the public sector, led the Indian defence industry to open its gates to private sector. Since then the private sector has performed remarkably well, and today, the private sector is an integral part of the defence industry. Notable players in India's private defence sector are the Tata group, the Mahindra group, Bharat Forge and L&T. Large defence projects are witnessing increasing private sector involvement. Examples are the development of the Battlefield Management System (BMS), Pinaka Rocket Systems and the Avro Replacement Programme. Various global defence companies like Airbus, BAE Systems, Lockheed Martin, Boeing, Israel Aerospace Industries, Raytheon and Dassault have increased their investments into India by the way of joint ventures with the private sector.

Strategic Partnership Model. To harness the strength of private industry and to foster Government Private Sector partnership, DPP 2016 introduced the Strategic Partnership Model to develop strategic weapon systems. These will be created over and above the capacity and infrastructure that exists in Public Sector units. Strategic Partners from the private sector would be identified to become

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partners with the MoD in their deliberations under Government to Government negotiations with foreign Original Equipment Manufacturers (OEMs) for collaboration in production. However, procedures for identification of strategic partners with the private sector need to be streamlined.

iDEX Initiative and Start-ups. The Government has earmarked funds for innovations under the iDEX initiative with the aim of trying to bring together innovators with public and private sector industry and the Armed Forces to find new technology solutions. Plans are also afoot to fund at least 250 defence start-ups over the next five years in seeking new technologies for providing a cutting edge to the Armed Forces. This is a good development but whether these start-ups will be 'unofficially' forced to tie up with DPSUs or given free hand to tie up with private sector industry and the Armed Forces will be important.

Defence Corridors. In pursuance to the budget speech of 2018-19, the Government decided to develop two defence corridors, one in Uttar Pradesh and the other one in Tamil Nadu. Subsequently, six nodes have been identified for Uttar Pradesh Corridor and five for Tamil Nadu Corridor. Although sops have been offered to the public and private sector to set up manufacturing units, the progress has been slow, since, assured orders for defence items is the primary driving force for investments to materialise.

Concerns

India, aspiring to be a world power, has long harboured a dream of possessing a technologically advanced and self-sufficient defence industry. While its economic power has expanded, and its technological prowess in certain areas such as nuclear, space and information technology has grown, it has not been able to create a globally competitive defence industry. Consequently, India is still saddled with a bloated, non-competitive, non-responsive defence industry, capable of producing technologically inferior military equipment, and that too never on time and mostly exceeding their original cost estimates. The result is that India still imports 70 per cent of its defence requirements and the armed forces continue to grapple with the outdated, vintage and obsolete weapon platforms.

Periodic CAG reports point to sub-standard products, exorbitant prices, inability to meet demands of the Armed Forces, as also rampant corruption which is hardly possible without complicity of the Department of Defence Production (DDP) and MoD officials. Ironically, both MoD and DDP lack defence specialisation and accountability. Government's decision to turn the OFB into a public sector corporate for increasing exports, self-reliance, and latest technologies and innovations announced in May 2019 appears to have run into rough weather.

Role of Micro, Small and Medium Enterprises (MSMEs). Many OEMs including the OFB and DPSUs are offloading manufacture of components and sub-assemblies to MSMEs, but shortage of skilled manpower is forcing MSMEs to employ mix of semi-skilled and unskilled workers, which has resulted in low productivity. The 'Skill Development' programme is unable to meet the requirement of skilled manpower of MSMEs. Unfortunately governmental focus on MSMEs appears to have diminished despite all the talk about their importance and future contribution towards India becoming a super power.

Make in India – a reality check. The Government's 'Make in India' policy and increase in the FDI cap was seen as a major step to revitalise the defence industry. Accordingly, a number of committees under retired bureaucrats were set up by the government to review the problems being faced, and recommend suitable solutions to improve the business environment in India. However, very little has changed on the ground, be it the negative fiscal environment (including taxation), the lack of infrastructure (roads, water and power) and antiquated labour laws. The biggest challenges to 'Make in India' policy are:

- Decision making in defence procurement is bureaucratic whose primary focus is adherence to procedures and not on the end product. Like the Atomic and Space sectors, Defence procurement needs to report directly to the Prime Minister.
- The existing R&D infrastructure is antiquated with severely constrained design capability and limited support, both scientifically and financially. It continues to suffer from low investment, concrete plans and timelines for execution. What India needs is a research and development institution like the Defence Advanced Research Projects Agency (DARPA) in the USA.
- Complete side lining of the Indian private sector by DRDO, OFB and DPSUs in design, production and maintenance. Continued reliance on licensed production has compromised the domestic competence and capability to develop a product from scratch. Moreover, the monopoly enjoyed by these entities has bred complacency, arrogance and incompetency. With increased competition from the private sector in terms of productivity, resources and capacity utilisation, the public sector needs to be completely overhauled and corporatised.
- Foreign OEMs have developed sensitive and strategic technologies over several decades, investing billions of dollars. It is a fallacy that these can be handed over to India without a majority control.

With global defence spending experiencing a slowdown in the last few years, global defence firms have increased focus on seeking growth opportunities in markets such as India. Armed with substantial budget, and an executive will to integrate the domestic industry with its global counterpart, the Indian defence industry has placed itself on a trajectory of growth and challenge-driven production.

Conclusion

For improving defence manufacturing and becoming self-reliant in the near future, a lot will depend on how this sector is handled in terms of management, accountability, politicised unions, strikes, work culture, output and transforming limited successes to the required across the board excellence.

With global defence spending experiencing a slowdown in the last few years, global defence firms have increased focus on seeking growth opportunities in markets such as India. Armed with substantial budget, and an executive will to integrate the domestic industry with its global counterpart, the Indian defence industry has placed itself on a trajectory of growth and challenge-driven production. Like every industry, the success of the defence industry will largely depend on efforts to maintain a conducive eco-system for all stakeholders and a robust framework for effective implementation of the reforms. SP

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Dr Vivek Lall,
Vice President of Strategy and
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Well Above the Standard Mark of Achievement

During his outstanding career, Dr Vivek Lall has steered numerous multi-billion dollar deals, is recognised by several governments to be a knowledgeable person on technology and foreign policy issues and has been commended by several US Presidents as well as world leaders from across the globe

[By **Air Marshal B.K. Pandey (Retd)**]

One of the most respected and influential US industry leaders Dr Vivek Lall has been Vice President of Strategy and Business Development in the United States for the last two years at the world's largest and most powerful defence company Lockheed Martin. He is credited with launching a unique fighter F-21 for India this year leveraging the superior aerodynamics of the world's largest ever selling F-16 fighter platform.

In May 2018, he was also appointed by the United States Government in a key advisory role to the US cabinet secretary heading the Department of Transportation Washington DC which affects US and global aviation policies and technologies.

He is one of the senior-most persons of Indian origin in the United States in an aerospace and defence organisation. Prior to his current assignment, in August 2014, Dr Lall was appointed as the Chief Executive in charge of US and International Strategic Development at General Atomics, and was responsible for creating the most significant US India bilateral defence opportunity with the armed Predator Guardian unmanned platform. The ladder of leadership and success continues for Dr Vivek Lall as he has age on his side. His leadership traits are borne from the fact that he has a firm footing in research and development and management. His foundational research efforts at the NASA Ames Research Center in various multidisciplinary engineering fields have catapulted him to the top from one organisation to another – Raytheon, Boeing, Reliance, General Atomics and now Lockheed Martin. He is a firm believer in R&D and innovation which he argues is the fuel for growth for any company or country to stay ahead of the curve... the rest including manufacturing follows.

At a Glance

- Global Business Leader
- Advisor to US Government
- One of the most recognised and trusted names in Aerospace and Defence
- Commended by several US Presidents and world leaders across the globe
- PhD in Aerospace Engineering & MBA
- Responsible for path-breaking US-India defence deals
- Named as one of only 2,000 Outstanding Scientists of the Twentieth Century

Dr Lall did his O levels and A levels through the University of London, UK (equivalent of 10th and 12th grade) and completed his bachelor's degree in mechanical engineering at a very young age of 19 years from Carleton University in Canada with his thesis being on 'Aircraft Performance', a starting point for his interest in aerospace. Subsequently, he completed his masters in aeronautical engineering from Embry-Riddle Aeronautical University in Florida. He also has a PhD in Aerospace Engineering from Wichita State University in Kansas and MBA from the City University in Seattle. He also completed management and executive courses at the American Management Association in Washington DC and the Boeing Lead-

PHOTOGRAPHS: Vivek

With Head of the States: (Right) Dr Lall with with Donald trump, US President and (left) with Prime Minister Narendra Modi.

ership Center in St. Louis. This educational depth has helped him stay ahead of the learning and leadership curve. He was so much into circuits that his Dean at the University told him to "get a social life" but Lall continued to delve deep into research. With his father, a career diplomat, posted to Panama during Noriega's time, he moved to Florida's Embry-Riddle Aeronautical University. During his master's work, he took up a summer job with Eastern Airlines for a short stint as the airline soon packed up. At Raytheon, also at Wichita, he worked on the Joint Primary Aircraft Training System (JPATS) Beechcraft T-6 Texan II. He joined Boeing on September 17, 1996 and worked on computational fluid dynamics and air elasticity and loads and dynamics for the 757-300 aircraft. He moved from engineering to management and later, the then CEO of Boeing Commercial Aircraft (BCA) Allan Mullaly, put him on his seven-member Technical Excellence Team.

His work at Boeing in the Airplane Performance and Propulsion group has been acknowledged as pioneering. He also worked as an adjunct faculty member at Embry-Riddle, McConnell Air Force Base, besides being co-chair of the US-India Aviation Cooperation Programme launched by Norman Mineta in 2005. He was appointed as Vice President and Country Head, Boeing Defense Space & Security in May 2007, when he led a team to conclude the path-breaking and largest ever US-India defence deals for C-17 Globemaster, P-8I anti-submarine warfare aircraft, Apache and Chinook Helicopters and Harpoon missiles. It was in 2003 that Lall was appointed Managing Director of Boeing Commercial Airplanes and the team had a successful business run with major deals being struck with India. He was one of the few Boeing employees to have worked for both the commercial and defence units.

Though an American citizen, Dr Lall is a true global citizen having grown up around the world. After being born in Jakarta, Indonesia, he has traversed the world living in Austria, Tanzania, UK and Canada besides India and the US. But he firmly believes in Indian values and the growth story of India and is one of the persons who have been instrumental in integrating US-India defence relations in the last two decades. He continues to do it with greater fervour as he believes that India has the wherewithal to become a top aerospace and defence country. Aptly so, he finds the stellar leadership of the Prime Minister Narendra Modi as the right ingredient for the country to accelerate its superpower capabilities. Personally, he is inspired by the life of Prime Minister Modi while his parents have been his best friends and mentor who encouraged him to pursue his dreams no matter what the field was.

Dr Lall is a true global citizen having grown up around the world. But he firmly believes in Indian values and the growth story of India and is one of the persons who have been instrumental in integrating US-India defence relations in the last two decades.

Dr Lall has been the recipient of several honours including the 2008 OCA National Asian Pacific American Corporate Achievement Award in the US. In the year 2000, Cambridge (UK) listed him as one of only 2,000 Outstanding Scientists of the Twentieth Century, a coveted distinction. He is in the Sigma Gamma Tau Aerospace Honor Society as well as the Pi Mu Epsilon Mathematics Honor Society. He was also the President of the Mathematical Association of America. He is not only conversant with mathematics, aerospace engineering and management but also with five different languages – English, Hindi, French, German and Swahili. He is a trained private pilot having gone to the Phoenix International Flight Training Center in Florida and that explains his desire to keep 'flying high' and his obsession to contribute as enormous as possible in the aerospace sector.

In the global corporate world, quite a few Indians are leading from the front and one such Indian who continues to do all Indians proud, especially in the realm of aerospace and defence, is the 50-year-old Dr Vivek Lall. During his illustrious career, he has been known by several governments to be a humble and knowledgeable person on not only technology but foreign policy issues as well. He has been commended by several US Presidents in his career as well as world leaders across the globe. Japanese government officials have been quoted to saying he is the most influential Asian American in the US defence industry. Several US NATO allies including Canada where he lived for four years consider him a very trusted and respected scientist. All eyes are now on Dr Lall as with his respect in the White House and in the Government of India, both countries hope to mutually gain in trade and high end technology. SP

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—JAYANT BARANWAL, EDITOR IN CHIEF, CHAIRMAN & MANAGING DIRECTOR, SP GUIDE PUBLICATIONS

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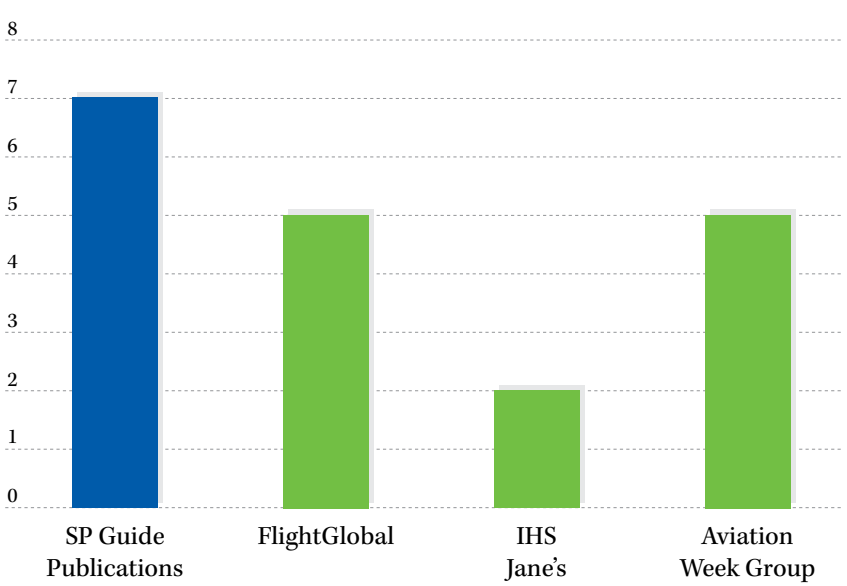

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Ayushee Chaudhary
For the article:
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Our Journalist:
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"6 Reasons Why it Benefits All"
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SP's AirBuz

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S.B. P. Sinha
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"India Finally Uses Military Option Against Terrorists in Pakistan"
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BEST MRO submission
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Byron Bohlman
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Aerospace Media Awards — Asia
11th February 2020 – Singapore

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Our Journalist:
A.K. Sachdev
For the article:
"Engine leasing"
Our publication:

SP's aviation

Our Journalist:
Murali Sundaram
For the article:
"Sustainable Alternative Jet Fuels"
Our publication:

BizAv India

* The first Asia Aerospace Media Awards will be presented in Singapore on the evening of February 11, 2020, in conjunction with Singapore Airshow 2020.

FOLLOWING CONSISTENTLY AND RELENTLESSLY
THE PATH OF EXCELLENCE IN ENLIGHTENING SINCE 56 YEARS

SP GUIDE PUBLICATIONS

56 YEARS OF ENLIGHTENING

India's First CDS – What Should be the Priorities

LT GENERAL
P.C. KATOCH (RETD)

Speaking to reporters India's first CDS General Bipin Rawat has said, "As per the task given to the CDS we have to enhance integration and do better resource management. We have to achieve more synergy and integration. This is the motive. All the three services will work as a team. The CDS will control them but the work will be done through teamwork. The CDS will not be running any force as per its instructions. We will see how we can integrate our systems so that services can work in a coordinated manner." Significantly, the new Rules of Business notified by Government continue to include 'defence of India' and 'defence policy' in charter of the Defence Secretary. Defence Secretary's charter also includes military cantonments and land acquisition, defence accounts, purchasing food, capital acquisitions, Border Road Organisation (BRO) and even Canteen Stores Department (CSD). CDS will act as the Principal Military Adviser to Raksha Mantri on tri-Services matters but Service Chiefs will continue to advise RM on matters of respective Services. CDS will head the Department of Military Affairs (DMA), having military and civilian mix, as its Secretary, to facilitate restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands. CDS will also be the permanent Chairman of the Chiefs of Staff Committee, in which he will be supported by the Integrated Defence Staff (IDS). CDS is also responsible (as earlier by HQ IDS headed by CISC was) for preparing long-term Integrated Capability Development Plan and assign inter-service prioritisation to capital acquisition proposals based on anticipated budget, as also implementing five-year Defence Acquisition Plan and Two Year Roll On Annual Acquisition Plan.

CDS will not exercise any military command, including over the three Service Chiefs albeit the tri-service organisations will continue to be under HQ IDS less the Strategic Forces Command which has gone under the NSA. CDS will, however, will act as advisor to the Nuclear Command Authority. Being the one of the Secretary of MoD, CDS will have no say in Defence R&D, Defence Production, ESM welfare, AFHQ and civilian defence services. Personnel services and connected policies will be dealt by respective service chiefs, not CDS. Without operational powers, possibility of friction with service chiefs exists, especially when CDS is same rank as the service chiefs. CDS will have no control over capital acquisitions especially hardware. Yet he must implement these and the blame could be apportioned to him if any issues crop up, like the dismal state of Akash Missile Systems (covered earlier in these columns) which have been dumped on the military. The CDS will also be hampered in ushering true revolution in military affairs (RMA) because the Department of Defence (DoD) holds most aces with attendant red tape. It can therefore be deduced that the task of CDS is largely reorganisation of the military and usher jointness to some extent depending on what the DoD wants. Given constraints of his charter, top priority of the CDS should be military reorganisation, which General Rawat has begun to address by giving direction to HQ IDS for preparing a proposal for establishing an Air Defence Command, which also takes into consideration Russia delivering the S-400 Triumf missile systems to India by 2021. General Rawat has also directed HQ IDS to come up with recommendations for inter-services synergy and jointness in a time-bound manner. As for Theatre Commands, General Rawat has said these need not follow the western model; India can have its own mechanism for a tri-service command system that allows the Army, Navy and Air Force to work under one umbrella. He has indicated that the first joint theatre command will be established in three years and subsequent ones in five-six years.

It would be prudent to take into consideration China's military reorganisation; like 'one border, one theatre command, and importantly combining the functions of intelligence, technical reconnaissance, electronic warfare, cyber warfare and space warfare under the 'Strategic Support Force'. Another priority should be bridging India's strategic disadvantage vis-à-vis China and Pakistan at the sub-conventional level. General Rawat would need to flesh out expansion and modernisation the fledgling Armed Forces Special Operations Division and their cross-border pro-active employment on continuous basis rather than using them for reactive strikes. Yet another top priority is RMA, which is different from jointness. A detailed RMA plan with time bound implementation cutting across the services needs to be evolved. For example the Army is switching to the Army Cloud in 2010 combining all information based data, as approved by General Rawat as COAS. There is need to stitch this with other services and entities rather than being standalone. Given the technological advances in China, dispensing with backup to the data in the cloud too merits serious examination.

In modeling RMA, future conflict with China, conventional included, must take into consideration AI backed warfare – unmanned platforms, quantum communications and simultaneous conflict at all levels including in cyber, space and electromagnetic domains. CDS is required to plan on anticipated budget but aside from trimming military expenditure he must bid for requisite defence allocations and review system of budget demands, stressing to the hierarchy the balance required between economy and security. Similarly, the border infrastructure for quick mobilisation, especially in northeast must be speeded up. Policy is not under CDS but General Rawat would do well to advise the government that linking China's 'early harvest' proposal only to the middle sector in Uttarakhand would amount to neglecting critical regions of Ladakh and Arunachal Pradesh. All sectors must be discussed together since resolution must be a "package settlement" of boundary covering all sectors of the India-China boundary as agreed by both countries in 2005. SP

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

CDS' Ist Directive: Prepare for a unified Air Defence Command

The newly-appointed Chief of Defence Staff, General Bipin Rawat has directed the Integrated Defence Staff to prepare a proposal to create a unified Air Defence Command for India, according to a statement released by the Ministry of Defence on January 2.

This is General Rawat's first substantive decision after taking over as India's first CDS on January 1. Headquarters Integrated Defence Staff has been asked to prepare the case for an Air Defence Command by June 30.

In his first meeting with senior functionaries of the Integrated Defence Staff, which will support him in his parallel role as Permanent Chairman, Chiefs of Staff Committee, General Rawat "directed various branch heads to come up with recommendations for inter-service synergy and jointness in a time-bound manner".

"He also set out priorities for execution of synergy by June 30 and December, 31 2020," the statement added, indicating that enforcing jointness, synergy among the three Armed Forces and restructuring of existing single-service commands into tri-service entities is the top priority of the Chief of Defence Staff.

In his opening remarks as CDS on January 1, General Rawat said India would not copy foreign models for jointness but evolve systems and structures which suit the Indian context.

General Rawat intends making a beginning with the low-hanging fruit. "Some of the areas identified for jointness and synergy include creation of common logistics support pools in stations where two or more services have their presence," the statement elaborated.

Emphasising a collegiate system of functioning, General Rawat directed that all three services and Coast Guard must be consulted and their views obtained in a time-bound manner. "Decisions will, however, be taken to ensure optimisation of resources," the statement added, suggesting the inevitability of re-structuring. "Efforts will be made to cut out infructuous ceremonial activities, which are manpower intensive," the Ministry of Defence statement added.

Chief of the Defence Staff General Bipin Rawat during the Tri-Service Guard of Honour in New Delhi

The charter of roles and responsibilities for the CDS gives prominence to bringing about "jointness in operations, logistics, transport, training, support services, communications, repairs and maintenance, etc. of the three Services within three years of the first CDS assuming office".

The CDS is mandated to "facilitate restructuring of military commands for optimal utilisation of resources by bringing about jointness in operations, including through establishment of joint/theatre commands".

The CDS will act as the principal military adviser to the Defence Minister on tri-service matters. He will not exercise any military command except over tri-service agencies on Space and Cyber Warfare. SP

—Vishal Thapar

L&T hands over 51st of the 100 K9 Vajra-T artillery guns ordered for Indian Army

The 51st gun of the 100 K9 Vajra-T 155mm/52 calibre tracked self-propelled howitzers ordered in 2017 to beef up India's mobile artillery firepower was "flagged off" by Defence Minister Rajnath Singh at L&T's Hazira-based Armoured Systems Complex in Gujarat on January 16. Singh performed the 'shastra pooja' on the artillery gun, just as he did on the first Rafale fighter delivered to India in October last year, to signal acceptance of the gun.

The Defence Minister hailed the manufacture of the K9 VAJRA-T as the best example of 'Make in India' in Defence. "I have been told that more than 75 per cent of K9 Vajra has been manufactured in India. Over 5,000 people have got direct employment and more than 12,500 indirect employment through this complex. It is a matter of great pride," he said on the occasion.

PHOTOGRAPHS: Indian Army, PIB

L&T in partnership with South Korean Hanwha won a global competition to supply 100 tracked howitzers at a reported price of ₹4,500 crore. L&T is required to deliver all 100 guns within 42 months of the signing of the contract. The delivery is so far ahead of scheduled timelines.

"Our Government is open to new ideas and is determined to use the energy, entrepreneurship spirit and enterprise of the private industry in the defence sector," the Defence Minister said.

Singh reiterated the Government's resolve to create a $26 billion defence industry by 2025 and provide employment to two to three million persons. "We wish to create an ecosystem that provides a platform to both public sector and private sector to work together and contribute to nation building through their strengths and experiences," he added. SP

—Vishal Thapar

Key Priorities for New Army Chief

LT GENERAL
P.C. KATOCH (RETD)

Soon after taking over as the new Chief of Army Staff, General M.M. Naravane warned Pakistan to desist from sponsoring terrorism, saying, "We have evolved a strategy of resolute punitive response against sponsored terrorism. If Pakistan does not stop state-sponsored terrorism, we reserve the right to pre-emptively strike at the sources of terror... there are multiple options across the spectrum of conflict to respond to any act of terror sponsored or abetted by Pakistan. ... they are trying to use terrorism as tool of state policy, as a way of carrying out proxy war against us. This can't last long.... We are aware terrorists in various launch pads waiting to cross over but we are fully prepared to meet this threat. Pakistan Army's all-out efforts to deflect attention from state-sponsored terrorism have been a failure."

General Naravane added that Pakistan's proxy war design had been hit by elimination of terrorists and decimation of terror networks. He asserted that a new normal in the country's response mechanism to acts of cross-border terrorism had already been displayed, he asked Pakistan to get used to abrogation of Article 370 since it was already a done thing. A day after General Naravane's warning, Pakistan termed the statement "irresponsible" and stated, "No one should forget Pakistan's befitting response to India's Balakot misadventure," But Pakistan's did suffer casualties in Balakot and its lies about not having even lost an F-16 have been exposed by the US.

The newly appointed Chief of the Army Staff General Manoj Mukund Naravane after taking over as the 28th COAS, at the South Block, New Delhi

On force modernisation, General Naravane said that modernisation is one of the key and priority area. Army has a long term perspective plan based on the analysis of likely threat. These threats keep changing and the perspective plan is modified accordingly. He emphasised that his focus would be on ensuring that the Army maintained high standards of operational readiness to face any threat at any time and that he would work on procuring better equipment to help maintain such operational readiness. "Our priority will be to be operationally prepared at all times", he said.

Significantly, General Naravane has said that the Army will focus on the border with China with equal attention as it does on the Pakistan border, saying, "While a lot of attention has been paid to the western front in the past, the northern front also requires equal attention. It is in that context that we are now going in for capability development even in the northern borders, which includes the north-east parts of our country." He also hoped that the stage would be set for eventual resolution of the border with China. Naravane added that special attention will be given to the issues of human rights.

General Naravane has accumulated vast experience serving in numerous command and staff appointments in peace, field and active insurgency environments in J&K and the northeast, as also as part of IPKF in Sri Lanka. He has served as India's defence attaché in Myanmar for three years. He has commanded the Eastern Command responsible for the 4,000 km long border with China, and was the Vice Chief of Army Staff before being elevated to the appointment of Chief of Army Staff. When asked about challenges that lay ahead of him in his new post immediately on getting the news of his appointment as Army Chief, General Naravane had responded that it was too early to say about it right then as to what would be the focus areas, saying, "Will have to deliberate on it in times to come." However, this is a modest statement since he has subsequently broadly spelt out his key focus areas, which include:

- Maintain the battle hardened Army in high-state of operational readiness at all times to face any threat.
- Befitting response to Pakistan's proxy war.
- Equal attention to borders with China and Pakistan.
- Continue capacity building along the border with China.
- Procuring better equipment for the Army.
- Special attention to human rights.

General Naravane's tenure will be a busy one not only because of the growing China-Pakistan axis, happenings within Pakistan, China-ISI ingress in Nepal, possible conflict in Middle East and increasing tensions in the Indian Ocean Region, but also in implementing reorganisation of the Army approved during his predeces-

PHOTOGRAPH: Indian Army

sor's tenure and also the impending reorganisation of military commands by the Department of Military Affairs (DMA) under the CDS. Following will need to be taken care of:

- Pakistan's proxy war requires sub-conventional conflict to be transported from our territory to that country. This requires a change of strategy.
- Political belief that conventional war is out needs to be dispelled. Army modernisation for fighting in NCW environment including with AI-assisted unmanned platforms in all levels of conflict need acceleration.
- In addition to two-front war, the third front needs renewed focus in light of current happenings which will be optimised by external and internal forces inimical to India.
- Border infrastructure needs acceleration. Road linking western and eastern Arunachal Pradesh has been constructed but roads in hinterland for troop mobilisation need focus, which remain neglected due sparse population and less votes. Strategic railways too are hardly progressing.
- The proposed ITBP-AR merger by MHA needs to be resolutely opposed due to adverse operational fallout.
- In the haste of indigenisation, sub-standard platforms/equipment should not allowed to be thrust by the Department of Defence (DoD). For example, the pathetic state of Akash Missile Systems in media has led to a veteran General saying, "I was surprised that the Akash was accepted in the first place, it had several snags which never got ironed out. The Navy wisely opted out of it but inducted the naval version of Trishul. The NAG is yet to see the light of the day", while another veteran General says, "It's been a sad story often repeated where the DRDO is concerned. Recall refusing to accept Akash way back .... Arunachal was livid. .. Forever DRDO has been claiming it is as good as the Patriot - my foot."
- The man behind the machine being most important and Army having the largest military manpower, there is no reason not to be included in Group 'A' Services.
- Finally, unlike the Navy and Air Force, Army has resorted to treating veterans as outcasts. This needs to change.

General Naravane emphasised that his focus would be on ensuring that the Army maintained high standards of operational readiness to face any threat at any time and that he would work on procuring better equipment to help maintain such operational readiness. "Our priority will be to be operationally prepared at all times", he said.

Backed with loads of experience, General Naravane would lead the Army to greater height. Best wishes of the nation are with him. SP

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

Induction of 222 Squadron at Air Force Station Thanjavur

No 222 Squadron, the Tigersharks were inducted at Air Force Station Thanjavur in a ceremony attended by General Bipin Rawat, the Chief of Defence Staff (CDS), Air Chief Marshal R.K.S. Bhadauria, Chief of the Air Staff, Dr G. Satheesh Reddy, Secretary, Department of Defence R&D and Chairman, DRDO, Air Marshal Amit Tiwari, Air Officer Commanding–in–Chief (AOC-in-C), Southern Air Command (SAC), Vice Admiral Atul Kumar Jain, Flag Officer Commanding-in-Chief (FOC-in-C), Eastern Naval Command (ENC), R. Madhavan, Chairman cum Managing Director, Hindustan Aeronautics Limited and other Dignitaries on Monday, January 20, 2020.

On arrival, General Bipin Rawat, the CDS was received by Group Captain Prajual Singh, Station Commander, Air Force Station Thanjavur in Tamil Nadu.

General Bipin Rawat in his address said that the resurrection of the 'Tigersharks' highlighted the Integration and Jointness which is the future of the Indian Armed Forces. He brought out that Su-30MKI aircraft along with the BrahMos will be the game-changer which will extensively enhance the security of the Maritime domain. The Squadron will be operating closely with the Indian Army and Navy to get the ball rolling in jointness of the Indian Armed Forces.

Air Chief Marshal R.K.S. Bhadauria, Chief of Air Staff, in his address thanked the CDS for being at the ceremony. He said that it was a historic day for the Indian Air Force, Southern Air Command, Air Force Station Thanjavur and 222 Squadron. He spoke of the decision to choose Thanjavur as the base for induction of the Su-30MKI squadron because of its strategic location and complimented Southern Air Command and all personnel of AFS Thanjavur for their efforts towards advancing the induction of the squadron by almost a year.

The induction ceremony culminated with a flying display by Light Combat Aircraft, Sarang Helicopter Display Team and Surya Kiran Aerobatic Team. SP

IAF announces induction of Astra, its most potent air-to-air missile

The Indian Air Force (IAF) on January 13 announced the induction of the indigenous, 110-km range Beyond Visual Range (BVR) air-to-air-missile, Astra.

While detailing its show of strength in the forthcoming Republic Day Parade, the IAF declared that the "Astra has been integrated with Sukhoi-30MKI and will be integrated with the Mirage-2000, Tejas and MiG-29 (fleets) in the future".

The Astra fills up the critical air-to-air missile gap vis-a-vis Pakistan, which was exposed during the post-Balakot aerial confrontation over the Line of Control on February 27 last year.

Against the Pakistan Air Force (PAF) AIM-120 AMRAAMs with a range of 110 km, the maximum air-to-air reach of the IAF was under 80 km with the R-77. As a result, IAF's frontline Su-30 MKIs were forced into defensive manoeuvres when the AMRAAM-armed PAF F-16s attacked India in retaliation to India's cross-border air strike on the Jaish-e-Mohammad terrorist camp at Balakot in Pakistan on February 26.

The 110-km range of the Astra neutralises Pakistan's advantage over India in air-to-air weaponry.

The Astra is capable of engaging "both short-range targets at a distance of 20 km and long-range targets up to a distance of 80-110 km" at varying altitudes, an IAF spokesperson elaborated.

The Astra is India's first indigenous air-to-air missile. The features of this all-weather BVR include mid-course inertial guidance with terminal active radar homing. SP

—Vishal Thapar

PHOTOGRAPHS: Indian Air Force, DRDO

MKU Showcases Advanced Techologies in Electro Optics and Armour Solutions

MKU, a leading defence and security solutions provider will be participating in DefExpo 2020, scheduled to be held from February 5th to 8th at Vrindavan Yojna, Sector 15, Lucknow, Uttar Pradesh. MKU is committed to 'Make in India' and has been transforming the defence industry landscape in India by deploying newer and advanced technologies in electro optics and armour solutions. Our products are indigenously designed, developed and manufactured in our manufacturing units in India and Germany and are used by Indian and international forces across 100 countries.

In this edition of Defexpo among others MKU would be displaying:

- Versatile range of Night Vision (Image intensified) weapon sights, monocular and bi-oculars that deploy Gen 3 sensor technology for excellent performance in very low light conditions
- Rugged Thermal Weapon Sights for assault rifles, sniper rifles, LMG, MMG etc that offer longer ranges and better performance even in zero visibility conditions (for, smoke, smog etc)
- Instavest series, our all new line up of quick release survivability and protection jackets as per BIS Standards for male and female soldiers in tactical, combat and law enforcement configurations. Instavest series feature the highest level of protection in the lightest configurations using Gen 6 armour technology
- The newly designed Insta Load Distribution System (ILDS) for our jackets based on the Exo Skeleton technology
- Polyshield – H bolt free helmets that are capable of providing uniform protection across the head, from faster and more lethal fragments at higher velocities

Newly designed Insta Load Distribution System (ILDS) for jackets

MKU looks forward to engaging with our customers, partners, leaders from India and the global defense industry and participants from the services as well as government.

Please visit us at Hall # 1, Booth # R16. SP

CEO Urs Breitmeier to leave RUAG

RUAG International's Board of Directors and CEO Urs Breitmeier have separated by mutual agreement. Urs Breitmeier held senior positions at RUAG for 18 years, the last seven of which as CEO. Chairman of RUAG International's Board of Directors Dr Remo Lütolf says: "On behalf of the Board of Directors, I would like to thank Urs Breitmeier sincerely for his commitment over the past years. Under his leadership, RUAG has developed into an international group. Urs Breitmeier was instrumental in shaping the unbundling and bringing it to a successful conclusion. RUAG International is thus well positioned for the future. We wish Urs Breitmeier all the best in his professional and private life and every success in the future."

The newly created company RUAG International will be a technology group focusing on space and aerostructures. With the dawn of a new era, the decision was made that the baton should be passed to a new CEO. Remo Lütolf: "We want to approach the upcoming transformation with renewed vigour." The search for a suitable successor has already started externally. Until a successor is in place, the current CFO Urs Kiener will lead the Group. Urs Kiener has been CFO for many years and is very familiar with RUAG's business. Remo Lütolf explains: "Urs Kiener not only brings 20 years of expertise as CFO, but he has also spent two and a half years operationally managing the Aerostructures Division. Urs Kiener has proven that he actively initiates change processes and sees them through professionally. The entire Board of Directors expresses its full confidence in him to lead the RUAG International through this ambitious transition phase."

Urs Breitmeier

The change at the top of the Group has no impact on the unbundling and the new strategic orientation of RUAG International. At its meeting on March 15, 2019, the Federal Council approved the procedure for unbundling RUAG's military activities. At the same time, it decided that RUAG International should be developed into an aerospace technology group and fully privatised in the medium term. Since January 1, 2020, two new organisations have been formed – MRO Switzerland and RUAG International under the umbrella of the new holding company BGRB Holding AG. SP

PHOTOGRAPHS: MKU, RUAG

Lohia's aerospace venture to contribute to the $ 26 billion Aerospace and Defence exports targets by 2025

India aims to double and then treble its defence focused exports in the next five years and the Lohia Aerospace Systems, an aerospace and defence subsidiary of the Kanpur-based Lohia Group, intends to contribute in the effort by becoming a leading exporter of customized composite products to global customers.

With capacities and capabilities to design and manufacture composite products for the aerospace and defence sectors, the Lohia Aerospace Systems offers a wide range of composite products, through its best-in-class manufacturing facilities in two countries. The company's composite experts have more than 100 years of combined experience in manufacturing composite components for the aviation, military and aerospace sector.

"Our products are customized to suit stringent client requirements and delivered to meet the highest quality standards for commercial, military and space applications," said Pavitra Goel, General Manager-Marketing for Lohia Aerospace Systems.

The Beginning

In 2019, Lohia Group marked its entry into the aerospace and defence sector with the acquisition of Israel-based Light & Strong Limited. Specializing in composite components production, L&S's established pedigree in aerospace technology manufacturing is a synergistic fit with Lohia Group's decades long large-scale manufacturing expertise.

"We inherit a rich heritage of manufacturing excellence from our parent company – Lohia Group. With manufacturing units across seven countries in four continents, offices in 25 countries and clients in over 85 countries, Lohia Group defines quality," said Anurag Lohia, CEO, Lohia Aerospace Systems.

Headquartered in Kanpur, India, Lohia Group of companies is a diversified conglomerate with a rich history of excellence in manufacturing. Lohia Group's flagship company is one of the world's largest manufacturers of machinery and equipment for the woven sack industry and provides end-to end solutions to customers in 85 countries, employing more than 5,000 people. Other businesses include textiles and auto components and manufacturing. The group has a manufacturing presence in 7 countries across 4 continents

Twin Facilities - Israel and India

Lohia Aerospace System has manufacturing presence in Israel and India. Both the facilities strategically serve customers globally, through symbiotic synergies in technology support and value manufacturing. The two facilities span a total of 11,000 sqm. With over 100 skilled technicians, the company follows paperless internet of things (IOT) manufacturing and Enterprise Resource Planning-based processes.

The Israel facility was established in 2007 and the manufacturing unit is based in an aerospace standard-certified 4,000 sqm facility with class 100,000 clean rooms, wet lay-up rooms, autoclaves, ovens, CNV milling centre, paint shop, 900 sqm of warehouse and AS 9100 D certification.

The key strengths at the Israel facility include an exclusive focus on aerospace and defence sectors, an in-house dedicated design and engineering team with strong industry and experience, and various manufacturing technologies including Prepreg layup, Wet layup, Liquid Resin Infusion, Resin Transfer Molding.

The brand-new manufacturing unit in Kanpur, in the northern state of Uttar Pradesh, is designed as the center for every composite requirement. Spanning 7,500 sqm. The unit's key highlights include over 1,000 sqm of clean rooms, 800 sqm of dedicated autoclaves and ovens area, a one-stop solution centre for every composite need. A fully integrated laboratory to monitor and test - Incoming raw material inspection to Non-Destructive Testing (NDT) and final product testing.

Being a key participant in the Indian aerospace and defence sector, Lohia Aerospace Systems aims to become a successful vehicle for executing offset obligations of global companies through this endeavour. By being a certified MSME company, it provides multiplier benefits for offset sourcing.

Lohia plans to leverage the Israeli know-how in aerospace technology. Shown here is the Heron TP from IAI.

"All our employees are also trained in our Israeli facility to bring home knowledge and expertise of the aerospace sector. Combined with decades of manufacturing experience, Lohia Aerospace System produces only the best." Anurag Lohia, CEO, Lohia Aerospace Systems stated while talking about how LAS is contributing to the Government's Skill India vision.

Lohia Aerospace System strives to provide the best in class engineering design services to its customers and undertake design and development projects with partner clients. The company's proven track record in design excellence is a key differentiator and the roll-call in the market with most of its projects being awarded on a nomination basis.

"We have a history of working on critical strategic projects for our partners with a reputation of being solution providers under the most stringent of conditions," said Anurag Lohia, CEO, Lohia Aerospace Systems.

By leveraging the Israeli know-how in aerospace technology manufacturing, Lohia Aerospace System brings high-end key technologies in the aerospace and defence composites domain to India. SP

PHOTOGRAPH: IAI

Leonardo's Falco Xplorer Drone Completes First Flight

Leonardo has announced the maiden flight of its new Falco Xplorer drone aircraft. Falco Xplorer S/N0001 took off from Trapani Air Force base on January 15, cruised over the Gulf of Trapani in a dedicated fly zone, for around 60 minutes and then returned to base, landing safely.

The maiden flight is a significant milestone which has been achieved through technical and engineering support, at the test flight planning stages and with other related activities, by the Italian Air Force Test Flight Centre.

The Remotely-Piloted Air System (RPAS), which combines endurance of over 24h with a max payload of 350 kg, will now embark on a series of flight campaigns which will assess the aircraft's full range of capabilities including its integrated sensor system. These campaigns will also certify the Falco Xplorer against NATO's airworthiness STANAG 4671, dramatically expanding the territory over which it can operate.

The Falco Xplorer was first unveiled at last year's Paris Air Show. It has been designed to offer persistent, multi-sensor strategic surveillance to military and civil customers and can be procured as either an integrated system or as a fully-managed information-superiority service, flown and operated by Leonardo. With a maximum take-off weight of 1.3 tonnes and an operating ceiling above 24,000 ft, the aircraft is an affordable and potent option for Intelligence Surveillance and Reconnaissance (ISR).

Previous Falco variants have been chosen by the United Nations and Frontex, the European border and coastguard agency.

The Falco Xplorer design draws on feedback from these and other Falco customers. It features a powerful sensor suite, which includes the Company's Gabbiano T-80 multi-mode surveillance radar, its SAGE electronic intelligence system, an automatic identification system for maritime missions and an Electro-Optical (EO) turret.

An optional hyperspectral sensor will allow the Falco Xplorer to monitor pollution and agricultural development. The native satellite link capability allows for beyond-line-of-sight operations, while its open system architecture means that third-party sensors can be easily integrated.

Not subject to International Traffic in Arms Regulations (ITAR) restrictions and meeting the criteria for Missile Technology Control Regime (MTCR) class II, Falco Xplorer is readily exportable around the world.

The Falco Xplorer is designed by Leonardo, from the aircraft to its sensor suite, mission system and ground control station, making the company a 'one-stop-shop' for unmanned capabilities. Advantages of this approach include the ability to offer competitive pricing and the ability to draw on knowledge and experience from across the business to tailor a Falco Xplorer package to the precise needs of customers, whether in terms of technology or commercial arrangements. SP

PHOTOGRAPH: Leonardo

GA-ASI Begins MDO Demonstrations Using Gray Eagle ER

General Atomics Aeronautical Systems on November 19, 2019, completed the first in a series of internally funded Multi-Domain Operations (MDO) demonstrations using a company-owned Gray Eagle Extended Range (GE-ER) Unmanned Aircraft System (UAS).

The flight series will continue in 2020 and show that a GE-ER equipped with long-range sensors and Air Launched Effects (ALE) is able to Detect, Identify, Locate and Report (DILR) targetable data to support Long Range Precision Fires (LRPF) systems.

"We're excited to show the capability Gray Eagle ER provides due to its increased endurance and range, with the addition of high Technology Readiness Level (TLR) long range sensors and ALE."

"Gray Eagle ER is a critical tool, along with the Army's manned platforms, for operations in an MDO environment," said David R. Alexander, President, GA-ASI. "We're excited to show the capability Gray Eagle ER provides due to its increased endurance and range, with the addition of high Technology Readiness Level (TLR) long range sensors and ALE."

Equipped with the combat-proven Lynx Block 30A Long Range Synthetic Aperture Radar/Ground Moving Target Indicator (SAR/GMTI), the GE-ER was able to detect military targets out to a range of 75 km. The Lynx SAR imagery produces precise coordinates with every image, cueing to aviation assets or enabling direct engagement with LRPF. The Lynx SAR has modes for Ground Moving Target Indicator (GMTI), Dismount Detection on the Dismount Moving Target Indicator (DMTI), Maritime Detection and Maritime Identification with Inverse Synthetic Aperture Radar (ISAR). This combination of modes supports MDO operations over land or sea in the Pacific and European theatres.

All flights and future demonstrations will be controlled exclusively using GA-ASI Scalable Command & Control (SC2) software hosted on a laptop computer, drastically reducing the system's logistical footprint and supporting the Army's vision for interfaces to the aircraft from across the battlefield without the need for a Ground Control Station shelter or vehicle.

Demonstrations planned in 2020 include integration of additional long range and MDO relevant sensors, communications packages, and launching of ALE from the aircraft. Serving as an ALE mothership, the GE-ER will carry multiple ALEs with a variety of capabilities. The launching and controlling of ALEs from GE-ER could potentially increase the survivability and effectiveness of current and future manned aviation systems with intelligence, targeting, communications, jammers, decoys and kinetic effects. SP

American actor Adam Sandler's Twitter account hacked

Hollywoodreporter.com has reported that American actor and comedian Adam Sandler's official Twitter account was hacked on January 2 afternoon, according to a representative for the actor.

Beginning at 5:34 p.m., a slew of offensive and racist messages were sent out from the actor's account, which has 2.4 million followers.

Sandler's account also retweeted a user who wrote, "@BarackObama ur a arangatang monkey u ruined my life when u messed with food stamp rates i hate u forever retart."

According to Sandler's rep, the compromised account was locked as soon as the issue occurred.

Mariah Carey experienced a similar incident over New Year's Eve. Messages on both Sandler's and Carey's account referenced the Chuckling Squad, a hacker group that compromised the Twitter account of Twitter CEO Jack Dorsey in August. The group has also claimed responsibility for hacking other celebrity accounts, including that of actress Chloë Grace Moretz. SP

PHOTOGRAPH: Twitter / Josh Benny

UK Government accidentally publishes home addresses of over 1,000 New Year Honours recipients

The UK Government accidentally published the home addresses of more than 1,000 New Year Honours recipientsin December 2019 as reported by various newspapers in United Kingdom. The list was briefly posted to a government website, allowing anyone who visited the page to download it as a spreadsheet.

The file contained postcodes and house numbers of nearly every person recognised in the list. It included celebrities such as singer Elton John, TV chef Nadiya Hussain and cricketer Ben Stokes, senior politicians including Iain Duncan Smith, as well as senior police officers.

The Cabinet Office said it had referred itself to the Information Commissioner's Office and would be contacting anyone involved.

"A version of the New Year Honours 2020 list was published in error which contained recipients' addresses," a Cabinet Office spokesperson said.

"The information was removed as soon as possible. We apologise to all those affected and are looking into how this happened.

"We have reported the matter to the ICO and are contacting all those affected directly."

The ICO confirmed it is "making enquiries" in response to the reports of a data breach.

Nearly 1,100 people were celebrated in the New Year Honours list, which included almost all of their addresses, although some – the six people recognised for their service to defence – were redacted. SP

Card details of US Wawa customers are being sold for just $17 online

Hackers have put the payment card details of more than 30 million Americans and over one million foreigners up for sale on the Internet's largest carding fraud forum, Joker's Stash.

The latest "card dump" was listed under the name BIGBADABOOM-III on Joker's Stash but security experts at Gemini Advisory have traced the stolen card data back to the US East Coast convenience store chain Wawa.

Back in December, Wawa disclosed a major security breach in which the company admitted that hackers had planted malware on its point-of-sale (POS) systems. According to the company, the malware collected the card details for all of its customers who used either credit or debit cards to buy goods or gasoline at all of its 860 convenience store locations.

To make matters worse, the malware operated for months between March and December of last year before it was finally removed from Wawa's systems. SP

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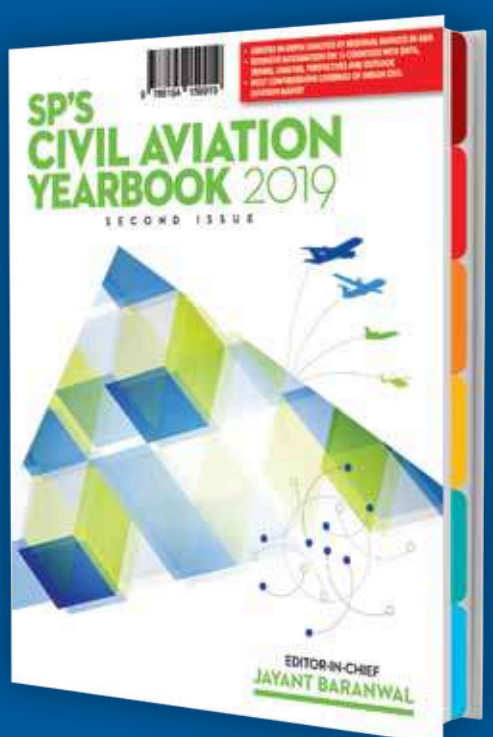

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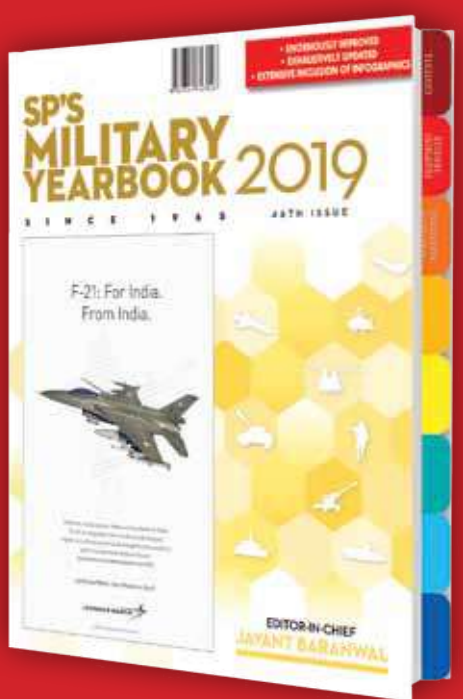

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