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‘Cryptographers’ skillset must be improved: Satheesh Reddy

The DRDO Chairman said it was particularly necessary to amp up the level of algorithms as the world was progressing towards quantum-level algorithms

Hyderabad: Indicating the shortcomings of the education sector in cryptography, Defence Research and Development Organisation (DRDO) Chairman G Satheesh Reddy emphasised the need for developing the skillset of cryptographers so that they could come up with numerous algorithms.

Speaking at the International Conference on Cryptography, Reddy said, “People from Mathematics and Statistics background need to develop their skillset, so that they can generate a number of algorithms.” He said that when cryptographers could not crack certain systems, the need for ‘grading’ would arise. “If you cannot crack the system, you will need to grade the systems. In that case, you will need to have lots of algorithms, and in turn, institutes producing people who can generate such algorithms,” the DRDO chairman added.



Reddy said it was particularly necessary to amp up the level of algorithms as the world was progressing towards quantum-level algorithms. “Lots of institutes have to produce many experts in this field. We need to introduce such subjects and work on these areas.” Overall, Reddy added that security of the country should not be compromised.

On similar lines, National Technical Research Organisation chairman Satish Chandra Jha recounted the problems the organisation faces in recruiting scientists with pure science backgrounds. Meanwhile, DRDO chairman Satheesh Reddy announced that the defence organisation was working on quantum communication.

<https://www.newindianexpress.com/cities/hyderabad/2019/dec/16/cryptographers-skillset-must-be-improved-satheesh-reddy-2076727.html>

US aerospace major Lockheed Martin ready to help in AMCA and the LCA Mk2 programmes: Dr Vivek Lall, Lockheed Martin Aeronautics

The defence relationship between the two countries has been witnessing an upward increase and this has now emerged as a major pillar of the Strategic Partnership between the two countries

By Huma Siddiqui

The Indo-US Military Trade is expected to touch \$ 25 billion over the next few years. Big defence and aerospace companies are looking to increase their presence in the Indian market. Later this week the two countries will be having the second round of the 2+2 Ministerial Dialogue in Washington DC, where defence minister Rajnath Singh and external affairs minister S Jaishankar will be meeting their counterparts.

The defence relationship between the two countries has been witnessing an upward increase and this has now emerged as a major pillar of the Strategic Partnership between the two countries.

Bilateral defence trade, maritime domain awareness multi-lateral and bilateral exercises have been increasing compared to other countries.

Dr Vivek Lall, Vice President for Strategy and Business Development, Lockheed Martin Aeronautics, shares his thoughts with Huma Siddiqui on the Indo-US relations as well as the offer of the F-21 and the company's involvement in other projects. Following are excerpts:

Assessment of US India defence relations?

We are very encouraged by the positive trend we are seeing in India-US relations, including on the defence-industrial partnership front. Defence-industrial partnerships have long been a hallmark of strategic ties and trust between nations. As an example: Tata Advanced Systems and Lockheed Martin has established an industrial base in Hyderabad where the production of C-130J empennages is going on. These are incidentally on all Super Hercules aircraft globally, and there is also a metal-to-metal bonding facility at the same location. This shows how we have contributed in playing a major role in the development of the defence industrial partnership between the two countries.

We recently strengthened our commitment to India by announcing a landmark Make in India partnership with Tata to produce F-16 wings in India for all future customers. We see tremendous strength and opportunity in India's defence industry and we're very excited by the incredible potential in India.

From a capability perspective, how does the F-21 offering fit into the overall Indian Air Force (IAF) fleet mix?

The F-21 will truly be a game-changer for the IAF, Indian industry and India-US strategic ties. We are confident the F-21 is the best solution to meet the Indian Air Force's capability needs, provide Make in India industrial opportunities, and accelerate India-US cooperation on advanced technologies, including but not limited to fighter aircraft.

The F-21 delivers an advanced single-engine, multi-role fighter at the most optimal Life Cycle Cost for the IAF with the longest service life of any competitor – 12,000 flight hours. Simply put, the F-21 goes further, faster, and stays longer than the competition. The F-21 will meet all of India's performance, capability and advanced technology requirements, and provide unmatched opportunities for Indian companies of all sizes and suppliers throughout India.

Several countries in the Indo Pacific region have or are procuring F-16 aircraft including Thailand, Singapore, Indonesia, and Taiwan. Can you elaborate on how that helps F21 offering to India?

An F-21 partnership integrates India into the world's largest and most successful fighter aircraft ecosystem – a \$165 billion market.

In addition to Tata, Lockheed Martin industry partners and suppliers include BAE Systems, Cobham, Collins Aerospace, Curtiss-Wright, Eaton, Elbit Systems, Elta, GE Aviation, Honeywell, L3Harris, Martin Baker, Meggitt, Moog, Northrop Grumman, Parker Hannifin, Pratt & Whitney, Rada, Rafael, Raytheon, Safran Electrical & Power, and other leading global defence and aerospace companies.

Is Lockheed Martin willing to partner with India on the AMCA program as it is the only company with an operational fifth Generation platforms in the world?

We are indeed open to working with the Government of India on AMCA, as well as the LCA Mk2.

India continues to make great strides in Space. What does Lockheed Martin offer in the Space programmes?

India is a key contributor to the success of the global space community. The Indian Space Research Organisation (ISRO) is a primary member of the 14-agency International Space Exploration Coordination Group (ISECG) that collaborates to define the Global Exploration Roadmap (GER). Lockheed Martin is proud to have participated in international workshops conducted in India and we value the relationships we have developed with government and academia in India.

For more than 50 years, Lockheed Martin Space has built a legacy of expertise and a reputation as a global leader in space for Civil, Military, and Commercial applications. We offer a complete portfolio covering the entire space value chain. We have a strong commitment to international collaboration and expanding global relationships. We welcome the opportunity to contribute to the advancement of India's goals in space and look forward to expanding our engagements with India's space industry.

<https://www.financialexpress.com/defence/us-aerospace-major-lockheed-martin-ready-to-help-in-amca-and-the-lca-mk2-programmes-dr-vivek-lall-lockheed-martin-aeronautics/1795687/>

Tue, 17 Dec 2019

Indian Army acquires Spike LR ATGMs

India has procured the Rafael Advanced Defense Systems Spike LR (long-range) anti-tank guided-missile (ATGM) system to meet Indian Army (IA) operational requirements.

Indian Minister of State for Defence Shripad Naik told parliament on 11 December that the Israeli-made, man-portable, fourth-generation system, which can engage targets in ‘fire-and-forget’ and ‘fire-observe-and-update’ modes, will “enhance operational flexibility and crew survivability”.

Naik did not specify the number of ATGMs procured or provide any details regarding the delivery schedule or contract value, but official sources told *Jane's* on 16 December that the deal included the import of 260 Spike LR missiles and 12 launchers.



They were purchased under the newly enhanced financial powers of India’s Vice Chiefs of Staff that permit them to acquire goods and materiel worth INR5 billion (USD70 million) without prior Ministry of Defence (MoD) approval to meet “urgent operational requirements”.

The IA had decided to acquire the Spike dual-seeker ATGMs during the bi-annual Army Commanders conference in New Delhi held in April. Thereafter, in late November, the IA successfully test-fired two Spike LR II ATGMs at the Army War College in Mhow, in central India, up to a range of 4 km using a charge-coupled device seeker for daytime and an imaging infrared (IIR) seeker for night time use.

The procurement announcement comes more than two years after the MoD scrapped a USD1 billion tender in November 2017 to import more than 5,500 Spike missiles and 275 launchers via an inter-governmental agreement (IGA) between Tel Aviv and New Delhi.

The terminated IGA also included a transfer of technology to India’s state-owned Bharat Dynamics Limited (BDL) to licence-build 30,000 ATGMs to meet the IA’s overall requirement for 68,000 ATGMs to arm its 360-odd infantry battalions.

However, price differences over the technology transfer to BDL resulted in the cancellation of the contract. Instead, the MoD tasked the state-run Defence Research and Development Organisation (DRDO) to design and build a man-portable, fire-and-forget, third-generation ATGM – with a 2.5-4 km range and a top-attack capability – by 2020–21 under the government’s ‘Make in India’ initiative.

That said, official sources said the extended delays by the DRDO in developing the ATGM and enduring shortages of such weapon systems in the IA ultimately prompted the recent acquisition of the Spike LR systems, sources told *Jane's*, adding that additional imports of the Spike LR weapon system are anticipated.

<https://janes.ihs.com/Janes/Display/1963239>

लेफ्टिनेंट जनरल मनोज होंगे नए भारतीय सेना प्रमुख

नई दिल्ली, एजेंसियां : लेफ्टिनेंट जनरल मनोज मुकुंद नरवाने भारतीय सेना के नए प्रमुख होंगे। वे इस समय 13 लाख जवानों वाली सेना के उप प्रमुख हैं। सूत्रों ने बताया कि उनकी नियुक्ति को उच्च स्तर पर मंजूरी मिल चुकी है और सरकार ने इस मामले में वरिष्ठता के नियम का पालन किया है। नरवाने वर्तमान सेनाध्यक्ष जनरल बिपिन रावत की जगह लेंगे, जो तीन साल के कार्यकाल के बाद 31 दिसंबर को रिटायर हो रहे हैं। उनके पहले चीफ ऑफ डिफेंस स्टाफ बनने की संभावना है।

इस साल सितंबर में सेना का उप प्रमुख पद संभालने से पहले लेफ्टिनेंट जनरल नरवाने सेना की पूर्वी कमान का नेतृत्व कर



लेफ्टिनेंट जनरल मनोज मुकुंद नरवाने

● फाइल फोटो। प्रेट

रहे थे। सेना की यह कमान चीन से लगती 4,000 किमी लंबी सीमा की सुरक्षा करती है। नरवाने की नियुक्ति ऐसे समय हो रही है, जब आतंकी गतिविधियों के जरिये पाक की भड़काऊ कार्रवाई से दोनों देशों के बीच तनावपूर्ण संबंध हैं।

● बिपिन रावत की जगह लेंगे, जो 31 दिसंबर को रिटायर हो रहे हैं

● सरकार ने नियुक्ति में किया है वरिष्ठता के नियम का पालन

जानिए नए सेना प्रमुख को

- लेफ्टिनेंट जनरल नरवाने जून 1980 में सातवीं सिख लाइट इन्फैंट्री में कमीशन हुए थे।
- अपनी 37 साल की सेवा में वे कई कमानों में काम कर चुके हैं।
- उनके पास जम्मू-कश्मीर और पूर्वोत्तर में आतंकी कार्रवाइयों का लंबा अनुभव है।
- जम्मू-कश्मीर में अपने बटालियन

के सफल संचालन के लिए उनको सेना मेडल से सम्मानित किया जा चुका है।

● उन्होंने श्रीलंका में शांति रक्षक बल में काम किया है। वे म्यांमार स्थित भारतीय दूतावास में रक्षा अताशे भी रहे हैं।

● नरवाने की शादी वीणा नरवाने से हुई है, जो एक शिक्षिका हैं। दोनों की दो बेटियां हैं।

Lt Gen Manoj Mukund Naravane set to be next Army Chief

He will succeed General Bipin Rawat, who will retire on December 31

New Delhi: Vice Chief of the Army, Lieutenant General Manoj Mukund Naravane, is set to be the next Army Chief, official sources confirmed to The Indian Express on Monday.

He will succeed General Bipin Rawat, who will retire on December 31.

The government has stuck to the seniority principle in appointing Lt Gen Naravane as the next chief as he is the senior-most officer in the Army after Gen Rawat. He will serve till April 2022, when he turns 62.

Lt Gen Naravane had taken charge as the Vice Chief on September 1; before that, he headed the Eastern Command of the Indian Army.

In his nearly four decades in the Army, Lt Gen Naravane has worked in key appointments in active counterinsurgency environments, both in the Northeast and in Jammu and Kashmir, according to the Army. He was also part of the Indian Peace Keeping Force in Sri Lanka during Operation PAWAN in 1987.

He has been decorated with the Param Vishisht Seva Medal and the Ati Vishisht Seva Medal during his career. He was also the Inspector General of Assam Rifles (North) in Nagaland.

An alumnus of the National Defence Academy, Lt Gen Naravane was commissioned into the 7th Battalion of The Sikh Light Infantry Regiment in June 1980.

Hailing from Pune, his father, Mukund Naravane, had retired from the Indian Air Force, and his mother, Sudha Naravane, was a writer and news broadcaster with All Indian Radio in Pune. She died last year.

Lt Gen Naravane is alumnus of the Jnana Prabodhini Prashala in Pune and has had a keen interest in painting and sports since school days. His friend from Jnana Prabodhini, Dr Milind Modak, an orthopaedic surgeon, said, "I remember from the schooldays that he has been a very composed and balanced person. (He) took keen interest in painting and sports. I don't remember him impulsively reacting to anything. After he joined the National Defence Academy, we always used to believe that he would do some magnificent in life. All of us from his friend circle and Jnana Prabodhini family are very proud and happy after hearing the news."

The Army Chief retires either at the age of 62 or after serving for three years at the post. The outgoing Army Chief, Gen Rawat, is considered one of the frontrunners to become the first Chief of Defence Staff, a post announced by Prime Minister Narendra Modi during his Independence Day address this year.

<https://indianexpress.com/article/india/lt-gen-manoj-mukund-naravane-set-to-be-next-army-chief-6170670/>



Next Army Chief Manoj Mukund Naravane has worked at all operational fronts

Naravane will be replacing General Bipin Rawat, who retires on December 31.

Naravane will serve until April 2022 and is currently the Army's Vice Chief

By Shaurya Karanbir Gurung

New Delhi: Lieutenant General Manoj Mukund Naravane, who has experience on all fronts - both land borders as well as counter insurgency operations, will be the next chief of the Army. Naravane will be replacing General Bipin Rawat, who retires on December 31. Naravane, who will serve until April 2022, is currently the army's Vice Chief. With his new appointment, the government has followed the principle of seniority. He and the other two service chiefs from the air force and navy belong to the same National Defence Academy course - 56th.

Officers who have worked with him explained that Naravane has a 'well rounded personality', due to his vast experience of operating on the frontiers with China and Pakistan. Before taking over as the Vice Chief in September, he was heading the Kolkata based Eastern Army Command which looks at India's eastern sectors of the Line of Actual Control with China. He is known to see trends and thread them together instead of looking at situations individually. This mindset is to predict what an adversary could be thinking and trying to achieve and thereby countering it. Towards this end, he has worked to ensure that cooperation improves at the border between the Indian and Chinese armies.

Naravane has also served in other key appointments in the North East. For example, he was a Brigade commander in Assam. So in the current context with the locals protesting against the Citizenship Amendment Act and the army being deployed there to control the situation, he will be able to understand and deal with it better. He has also served as the Inspector General Assam Rifles (North), giving him the ability to understand the Naga issue as well. He has been the defence attache to Myanmar, which gives him not only vast knowledge of that country, but of China as well.

<https://economictimes.indiatimes.com/news/defence/next-army-chief-manoj-mukund-naravane-has-worked-at-all-operational-fronts/articleshow/72805641.cms>

‘Deploy UAVs for protection’

The Parliamentary Standing Committee on Home Affairs has recommended that unmanned Air Vehicles (UAVs) that have been made in Bengaluru be deployed for protecting paramilitary personnel against the threat of land mines.

The Committee in its report tabled before both the Houses during the ongoing winter session of Parliament has recommended that micro UAVs, procured by the Border Security Force (BSF), be deployed and approved by the ministry on a priority basis.

Last year, the BSF had procured 11 micro UAVs from Bengaluru-based drone start up Asteria Aerospace and the committee now wants them to be deployed on a priority basis.

“The committee is aware that land mines have consumed the lives of several personnel and there is a need to employ technologically advanced equipment that allow remote detection and detonation of land mines.

“The panel, in this regard, would like to point out that that some unmanned aerial systems/drones have been developed that can autonomously do so. It recommends that the ministry explore the availability of such technological equipment and procure them for protecting the personnel against the threat of land mines,” it stated in its report.

In the action taken by the ministry, it has stated that two micro UAVs have been procured by the BSF on a trial basis and deployed under Jammu and Anti-Naxal Operations Theatre. It further stated that a case for authorisation of micro & mini UAVs (battalion wise /coy wise) is under consideration of the BSF for its further submission to the ministry. To this the committee has observed the delay in trial, experiment and authorisation to employ state-of-the-art equipment.

“The committee, therefore, recommends that micro UAVs procured by BSF to be deployed be approved by MHA on a priority basis and the panel be informed of the same,” the report added.

<https://bangaloremirror.indiatimes.com/bangalore/others/deploy-uavs-for-protection/articleshow/72785350.cms>



US-India defence ties growing, to reach new heights in innovation

US-India defence cooperation has been expanding over the past two decades and has seen a rapid increase within the past five years

By Joel Reifman

As I complete my fourth month as United States consul-general in Hyderabad, I would like to reflect on the remarkable ties between our two nations, particularly in the area of defence cooperation.

The partnership between the United States and India continues to reach new heights. Under the leadership of President Donald Trump and Prime Minister Narendra Modi, strategic cooperation between our two countries has expanded — and we have an unprecedented opportunity to further deepen this relationship.

The US welcomes India's emergence as a leading global power and supports its leadership role in South Asian security and throughout the broader region. We share complementary visions for a free, open and rules-based Indo-Pacific.

US-India defence cooperation has been expanding over the past two decades and has seen a rapid increase within the past five years. A few concrete examples come to mind. As a result of our bilateral security cooperation in areas ranging from maritime security to counter-terrorism cooperation, the US declared India a Major Defence Partner in 2016. This opened the door to expanded bilateral defence trade that includes such strategically important weapons systems as heavy transport aircraft, ultra-lightweight howitzers, helicopters, and precision-guided munitions. This week's 2+2 dialogue in Washington D.C. is another important opportunity to bolster defence and military cooperation.

In the states of Telangana, Andhra Pradesh and Odisha, where I serve as US consul-general, I have been deeply impressed by the breadth of our strategic relationship including joint research, co-development and production of high-end defence equipment, and expanded cooperation in the Indo-Pacific region. US and Indian companies are co-producing C-130 transport aircraft, F-16 fighter planes and Apache helicopters at joint facilities in Hyderabad. Through strong US-India private sector collaboration, Hyderabad and other innovation centres across India have become important aerospace and defence manufacturing hubs. A vibrant Indian defence manufacturing base is in the interests of both the US and India. It enhances Indian military capabilities and supports a global supply chain of partner countries with shared democratic values.

Last month, Andhra Pradesh hosted the first ever tri-service military exercise between India and the US: Tiger Triumph. This exercise improved our ability to work cooperatively in providing humanitarian relief after natural disasters. Additionally, the port of Visakhapatnam has welcomed three US Navy ship visits in the past year. Working together, the American and Indian militaries have increased interoperability in order to prevent conflict and promote regional strength and peace throughout the Indo-Pacific region. At the same time, the US-India defence relationship, and resulting cooperation in industry and technology, is an innovation engine and job creator for both Indians and Americans.

This week, the US consulate is hosting the US-India Defence Ties Conference in Hyderabad, in partnership with the Business Council for International Understanding and the Confederation of Indian Industry. The conference will bring together government officials, corporate leaders, researchers, and entrepreneurs to build on both countries' achievements and further strengthen US-India collaboration in defence manufacturing and innovation. And right before the Hyderabad conference, the consulate

and Nexus Startup Hub will host a Defence Startups Workshop at T-Hub, India's largest business incubator for entrepreneurs. Together, we will help young Indian innovators develop new skills and forge connections with the defence industry, potential business partners, and investors. The range of startups with a link to the defence industry might surprise you, from 3D printing technologies to waterless bathing products. I look forward to seeing the cutting-edge innovation of young Indian entrepreneurs in action.

The bilateral defence relationship between the United States and India is strong and getting stronger, and that is good news for all of us. As 2020 approaches, I am confident that the US-India partnership will continue to expand, benefiting Americans and Indians, and enhancing security and innovative technologies across the Indo-Pacific region and the globe.

(The writer is the United States consul-general in Hyderabad.)

<http://www.asianage.com/opinion/oped/171219/us-india-defence-ties-growing-to-reach-new-heights-in-innovation.html>

‘Pak procuring 600 tanks to strengthen capability along LoC‘

At a time when modernisation of the Army’s armoured corp is moving at a ‘snail’s pace’, Pakistan has drawn up an ambitious plan to procure close to 600 battle tanks including T-90 tanks from Russia, primarily to bolster its combat prowess along the border with India, military and intelligence sources said on Sunday.

Most of the tanks Pakistan was procuring will be able to hit targets at a range of 3 to 4 km and they are set to deploy some of the tanks along the Line of Control in Jammu and Kashmir, the sources told PTI.

Apart from battle tanks, Pakistan Army is also procuring 245 150mm SP Mike-10 guns from Italy out of which it has already received 120 guns.

The sources said Pakistan was eyeing to buy from Russia a batch of T-90 battle tanks — the mainstays of the armoured regiments of the Indian Army, and that the move reflects Islamabad’s intent to forge a deeper defence engagement with Moscow which has been India’s largest and most trusted defence supplier post Independence.

Pakistan has been holding joint military drills with Russia in the last couple of years besides going for defence purchases from it, triggering some concerns in New Delhi.

The sources said as part of the mega plan to significantly revamp its armoured fleet by 2025, Pakistan has decided to procure at least 360 battle tanks globally besides producing 220 tanks indigenously with help from China.

Pakistan Army’s move to enhance its armoured corps comes at a time when the Line of Actual control in Jammu and Kashmir has witnessed growing hostilities in the last one year.

The Indian Army has been strongly retaliating to every unprovoked firing by Pakistani side.

But, when the Indian Army is focused on counter-terror operations, the Pakistan Army was fast reducing its gap with Indian forces in fighting a conventional war, the intelligence sources said.

Military sources said modernisation of the Indian Army’s armoured regiments were moving at a “snail’s pace” due to procedural delays and the issue is being examined at a very high level of the government.

The Indian Army had drawn up a mega plan to modernise its infantry and armoured corps. However almost all the procurement projects including the Rs 60,000 crore Futuristic Infantry Combat Vehicle programme are stuck due to a variety of reasons.

At present, India’s armoured regiments, comprising mainly T-90, T-72 and Arjuna tanks, have much more superiority over Pakistan, but sources said Islamabad was seriously planning to bridge the gap at the earliest.

As against around 67 armoured regiments of Indian Army, the number of similar regiments in Pakistan Army is around 51, the sources said.

At present, over 70 per cent of the tanks in Pakistan’s armoury have the capability to operate during night which, they said, was a matter of concern.

Besides eyeing to procure T-90 tanks, Pakistan Army is also in the process of inducting Chinese VT-4 tanks as well as Oplod-P tanks from Ukrain, the sources said. Trials for both Oplod and VT-4 tanks have already been conducted by the Pakistan Army.

At present, Pakistan is learnt to have around 17 units of Chinese origin T-59 and T69 tanks, which comprise 30 per cent of its total tank strength, the sources said.

It also has 12 regiments of Al-Zarar tanks, which makes 20 per cent of the tank fleet while Ukrain origin T-80-UD and T-85-UD as well as upgraded version of T-59 tanks comprise the rest 50 per cent tank fleet, they said.

“The Pakistan Army is carrying out modernisation of its armoured regiments in a calibrated and time-bound manner which is not the case in India,” said an expert, who wished not to be named.

He said it was a matter of concern the way Pakistan was modernising its tank fleet.

The Indian Army has also raised an independent tank brigade which is stationed in Ladakh but it is not enough, the expert said.

<https://www.defencenews.in/article/%e2%80%98Pak-procuring-600-tanks-to-strengthen-capability-along-LoC%e2%80%98-808433>