

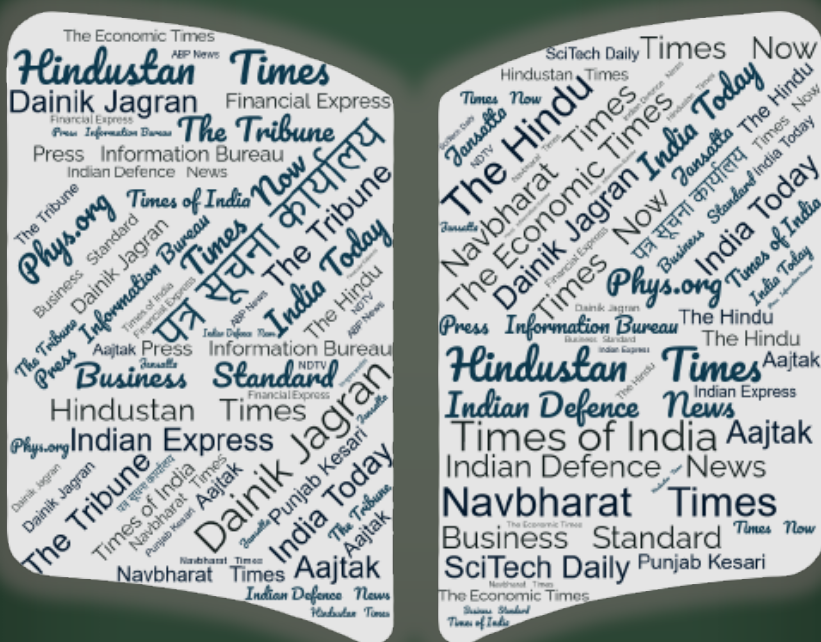
November
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समाचार पत्रों से चयित अंश Newspapers Clippings

A Daily service to keep DRDO Fraternity abreast with DRDO
Technologies, Defence Technologies, Defence Policies,
International Relations and Science & Technology

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DRDO News

DRDO Technology News



Sun, 20 Nov 2022

DLRL Celebrates its 61st Annual Day

The 61st annual day of the Defence Electronics Research Laboratory (DLRL), Hyderabad, a premier lab of the DRDO, was celebrated here on Saturday. DLRL is a pioneer in the design and development of cutting-edge Electronic Warfare (EW) Systems for the armed forces and paramilitary services. Dr BK Das, Director General (Electronics & Communications Systems), DRDO, attended the event as the Chief Guest.

Directors of DRDO labs, former directors of DLRL, and heads of production agencies attended the event.

<https://www.newindianexpress.com/states/telangana/2022/nov/20/dlrl-celebrates-its-61st-annual-day-2520125.html>

Business Standard

Fri, 18 Nov 2022

Bharat Electronics Signs License Agreement with R&DE (E), DRDO

For manufacturing of unexploded ordnance handling robot

Bharat Electronics (BEL) has signed an license agreement for transfer of technology (LAToT) with the Research and Development Establishment (Engineers), Pune, a DRDO lab, for the manufacturing and integration of Unexploded Ordnance Handling Robot. Remotely operated vehicle UXOR has been designed for handling and diffusing the unexploded ordnances (UXOs). It is capable of handling and diffusing unexploded air dropped bombs. UXOR can be utilised to remotely approach the UXO and defuse it. It is based on heavy duty-compact all terrain platform, equipped with Robotic Arm, Abrasive Water Jet Cutting Machine, etc. It can also be controlled remotely. The MoU will also enable BEL to expand its product portfolio of Remotely Operated Vehicles and further enhance its expertise in the field of unexploded ordnance handling devices.

https://www.business-standard.com/article/news-cm/bharat-electronics-signs-license-agreement-with-r-de-e-drdo-122111800804_1.html

Business Standard

Fri, 18 Nov 2022

Bharat Electronics Signs Licensing Agreement with CASDIC, DRDO

Bharat Electronics has signed a Licensing Agreement for Transfer of Technology (LATOT) with Combat Aircraft Systems Development and Integration Centre (CASDIC), DRDO, for transfer of technology of Digital Radar Warning Receiver. This is a state-of-the-art, airborne Electronic Warfare system which would provide versatile Situational Awareness to a fighter platform in a dense signal scenario, offering excellent sensitivity, good parameter measurement accuracy and high Probability of Intercept against dense signal.

The LATOT will enable BEL to manufacture and supply Digital Radar Warning Receivers to the Indian Armed Forces. Through this, CASDIC will transfer complete details of the technical know-how, testing and maintenance method for quality assurance to BEL with requisite data on the functioning of the product.

https://www.business-standard.com/article/news-cm/bharat-electronics-signs-licensing-agreement-with-casdic-drdo-122111800674_1.html

Business Standard

Fri, 18 Nov 2022

Bharat Electronics Enters into Licensing Agreement with Centre for High Energy Systems and Sciences, DRDO

Bharat Electronics has signed an licensing agreement for transfer of technology (LAToT) with the Centre for High Energy Systems and Sciences (CHESS), a DRDO lab, for the manufacturing of Multi kW Beam Directed Optical Channel (BDOC). The Multi-kilo Watt Beam Directing Optical Channel is the core of any Laser DEW system. Beam Directing Optical Channel is a complex system of precisely placed lenses and mirrors capable of handling high power laser. It is responsible for delivering very accurate, focused and stabilised laser beam on to the target.

The signing of this LAToT will enable BEL to undertake manufacturing of Multi-kilo Watt Beam Directing Optical Channel at its state-of-the-art Pune manufacturing facility, where various high-end and mission-critical EO and laser systems are being manufactured for the past three decades.

https://www.business-standard.com/article/news-cm/bharat-electronics-enters-into-licensing-agreement-with-centre-for-high-energy-systems-and-sciences-drdo-122111800673_1.html



Press Information Bureau
Government of India

Ministry of Defence

Sun, 20 Nov 2022

Raksha Mantri Shri Rajnath Singh to Attend ASEAN Defence Ministers Plus Meeting & India-ASEAN Defence Ministers Meeting during his Visit to Cambodia on November 22-23

At the invitation of Deputy Prime Minister and Minister of National Defence of Cambodia Samdech Pichey Sena TEA Banh, Raksha Mantri Shri Rajnath Singh will pay an official visit to Cambodia from November 22-23, 2022. Cambodia, as the chair of ASEAN Defence Ministers Plus (ADMM Plus) meeting is hosting the 9th annual meeting at Siem Reap, Cambodia and the Raksha Mantri will address the forum on November 23, 2022. He will also call on the Prime Minister of Cambodia.

To commemorate 30 years of India-ASEAN relations, India and Cambodia will co-chair the maiden India-ASEAN Defence Ministers Meeting on November 22, 2022, presided over by Shri Rajnath Singh. Various initiatives to boost India-ASEAN partnership are planned to be announced during the meeting. India became the dialogue partner of ASEAN in 1992 and the inaugural ADMM-Plus was convened in Hanoi, Vietnam on October 12, 2010. Since 2017, ADMM-Plus Ministers have been meeting annually to further the dialogue and cooperation amongst ASEAN and the Plus countries. India and ASEAN have elevated their relationship to 'Comprehensive Strategic Partnership' in November 2022.

Apart from the ADMM-Plus meeting and India-ASEAN Defence Ministers' Meeting, the Raksha Mantri will hold bilateral discussions with Defence Ministers of the participating countries. During the talks, Shri Rajnath Singh will discuss defence cooperation matters and ways to further strengthen the mutually beneficial engagements.

<https://pib.gov.in/PressReleasePage.aspx?PRID=1877446>

आर्मी, नेवी, एयरफोर्स के थिंकटैंक को साथ काम करने का मिला सुझाव इकलौती ट्राई सर्विस कमांड के कमांडर ने दी यह सलाह

Poonam.Pandey
@timesgroup.com

■ नई दिल्ली: भारत में सैनिक सुधार की दिशा में इंटीग्रेटेड थिएटर कमांड को अहम कदम माना जा रहा है। आर्मी, नेवी और एयरफोर्स- तीनों को मिलाकर थिएटर कमांड बननी हैं। अभी देश में इकलौती ट्राई सर्विस कमांड - अंडमान निकोबार कमांड है। इसके कमांडर लेफ्टिनेंट जनरल अजय सिंह ने हाल में हुई आर्मी कमांडर्स कॉन्फ्रेंस में सुझाव दिया कि आर्मी, नेवी और एयरफोर्स के थिंकटैंक को मिलाकर एकीकृत किया जाए। यह थिएटराइजेशन के लिए जरूरी है। थिएटराइजेशन योजना बनाने की प्रक्रिया को एकीकृत (इंटीग्रेट) करना है। हम फाइटिंग यूनिट को एकीकृत नहीं कर रहे हैं। हम अपने हेडक्वार्टर्स को एकीकृत कर रहे हैं, जिससे प्लानिंग, मॉनिटरिंग और फॉलोअप साझा हो सकेगा।

‘USI के तहत आए तीनों थिंकटैंक’: लेफ्टिनेंट जनरल अजय सिंह ने एनबीटी से कहा कि थिएटराइजेशन पर अच्छा काम हो रहा है। साथ ही तीनों सेनाओं के थिंकटैंक को इंटीग्रेट करना चाहिए। भले ही कंपोजिशन न बदले, लेकिन तीनों को USI यानी यूनाइटेड सर्विस इंस्टिट्यूशन



अंडमान निकोबार कमांड के कमांडर लेफ्टिनेंट जनरल अजय सिंह ने कहा, थिएटर कमांड से सेनाओं की क्षमता बढ़ेगी।

ऑफ इंडिया के तहत आना चाहिए। तीनों सेनाओं के प्रमुख USI के संरक्षक हैं। इसे तीनों सेनाओं के विचारों को साझा करने के लिए बनाया गया था। फिर तीनों सेनाओं ने अपनी-अपनी थियरी वाले इंस्टिट्यूट बना दिए। इन्हें एकीकृत किया जाना चाहिए।

थिएटर कमांड से क्या फायदा: लेफ्टिनेंट जनरल अजय सिंह ने कहा कि थिएटर कमांड बनने से ऑपरेशनल क्षमता बढ़ेगी। इसका फायदा प्रशासन में भी होगा। हमने पिछले साल शुरू किया है कि अन्य सेनाओं के साथ महीने में 10 दिन की ट्रेनिंग होगी। आर्मी, नेवी को ट्रेड कर रही है और नेवी एयरफोर्स को। इसी तरह रोटेशन पर ट्रेनिंग होती है। कोस्ट गार्ड के सभी शिप में 10 इंफ्रंट्री सैनिक भी साथ रखते हैं। साथ ही जॉइंट ऑपरेशन रूम है, जिसमें आर्मी, नेवी, एयरफोर्स सबके इनपुट आते हैं।

‘CDS के पास है ऑपरेशनल रोल’

जबसे चीफ ऑफ डिफेंस स्टाफ (सीडीएस) का पद बना है, तबसे इसे लेकर अलग-अलग बातें आ रही हैं कि सीडीएस के पास ऑपरेशनल रोल है भी या नहीं। इकलौती ट्राई सर्विस कमांड के कमांडर लेफ्टिनेंट जनरल अजय सिंह ने इस पर भी भ्रांतियों को दूर किया। लेफ्टिनेंट जनरल अजय सिंह ने कहा कि संसद की मंजूरी के बाद कैबिनेट ने 2001 में अंडमान निकोबार कमांड बनाई थी। इसके ऐक्ट में लिखा है कि अंडमान निकोबार कमांड का कमांडर सीडीएस की ऑपरेशनल कमांड में काम करेगा और जब तक सीडीएस नहीं बन जाता, तब तक चीफ्स ऑफ स्टाफ कमिटी के चेयरमैन के तहत यह कमांड काम करेगी। इस तरह देखें तो सीडीएस को ऑपरेशनल रोल तो साल 2001 में ही संसद ने दे दिया था।

Army Prepared to Deal with Any Situation, Says Lt Gen Rana Pratap Kalita

Eastern Army commander Lt Gen Rana Pratap Kalita on Sunday said that the Army was fully prepared to deal with any situation on the northern, western or eastern fronts and protect the country's territorial integrity. Kalita was in Guwahati to attend the Purvottar Swabhimani Utsav, which is celebrating the contribution of northeast India in nation-building.

When asked about reports of alleged Chinese intrusion, Kalita told the media persons, "It is not 1962 anymore, it is 2022. The nation has made great progress in all domains - military, economic or foreign affairs... India is completely prepared to meet any challenge and emerging situation and will protect the territorial integrity of the country at all costs. Kalita said that apart from four districts in upper Assam, the insurgency situation is completely under control. He said the recent attack on an Army vehicle in Tinsukia district was an aberration.

<https://economictimes.indiatimes.com/news/defence/army-prepared-to-deal-with-any-situation-says-lt-gen-rana-pratap-kalita/articleshow/95645892.cms>



Army Issues Tenders to Buy Over 62,000 Bulletproof Jackets to Boost Defence Capabilities

The Indian Army has floated tenders for getting 62,500 bulletproof jackets (BPJs) for its frontline troop amid the mounting risk of steel core bullets that are being used by terrorists in India.

"The Ministry of Defence issued the tenders for the jackets under the Make-in-India initiative including one for 47,627 jackets under the normal route and the other one for 15,000 jackets under emergency procurement procedures which would be finalised in the next three to four months, the Army officials said. The procurement would be done after all the modalities have been finalised with user trials concluded, the officials stated.

Bulletproof jackets to be procured for Army in phases

The process of procurement of 47,627 jackets is planned in phases and would be completed in the next 18 to 24 months. The specifications mentioned by the Army includes overall protection of a soldier from a 7.62 mm armour piercing rifle ammunition and also steel core bullets fired from a distance of 10 metres.

It has been witnessed in some incidents that the bulletproof jackets of Indian soldiers were breached by militants using American armour-piercing bullets in Kashmir Valley. The use of

ABPs along with the M-16 Assault rifles and carbines have been left behind by the American troops who withdrew from Afghanistan, 20 years after starting the war against terror. Following this, Afghanistan also fell into the hold of Taliban.

These Army jackets which are going to be procured in two phases would first be given to the troops deployed in Jammu and Kashmir where usual terror operations take place. BPs will be level 4 which are assumed to be effective against the steel core bullets. "The force would ensure that the jackets have been made in India and the materials are not source from any of the adversaries," sources in the Army confirmed. Interestingly, to bolster the surveillance system in the northern border, the Indian Army earlier floated tenders to procure 750 remotely-piloted aerial vehicles or drones along with complete accessories through fast track procedure under emergency procurement.

<https://www.republicworld.com/india-news/general-news/army-issues-tenders-to-buy-over-62000-bulletproof-jackets-to-boost-defence-capabilities-articleshow.html>



Fri, 18 Nov 2022

Two-Day Coastal Defence Exercise ‘Sea Vigil’ Concludes

The third edition of the two-day Coastal Defence Exercise ‘Sea Vigil’ that was conducted across the east coast of India, concluded on November 16 (Wednesday) after 36 hours of activity. This exercise, which is conducted once in two years, aims at assessing the preparedness of coastal defence and landward security along the eastern coast from West Bengal to Tamil Nadu, said a release issued by the Eastern Naval Command (ENC).

The third edition of the two-day Coastal Defence Exercise ‘Sea Vigil’ that was conducted across the east coast of India, concluded on November 16 (Wednesday) after 36 hours of activity. This exercise, which is conducted once in two years, aims at assessing the preparedness of coastal defence and landward security along the eastern coast from West Bengal to Tamil Nadu, said a release issued by the Eastern Naval Command (ENC). The exercise was conducted and coordinated by the Indian Navy with participation and support of multiple Central and State agencies such as State Marine Police, Fisheries, Department of Shipping, Ports and Waterways, CISF, BSF, DGLL (Directorate General of Lighthouses and Lightships), Customs, Intelligence Bureau, NCC, Coast Guard and others.

The exercise witnessed the participation of more than 85 ships and the aircraft of the Indian Navy, the Indian Coast Guard and other agencies. Elite forces such as the NSG, Octopus of Andhra Pradesh Police and Special Operations Group of Odisha also participated in the exercise. This was the first exercise after the creation of the office of the State Maritime Security Coordinator in every State. The exercise accomplished the objectives and lessons learnt from it would be incorporated to improve the robustness of the coastal and landward security mechanism, the release added.

<https://www.thehindu.com/news/cities/Visakhapatnam/two-day-coastal-defence-exercise-sea-vigil-concludes/article66149450.ece>

तटीय सुरक्षा बढ़ाने के लिए सामान्य संचार योजना, केंद्र ने दी मंजूरी

तटीय सुरक्षा को बेहतर करने के लिए केंद्र सरकार ने सामान्य संचार योजना को मंजूरी दे दी है। इसके तहत समुद्री कानून प्रवर्तन एजेंसियों के बीच निर्बाध रूप से महत्वपूर्ण सूचनाओं के आदान-प्रदान के लिए एकीकृत नेटवर्क की परिकल्पना तैयार की गई है। भारतीय नौसेना के एक वरिष्ठ अधिकारी ने बताया कि योजना के तहत सभी तटीय सुरक्षा एजेंसियों के लिए एक साझा संचार नेटवर्क के रूप में समर्पित स्पेक्ट्रम होगा। नाम न छापने की शर्त पर पश्चिमी नौसेना कमान के अधिकारी ने बताया, एक उद्देश्य के लिए समर्पित स्पेक्ट्रम एक साझा बैंड का उपयोग करेगा और तटीय सुरक्षा को बढ़ावा देने के मामले में यह बड़ा कदम साबित होगा। उन्होंने बताया तटीय सुरक्षा में साझा अभियान, अभ्यास और अन्य गतिविधियां शामिल हैं, जिसके लिए कई एजेंसियों के बीच समन्वय की आवश्यकता होती है।

अधिकारी ने बताया, तटीय सुरक्षा से जुड़ी खास तौर पर समुद्र में काम करने वाली एजेंसियों के बीच क्रॉस एजेंसी समन्वय और रियल टाइम महत्वपूर्ण एजेंसियों के आदान-प्रदान के लिए संचार महत्वपूर्ण भूमिका निभाता है, जिससे तटीय सुरक्षा को प्रभावी और सक्षम बनाया जा सके।

<https://www.amarujala.com/india-news/home-ministry-approved-a-common-communication-plan-for-coastal-security-news-in-hindi>

Business Standard

Sun, 20 Nov 2022

Centre Approves Common Communication Plan for Ramping up Coastal Security

The Ministry of Home Affairs (MHA) has approved a common communication plan for coastal security that envisages integrating marine law enforcement agencies into a single network for better coordination and seamless exchange of mission-critical information. The plan will be able to integrate all coastal security agencies in a common communication network with a dedicated spectrum for the purpose, a senior Indian Navy official has said.

The dedicated spectrum will use a common band and it will be a big step in terms of boosting coastal security, said the official of the Western Naval Command, headquartered in Mumbai, who declined to be named. The construct of coastal security involves joint operations, exercises, and activities, which require coordination between multiple agencies at the Command and Control Centre of the Navy and at the field - be it ashore or at sea, he said. So communication between agencies and units involved with coastal security, especially those operating at sea, plays a vital role in cross-agency coordination and seamless exchange of mission-critical

information on real-time basis so as to enable effective conduct of coastal security activities, according to the official.

This facet received an impetus after the recent appointment of a National Maritime Security Coordinator to oversee national maritime issues, the official said. Against this backdrop, the MHA had constituted a task force comprising representatives of all central and state agencies concerned to facilitate effective communication by coastal security stakeholders. The MHA recently promulgated a common communication plan for coastal security that will be able to integrate all coastal security agencies in a common communication network, he said, adding the central ministry approved the plan last week.

In a related development, the official said space-based transponders for fishing boats, being developed by the Indian Space Research Organisation (ISRO), underwent successful trials in Gujarat and Tamil Nadu. Identification and tracking of illegitimate fishing boats is a major challenge in ensuring coastal security due to the huge number of boats plying in Indian waters. The space transponders will help to overcome this problem, the official pointed out. To overcome this challenge, a project was initiated by the ISRO to develop satellite-based transponders for fishing boats, especially those less than 20 metres in length, he said.

These were installed on fishing boats in Gujarat (408), Tamil Nadu (507), and Puducherry (46) for trials. After the success of the trials, coastal state authorities have been asked to implement their fitment in all mechanized fishing vessels, the official added.

https://www.business-standard.com/article/current-affairs/centre-approves-common-communication-plan-for-ramping-up-coastal-security-122112000100_1.html

Business Standard

Fri, 18 Nov 2022

US Secretary of Navy on Five-Day Visit to India, to Inspect INS Vikrant

US Secretary of Navy Carlos Del Toro is on a five day official visit to India November 17-21, officials said on Friday. Officials said that Del Toro is scheduled to visit Indian Navy's Southern Naval Command at Kochi, wherein he would interact with its chief and visit India's first indigenous Aircraft Carrier, INS Vikrant at Cochin Shipyard. He will also meet Indian Navy chief, Admiral R. Hari Kumar, and high-ranking government officials in New Delhi. India and the US have traditionally maintained close and friendly relations, and the defence relationship between the two countries has been one of mutual trust and confidence, which has transformed after the accord of major 'Defence Partner Status' to India.

In addition, both countries have concluded certain foundational agreements, including the Defence Framework Agreement, signed in 2015, which lays a blue print for collaboration between the defence establishments of both countries, the Logistics Exchange Memorandum of Agreement (LEMOA) signed in 2016, which is a foundational agreement facilitating reciprocal logistics support between the armed forces of both countries, the Communications Compatibility and Security Agreement (COMCASA) signed on September 2018, which facilitates information-

sharing between the armed forces of both nations and more recently, the Basic Exchange Cooperation Agreement (BECA), which enables sharing of geo-spatial information between Ministry of Defence and National Geospatial Agency (NGA), US.

As per the Ministry of Defence, the Indian Navy closely cooperates with the US Navy on numerous issues, which include operational interactions such as the MALABAR, last edition held from November 9-15 off Yokosuka, Japan and RIMPAC 22 series of exercises, training exchanges, exchange of White Shipping Information and Subject Matter Experts in various fields, all of which are coordinated through the medium of Executive Steering Group (ESG) meetings conducted annually. In addition, warships from both navies regularly make port calls at each other's ports. Both navies have also been cooperating towards exploring new avenues for collaboration with a shared aim of a Free, Open and inclusive Indo-Pacific.

https://www.business-standard.com/article/current-affairs/us-secretary-of-navy-on-five-day-visit-to-india-to-inspect-ins-vikrant-122111800822_1.html

THE ECONOMIC TIMES

Sun, 20 Nov 2022

Two Drones Spotted Close to IB in Punjab, Return after BSF Troops Open Fire

A drone from Pakistan was spotted close to the international border of India and Pakistan in Kassowal area of Gurdaspur district in Punjab, officials said on Sunday. The unmanned aerial vehicle flew back to Pakistan after the Border Security Force (BSF) troops fired at it Saturday night, they said. The BSF personnel fired at least 96 rounds at the drone and also used five illumination bombs, they said. A search operation is underway, they added.

Another drone was spotted in the Channa patan area in Amritsar district at 11:46 pm on Saturday, said the officials. The drone went back after the BSF troops fired 10 rounds, they added. They said a search operation was going on.

<https://economictimes.indiatimes.com/news/defence/two-drones-spotted-close-to-ib-in-punjab-return-after-bsf-troops-open-fire/articleshow/95637377.cms?from=mdr>



Fri, 18 Nov 2022

Crucial Russian Defence Supplies to India Delayed

By Ranjit Bhushan

For India, which has invested much in Russian armoury in the last six decades, the nine-month-long Ukraine war has come as a reality check. Roughly 70 to 85 percent of India's military platforms are of Russian origin, a 2020 assessment by US think tank Stimson Center said. It makes Russia the biggest exporter of military hardware to India. About 90 percent of the Indian Army's equipment comes from Russia, while the Indian Navy's share of Russian equipment is,

in contrast, estimated at 40 percent. Around 70 percent of the equipment of the India Air Force (IAF) is of Russian origin. Given the two-front tensions that India faces, including an ongoing, two-year-long battle of attrition with China in Ladakh, there is very little breathing space.

With no end in sight to the Russia-Ukraine conflict, Indian defence planners are particularly worried about the future of two crucial defence systems, the prestigious S-400 state-of-the-art Russian anti-aircraft defence system and the T-72 tanks that constitute the bulk of the country's armoured power. "The delivery of S-400s is already facing delays. With all signs of the war prolonging, there is little doubt that Russian supply chains are impacted. In fact, the Indian push towards indigenisation of arms and ammunition is, in the main, prompted by this war," Lt Gen (retd.) Prakash Menon, director, strategic studies programme, Takshashila Institution, told Moneycontrol.

New Delhi was hoping to acquire S-400s by 2023-end. Regarded by Western military members as one of the most compact and efficient air defence systems in the world, the Ukraine war has, however, shown that S-400s may not be as infallible as thought earlier. The French Newspaper Le Monde reported last month that Ukrainian aircraft and missiles have managed to regularly pierce the anti-access bubbles supposedly created by the Russians over their troops or military bases. India's top security planners say they are watching the situation closely. Former IAF chief R K S Bhadauria told Moneycontrol in an interview: "We too have heard of this attack, but there is no confirmation. However, India has its own plans to defend S-400 systems. After all, our enemies have a better attacking arsenal than Ukraine, but Indian defenders are also better placed."

The other cause for worry is the T-72 and T-90 tanks, India's main armoured columns, which come from the family of Soviet/Russian main battle tanks (MBTs) that began production in 1969. Indianised as the T-72M1 Ajeya MBT, it includes 1,800-plus T-72M1 Ajeyas that were imported from the then USSR. The T-90s are now manufactured in India under licence from Russia without any transfer of technology. They are an upgrade of the T-72s. Around 1,500 T-72 Ajeyas are in the process of being upgraded with new engines and fire control systems, reactive armour, fire detection and suppression systems, as well as new communication and navigation systems under the Combat Improved Ajeya programme.

Although the first phase of the programme kicked off in the 1980s, it is unclear how many MBTs have been upgraded to date. The programme has faced delays on account of budget shortfalls and now the Ukraine war. According to one official, who spoke on condition of anonymity, around 70 percent of Indian T-72s may not be ready for combat. The combat readiness has been affected "due to various technical problems and because of missing spare parts, which are facing delays on account of the war in Europe", he said. Now to the sore point. According to western and Ukrainian estimates, more than 2,200 Russian tanks have been destroyed in the war so far, and the numbers could well be higher.

Even if Ukrainian information can be discounted in the fog of war, there is enough evidence to suggest that the Russian tanks, many among them T-72s, have been sitting ducks for US-supplied Javelin anti-tank missiles and UK-produced next-generation light anti-tank weapon missiles (NLAWs). "Javelin and NLAW are very potent," Nick Reynolds, research analyst in land warfare at the Royal United Services Institute (RUSI), England, told BBC, adding that "without this lethal aid, the situation in Ukraine would be very different". India's dependence on Russian military hardware goes back to the Cold War years. This defence partnership deepened

after the Sino-Soviet split and resulted in robust security cooperation that acted as a counter to Pakistan's ties with both the US and China in the 1970s. Deals with Russia have often included lower-scale projects based on domestic development and production, such as the recent \$677 million arrangement to jointly produce over 600,000 AK-203 assault rifles in India, the most popular gun in the hands of Indian soldiers operating in Kashmir.

They also include large-scale, blockbuster deals for equipment such as fighter aircraft, submarines and India's flagship aircraft carrier, the repurposed Admiral Gorshkov that now sails as INS Vikramaditya. When it comes to anti-tank and air defence systems in the army, a large portion is constituted by the likes of the Konkurs anti-tank-guided missile (ATGM), Kornet ATGM, OSA surface-to-air missile (SAM), Pechora SAM, Strela SAM and the Iгла SAM. Besides, Smerch and Grad, the multiple rocket launcher systems in use with the Indian Army, are Russian. Moreover, despite the Indian names of surface ships, the Rajput-class destroyers, Talwar-class frigates, and Veer-class missile corvettes are all Russian off-the-shelf sales.

As for firepower, India also operates a whole series of made-in-Russia weapons, including the Kh-35 (a turbojet subsonic missile) and P-20 anti-ship missiles, Klub anti-ship/land attack missiles and APR-3E torpedo. This is apart from the INS Vikramaditya, which served in the Soviet Navy before it was decommissioned and bought by the Indian Navy in 2004. Regarding submarines, the eight Kilo-class submarines acquired from Russia form the bulk of India's fleet. And New Delhi also remains intent on the lease of a third Russian nuclear-powered attack submarine (SSN), Chakra III. The Sukhoi Su-30 MKI fighters constitute about 14 of the IAF's 30 squadrons. There are also MiG-29UPG and MiG-21 fighters, IL-78 tankers, as well as two IL-76 aircraft that have been converted to carry airborne warning and control systems that India has bought from Israel.

In a March 2022 paper for Australian think tank Lowy Institute, strategic analyst Dhruva Jaishankar—son of foreign minister S Jaishankar—wrote, “Militarily, a Russia at war (or on a war footing) will be less capable of providing India with critical defence equipment... Moreover, economic transactions of all kinds with Russia will be more difficult amid wide and severe international sanctions involving virtually all US allies. There are also political implications: it will be harder for Russia to provide support or even neutrality to India in the event of a China-India clash given Moscow's growing economic and political dependence on Beijing.” Adding to the complexity is the fact that India has several essential defence imports from Ukraine, including upgrades for the AN-32, R-27 air-to-air-missiles and propulsion systems for frigates, which are facing disruption because Kyiv needs it for self-defence.

That the Ukraine war has hastened India's defence indigenisation push is beyond doubt. In March this year, India issued a list of 107 subsystems that are to be banned from import and indigenised over the next six years. Several of the items on the list are meant for T-90 and T 72 tanks, warships, helicopters, infantry combat vehicles, missiles, ammunition and radars, among others, all of which are procured from either Russia or Ukraine. Even as the Department of Military Affairs is collating information from all the three services to understand the dependency on Russian supplies, India continues to wait for the S-400s and other military hardware that are contracted. Russia has already delayed the delivery of two Talwar-class stealth frigates for up to six months. It is only when these weapon systems arrive that New Delhi's fears will be allayed.

<https://www.moneycontrol.com/news/business/economy/crucial-russian-defence-supplies-to-india-delayed-9559881.html>

Two Iconic Battles and a Massive Infrastructure Upgrade

Sixty years since the 1962 war, India and China are consolidating their positions along the 3,488-km-long Line of Actual Control

By Dinakar Peri

The 60th anniversary of two iconic battles in the India-China war was observed this week: the Battle of Walong, in the eastern sector, on November 16 and the Battle of Rezang La in eastern Ladakh on November 18. Today, both India and China, against the backdrop of a 30-month stand-off, are engaged in massive infrastructure upgrade and consolidation of positions along the 3,488-km-long Line of Actual Control (LAC). Construction of a series of roads, tunnels, caverns and underground ammunition stores is in progress, a defence source said. Nine new tunnels are under construction, including the strategic 2.5-km-long Sela tunnel in Tawang at an altitude of 13,000 feet, which will be the highest bi-lane tunnel in the world once completed. Another 11 tunnels are being planned, the source said.

Border Roads Organisation (BRO) is currently executing 18 projects spread across the country. This effort to build habitats and adding fire power is an effort to reduce the asymmetry with the Chinese People's Liberation Army's (PLA) infrastructure upgrade. In Arunachal, a 2,000-km-long frontier highway also known as Mago-Thingbu-Vijaynagar border highway is planned to be constructed at cost of Rs.40,000 crore which follows the McMahon Line. In order to provide interconnectivity between three horizontal national highways — Frontier Highway, Trans-Arunachal Highway and East-West Industrial Corridor Highway — six vertical and diagonal national highway corridors of a total length of 2,178 km are planned to be built, which will also provide faster access to border areas, a source added.

Battle of Walong

On November 16, the country marked the 60th anniversary of the 'Battle of Walong', where the Indian Army resisted the advancing PLA soldiers. The Chinese offensive with more than 4,000 soldiers could not breach the forward defences held with 800 men for over 27 days and Chinese Army was subsequently forced to employ additional Division size force of approximately 15,000 soldiers, a defence official noted. Vastly out-numbered and with little ammunition and no resources, Indian soldiers fought to the last man, last round. A defence official said, "It was only here that for over two weeks India launched repeated attacks against the Chinese to retake our positions. It was only here that battles were fought at heights ranging from 3,000 to 14,000 feet without acclimatisation." To mark the 60th anniversary, the Army's Eastern Command organised a month-long celebration starting October 17. The celebrations were aligned to the events as they unfolded in 1962 and encompassed a large number of activities in Arunachal Pradesh and Upper Assam, the Army said in a statement.

Rezang La

November 18, 2022 marked the 60th anniversary of the Battle of Rezang La in eastern Ladakh in which troops from the 13 Kumaon Regiment defeated several waves of the PLA. The battle was fought at an altitude of 18,000 feet where Major Shaitan Singh and 114 troops of the Charlie

Company of 13 Kumaon fought till “last bullet and last breath”. Major Shaitan Singh was posthumously awarded the Param Vir Chakra (PVC), the country’s highest wartime gallantry award. In November 2021, Defence Minister Rajnath Singh had inaugurated the revamped war memorial at Rezang La.

Since the 2020 stand-off, the Army has used 3D printing to build habitats for 22,000 troops. Focus has now shifted to undertake construction of permanent defences and infrastructure to improve defence preparedness. Infrastructure development has gained urgency given China’s massive expansion along the LAC since the standoff. Army chief General Manoj Pande had recently said that China’s border infrastructure development includes roads, helipads, airfields and roads right up to the passes.

<https://www.thehindu.com/news/national/sixty-years-since-1962-war-india-china-engage-in-heavy-infra-upgrade/article66158144.ece>



Sun, 20 Nov 2022

Fast Growing Chinese Air Power: India Urgently Needs Fighter Squadrons

By Air Marshal Anil Chopra

Emphasising induction of modern aircraft to sustain and enhance the Indian Air Force’s (IAF) combat potential, Air Chief Marshal VR Chaudhari has said that force urgently needs 5-6 squadrons of 4.5 generation aircraft. Air power remains the most potent means of prosecuting war. It provides long range, precision, and flexibility. Modern fighters are omni-role, thus can do multiple missions in a single sortie. The ranges have been extended with aerial refuelling. The AEW&C gives cover deep in enemy territory.

India is one of the most threatened nations in the world. It has two nuclear weapon-possessing neighbours. With both there are serious boundary disputes, wars and border skirmishes. For long it is very clear that for ground or sea war to be won there is a need for dominance in the air. The fighter aircraft remains the most potent platform for both offensive and defensive operations. While many are predicting the future to be unmanned, practically all the fifth and sixth generation fighters that will see the world through this century are evolving as manned fighters.

The IAF today is at an all-time low of 30 fighter squadrons. The government has already announced that the four remaining MiG-21 Bison squadrons will be retired by 2025. In this period, only around two squadrons of LCA, at best, will induct. This would mean further depletion of the squadron strength. At the same time Pakistan Air Force (PAF) currently has over 450 fighter aircraft in 22 fighter squadrons. China has nearly 59 fighter brigades in the theatre commands with each having 24-28 aircraft. Additional 20 plus Brigades are with the PLA Air Force (PLAAF) HQ at Beijing. China also has additional air power with the PLA Navy (PLAN) with nearly 500 aircraft and an expanding number of aircraft carriers. Clearly India’s neighbours are expanding air power. Significant part of the PLAAF may be committed on China’s Pacific

front, but air power's speed and flexibility allows forces to be brought to bear in other sectors in a short period.

Growing PLAaf: Know the Adversary

With the support of indigenous industry which is producing all genres of aerial platforms, PLAaf is fast acquiring top-end systems and weapons of global class and reach. There is much greater emphasis on modern technologies, including stealth, hypersonic, Artificial Intelligence (AI), cyber, electronic warfare, and long range missiles. PLAaf also reoriented its flying training and tactics, and there is much higher emphasis on realistic exercises. The PLAaf has made major changes in its operational doctrine based on global reach requirements. Air defence of critical assets; long-range offensive precision strikes; integrated battlefield support missions; intelligence surveillance and reconnaissance (ISR); information operations; and strategic air-transport reach are on priority. Integration of air and space will support both offensive and defensive operations. PLAaf is preparing for hybrid network-centric war. The PLAaf is trying to increase exposure to air exercises to compensate for low actual war exposure. The PLAaf is closing the gap with Western air forces across a broad spectrum of capabilities, such as aircraft performance, command and control, and electronic warfare.

The PLAaf is the third largest in the world, and of its nearly 1,700 combat aircraft, 900 are 4th generation-plus. Nearly 150 fifth-generation J-20 stealth fighters have been built. Second stealth aircraft, J-31 development is being hastened. PLAaf also operates nearly 170 H-6 jet bomber variants. The extended-range H-6K variant can carry six air-launched Cruise missiles. They have significant AEW&C and Flight Refuelling Aircraft (FRA) and numbers are going up. PLAaf also has a large number of indigenous unmanned aerial vehicles (UAV) of global standards. Many of these carry armaments (UCAV). They are developing new long-range stealth bomber H-20 to strike regional and global targets. It is expected to be ready by 2025. PLAaf is also inducting state of the art long range aerial missiles with ranges up to 300 kilometres.

The PLAaf believes in long range offensive precision-strikes. There will be coordination with People's Liberation Army Rocket Force (PLARF). It has multi-layered air defence systems. China's extensive constellation of surveillance satellites with short revisit cycles greatly support surveillance and targeting. The PLAaf gives greater importance to information, electronic and cyber warfare. The PLAaf also coordinates closely with the PLA Strategic Support Force (PLASSF). The PLAaf's regular exercises include large force engagements, with PLA and PLA Navy. Their exercises in Tibet have increased.

IAF Current Broad Capabilities

IAF is down to 30 fighter squadrons. These broadly include two of Rafale, 12 Su 30MKI, four MiG 21 Bison, three each of MiG 29 and Mirage 2000, six of Jaguar, and two of LCA. The Rafale aircraft is clearly superior to China's J-10, J-11, and Su-27 fighter jets. Armed with long-range Meteor and MICA beyond visual range (BVR) air-to-air missiles, the Rafale fighters. The SCALP cruise missile and Hammer glide bombs have very high accuracy. Rafale also has the best Electronic warfare suite in the region. The Sukhoi Su-30MKI is the IAF's primary air superiority fighter with capability to perform long range air-to-ground strike missions. Mirage 2000 and the MiG 29 have all been upgraded. IAF has only three large AWACS aircraft and three indigenous DRDO developed AEW&C aircraft. Similarly IAF has only six IL-78 Flight Refueling Aircraft (FRA). Both these fleets need augmentation for a continental size country like India which has also to cover the Indian Ocean Region (IOR).

India has a good chain of integrated radars to support network-centric offensive and defensive operations. The IAF's legacy surface-to-air missile systems like the SAM-3 Pechora and SAM 8 OSA-AK are being upgraded. With the induction of a large number of indigenous Akash AD systems, and the already inducting five Russian S-400 systems from Russia, the AD coverage will be significant. To cover the large Chinese border, more systems are being inducted. With the induction of the MICA, Meteor, Astra, SCALP, BrahMos and Hammer, among others, IAF has a significant aerial weapons inventory. IAF already has the reach from the Persian Gulf to the Straits of Malacca. From the island territories it can reach parts of the South China Sea with inflight refueling. IAF is regularly exercising and increasing interoperability with major air forces of the world. But the IAF needs numbers.

IAF Operational Capabilities Across Himalayas

The IAF has a clear advantage in numbers of airfields most of which are at lower altitude vis-à-vis China. But China is upgrading infrastructure and bringing in more assets. IAF airfields need more hardened shelters. More radars and air defence systems need to be positioned. Any air campaign would have to be aggressive, and executed simultaneously against different spread out target systems. China's war plans are to launch an initial barrage of surface attack missiles to knock off critical Indian infrastructure including airfields. India would have to defend against such an attack with air defence weapons. India would then have to achieve local sectorial air superiority. It must be remembered that the effect of neutralizing just two Chinese airfields in each sector would have much more severe implications for them than if the same was to happen for India. India should thus concentrate on neutralising the PLAAF airfield using surface and air-launched missiles, and build inventories accordingly.

Interdiction will pay high dividends in the mountains. Destroying a few bridges could throttle logistics chains and supplies. Creating weapon triggered landslides could block roads. Attacks against convoys on the very few roads would create bottle-necks. Air can provide both kinetic and non-kinetic options with pin point accuracy. It will influence outcomes and actions of the surface forces. It can simultaneously produce physical as well as psychological effects. Both the fighter aircraft and attack helicopters will be employed for this. UCAVs would be used for interdiction, battlefield strikes and anti-tank and anti-personnel operations. The transport and helicopters would also provide the airlift of troops and military hardware inter and intra sector. Inter-valley transfers may be required in changing battle situations. The IAF has significant reach and capability on this count.

Due to limitations of ground radars in the mountains, greater dependence would have to be on AWACS. Numbers will have to go up. Satellites and UAVs will be required for ISR. Numbers would have to go up to reduce revisit time. The IAF will have to continue to transform from just being platform-based to being capability-based. Effects based, network centric operations would be employed. The side that better employs electronic warfare and cyber means and tools will have advantage. Securing own networks and denying the same to adversaries will be important. Air and space platforms will greatly support cyber and electronic warfare operations much deeper into the enemy territory.

Two-Front Threat

Today China and Pakistan have deep strategic friendship. Nearly 60 percent of Pakistan Air Force (PAF) is made up of Chinese aircraft. PAF already has nearly 130 JF-17 'Thunder'. 25 J-10CE aircraft are under supply. PAF AEW&C and FRA are of Chinese origin. They have

commonality in armaments. PLAAF and PAF regularly carry out flying training exercises called the Shaheen Series. Their interoperability levels are high. Both have territorial interests in Jammu and Kashmir and Ladakh. In case of Sino-Indian conflict, Pakistan could allow use of its airbases to the PLAAF. It could also open another front. The Indian military will have to factor this aspect. IAF will surely require a larger number of fighter aircraft.

Rebuilding IAF Numbers

Considering just the Chinese threat, India needs to rebuild the authorised 42 fighter squadrons. To rebuild IAF fighter numbers, many approaches are required on priority. Only the seven two-seater are left to be delivered among the ordered 40 LCA Mk 1. On 20 June 2022, the Tejas Mark 1A prototype completed its first flight. LCA Mk 1A deliveries are planned to start in early 2024. Some delays are already being projected. The 83 aircraft will be delivered by 2029. Effectively that would mean just 16 aircraft a year. That is too less to make good numbers. LCA production must go up to 24 a year, Even if it means IAF placing more orders. Notwithstanding the 'aatmanirbharta' push, India would have to make a one-time purchase of the 114 fighter aircraft from abroad. The Request for Information (RFI) for MRFA Tender has had responses from eight global aircraft manufacturers. The release of Request for Proposal (RFP) has been overdue. Even if it was issued today, it would take 5-6 years to select and induct the first fighter. It must be hastened. The second option is to make a follow-on order of Rafale.

Infrastructure on two airbases exists. We have already paid for the India specific modifications. Overall cost would be lesser this time. The third activity is to hasten development of the LCA Mk2 by pumping in more funds and increasing the team size. Next is to give early CCS clearance for Advanced Medium Combat Aircraft (AMCA). There should be a dedicated team and management of the AMCA project. Private sector will be brought in at a very early stage.

Induction of eight LCA Mk1 and Mk1A squadrons and 114 new fighters by 2030 could take the IAF to around 37-38 fighter squadrons by 2030. The target is to get to 42 squadrons by 2038. The end state could be 14 squadrons of Su-30 MKI, two each of Mirage 2000 and MiG 29, 12 squadrons of LCA variants, two of Rafale, six of the new fighter, and four of Advanced Medium Combat Aircraft (AMCA). Effectively IAF may have to stretch the Mirage and MiG 29 fleets. If AMCA could come faster the Mirage 2000, and MiG 29 could be retired faster. These figures are achievable as long as timely decisions are taken, funds allotted, and there are no serious development delays in LCA Mk 2 and AMCA. IAF must also target to have 8 large and 10 smaller AWACS, at least 12 FRA aircraft by 2030. The DRDO project for these must be hastened with foreign support. Till then, it is best to take a few on lease. The 12 deficient fighter squadrons and the nearly 12 more to retire by 2038 will require significant funding. Capital budget would have to increase.

Some often suggest that since Rafale and Su-30 MKI can achieve much greater effects than the older MiG 21s, why IAF should continue to seek 42 squadrons. The argument is flawed. India's adversaries already have fifth generation fighters. They are not cutting down numbers. Type of aircraft and weapon platforms must be comparable to the adversary.

India also needs to invest more in game-changer technologies. These include cyber and electronic warfare, artificial intelligence, unmanned systems, hypersonic, among others. Hypersonic flight and weapons will be difficult to engage. They will act as force multipliers against high-value targets. There is a lot of action in Directed Energy Weapons (DEW). Lasers that can burn incoming missile electronics or dazzle electro-optical sensors.

For India to become significant, it must also master aircraft engine, and AESA radar technologies. Joint venture route is the best to imbibe high-end technologies. We need very long range weapons, including aerial missiles with around 400 kilometres ranges. Similarly, air-launched cruise missiles with ranges of around 1,500 kilometres.

There is a backlog of modernisation. The obsolescence sets in much faster for aerial systems. To stem the increasing gap with China, India perhaps needs to increase its defence allocations, from current 2.15 percent of GDP to around 2.5 percent. IAF is well trained and operationally well exposed. The IAF will be much better placed against the PLAAF once numbers are rebuilt. It has to be a whole of the nation approach. Time act is now.

<https://www.news18.com/news/opinion/fast-growing-chinese-air-power-india-urgently-needs-fighter-squadrons-6426679.html>



शुक्रवार, 18 नवंबर 2022

UNSC में सुधार के लिए भारत की कोशिशें तेज, स्थाई सदस्यता के लिए दावा कर रहे देशों का किया समर्थन

संयुक्त राष्ट्र सुरक्षा परिषद (यूएनएससी) में अस्थायी सदस्य के तौर पर भारत का कार्यकाल अगले महीने खत्म हो जाएगा, लेकिन इस बीच सुरक्षा परिषद में बदलाव की कोशिशें तेज कर दी हैं। गुरुवार को यूएनएससी में भारत ने एक बार सुरक्षा परिषद को नये वैश्विक माहौल के मुताबिक बदलने की अपनी मांग को जोरदार तरीके से रखा। भारत ने जोर देकर कहा कि यूएनएससी में सुधार की प्रक्रिया को जितना लटकाया जाएगा, इसके प्रतिनिधित्व के प्रति लोगों का भरोसा उतना ही कम होगा। यह बात भारत की यूएन में प्रतिनिधि रुचिरा काम्बोज ने अपने भाषण में कही!

एक दूसरे की दावेदारी के समर्थन में चारों देश

एक महत्वपूर्ण बात यह रही है कि भारत की तरफ से यह उद्बोधन उन चार देशों की तरफ से दिया गया जो संयुक्त राष्ट्र में सुधार के लिए एक साथ कोशिश कर रहे हैं। ये देश हैं भारत, जर्मनी, जापान और ब्राजील। इन्हें समूह-4 का नाम दिया गया है और सितंबर, 2022 में न्यूयार्क में ही इनके विदेश मंत्रियों की बैठक भी हुई थी। ये चारों देश एक दूसरे की दावेदारी की समर्थन करते हैं। गुरुवार को हुई इस बैठक में ब्रिटेन की यूएन में राजदूत बारबरा वूडवार्ड ने भारत समेत इन चारों देशों की संयुक्त राष्ट्र सुरक्षा परिषद में स्थाई सदस्य बनने की दावेदारी का समर्थन किया।

मौजूदा ढांचे में बदलाव की मांग का समर्थन

सितंबर, 2022 में संयुक्त राष्ट्र की महासभा के दौरान अमेरिका के राष्ट्रपति जो बाइडन समेत दूसरे दर्जनों देशों ने नेताओं संयुक्त राष्ट्र के मौजूदा ढांचे को बदलने की मांग का समर्थन किया था। यूएनएससी में

सुधार पर आयोजित इस सालाना बैठक में भारतीय राजदूत काम्बोज ने कहा है कि, हमें यह याद रखना चाहिए इस साल यूएन की महासभा में 70 देशों के प्रतिनिधियों ने संयुक्त राष्ट्र सुरक्षा परिषद में बदलाव की मांग करते हुए इसे प्राथमिकता के तौर पर लेने की बात कही है। इस साफ है कि सुरक्षा परिषद को बदलते वैश्विक परिवेश के मुताबिक बनाने की मांग को बहुत बड़ा समर्थन हासिल है। इसे जितने लंबे समय तक लंबित रखा जाएगा, इसके प्रतिनिधित्व के प्रति लोगों का भरोसा उतना ही कम होता जाएगा। उन्होंने कहा कि वैश्विक हालात बहुत ही चुनौतीपूर्ण व दुरुह हो गये हैं और परिषद को इसके लिए तैयार करना होगा। यह काम इसमें बदलाव के जरिए ही किया जा सकता है।

ब्रिटेन ने भी दावेदारी का किया समर्थन

बाद में ब्रिटेन की राजदूत वूडवर्ड ने साफ तौर पर कहा कि उनका देश भारत, जापान, जर्मनी और ब्राजील की तरफ से स्थाई सदस्य बनने की दावेदारी का समर्थन करता है। उन्होंने अफ्रीकी देशों को भी इसमें प्रतिनिधित्व देने का समर्थन किया। अमेरिका भी भारत के रुख का समर्थन करता है। गुरुवार की बैठक में भी अमेरिका की यूएन में राजदूत लिंडा-थामस ग्रीनफील्ड ने कहा कि, हमारे पास आज यह सवाल है कि हमें पुराने पड़ चुके व्यवस्था को ही जारी रखना है या इसमें सुधार करना है जो 21 वीं सदी की हकीकत के मुताबिक हो। हमें आगे बढ़ना चाहिए और इसमें आवश्यक सुधार को लागू करना चाहिए।

<https://www.jaqrان.com/news/national-india-supported-countries-claiming-permanent-membership-at-united-nation-security-council-23212740.html>



Sun, 20 Nov 2022

India to Assume Chair of Global Partnership on AI for Next Year

India will take over the chair of the Global Partnership on Artificial Intelligence for 2022-23 at a meeting of the body in Tokyo on Monday, the Ministry of Electronics and IT said. In the election to the Council Chair, India had received more than a two-thirds majority of first-preference votes while Canada and the United States of America ranked in the next two best places in the tally - so they were elected to the two additional government seats on the Steering Committee, the ministry said in a statement. Minister of State for Electronics and IT Rajeev Chandrasekhar will represent India at the handover ceremony in Tokyo. "Close on the heels of assuming the presidency of G20, a league of world's largest economies, India will take over the chair of the Global Partnership on Artificial Intelligence (GPAI), an international initiative to support responsible and human-centric development and use of Artificial Intelligence (AI)," the statement said.

GPAI is a congregation of 25 member countries, including the US, the UK, the EU, Australia, Canada, France, Germany, Italy, Japan, Mexico, New Zealand, the Republic of Korea, and

Singapore. India joined the group as a founding member in 2020. "Rajeev Chandrasekhar will represent India at the GPAI meeting to be held in Tokyo on November 21, 2022 for the symbolic takeover from France, which is the outgoing Council Chair," the statement said. For the 2022-2023 Steering Committee, the five government seats will therefore be held by Japan (as Lead Council Chair and Co-Chair of the Steering Committee), France (Outgoing Council Chair), India (Incoming Council Chair), Canada and the United States.

"India occupying the chair also signifies how the world today perceives India as a Trusted Technology partner and one that has always advocated for the ethical use of technology for transforming citizens' lives," the statement said. AI is expected to add USD 967 billion to the Indian economy by 2035 and USD 450–500 billion to India's GDP by 2025, accounting for 10 per cent of the country's USD 5 trillion GDP target. GPAI is a first-of-its-type initiative for evolving better understanding of challenges and opportunities around AI using the experience and diversity of participating countries.

The alliance will look to bridge the gap between theory and practice by supporting advanced research and applied activities on AI-related priorities. It works in collaboration with partners and international organisations, leading experts from industry, civil society, governments, and academia to collaborate to promote responsible evolution of AI and guide the responsible development and use of AI, grounded in human rights, inclusion, diversity, innovation, and economic growth, the statement said.

<https://www.hindustantimes.com/technology/india-to-assume-chair-of-global-partnership-on-ai-for-next-year-101668945544437.html>



Sat, 21 Nov 2022

Doctrinal Lessons from the Russia-Ukraine War

By Raghu Raman

Recent analyses of the Russia-Ukraine war have ranged from talking about flawed Russian strategies, outdated tactics, and the role of technology in future wars to the centrality of territorial control and the alternative view that war is an instrument of political assertion, not limited to capturing land. While these analyses illuminate a strategic perspective, doctrinal lessons must be addressed. First, sustainable political power emanates from the economy, not the barrel of a gun. The classical objective of any military commander in a war is to capture and hold the ground of tactical importance, or GTI in military jargon. The textbook definition of GTI is ground whose loss will render the defender incapable of fighting a successful battle.

At a tactical level, GTI could be a commanding height, such as Siachen, an axis control, such as Kargil, or beachheads such as Normandy during World War II. At strategic levels, GTI signifies the centre of gravity of the war. For instance, the Allied Powers wrested GTI with the destruction of German industrial warfighting capability. GTI can also be intangible elements such as war fatigue, the reason why the United States and the erstwhile Soviet Union were driven out of Vietnam and Afghanistan, respectively. However, at the doctrinal level, nations have an overarching policy of economic dominance and/or degradation towards their adversaries. While

the former president of China, Mao Zedong, coined the aphorism that political power flows from the barrel of a gun, his successors realised that guns and war need a strong economy. The victorious and vanquished pay a heavy price during and after a war. Being economically more robust than the adversary and hurting the latter is the essence of all wars. And it is in that context that two adversaries frame their respective doctrines.

Second, wars are about the economy and control over resources. Pakistan follows a low-intensity, deep State and seditious doctrine towards India. With a relatively low investment in terror, agent provocateur and sedition sponsorships, it forces India to spend vast amounts on stabilising Kashmir while preventing potential economic leveraging of that vast swathe of Indian territory. Stationing a third of Indian security forces to prevent the havoc caused by a few terrorists is a win from the Pakistani perspective. While successes such as the liquidation of terrorists or destruction of terror camps trigger tactical celebrations, they disguise the fact that Pakistan deploys a minuscule fraction of the resources to destabilise the region at will. India, on the other hand, expends massive resources to maintain a fragile stability.

Similarly, the 2008 Mumbai attacks started the diversion of resources required for nation-building into security expenditures. That economic bleed is a strategic form of “controlling” territory or damaging the enemy without physical occupation. China has a far more insidious, all-encompassing, multi-pronged doctrine while dealing with India. The Chinese doctrine is insidious because it has systematically infiltrated the Indian economic, technological and financial ecosystems so profoundly that any hostility towards China will hurt India much more.

Despite the rhetoric after the 2020 Galwan Valley incident, our economic dependence on China and imports have only increased. Peeling off the layer of bravado will reveal how much Chinese components, finance and input materials fuel the Indian economy. Also, given the economic, military and world heft disproportionality between the two, any conflict may not end well for India. China’s tactic of salami-slicing Indian territory doesn’t carry any expansionist intent per se. Taiwan and the South China Sea are far bigger prizes than the desolate wastelands of Galwan. This has little to do with controlling territory. Instead, it is to keep an inordinate number of Indian forces tied down and bleeding — which we can ill afford. Once again, we are being made to outspend to stay in our own territory. This is a lever China can crank up anytime to imperil the Indian political establishment and compel acquiescence.

Three, war as a tool of political assertion usually fails. As an instrument of political assertion — whether internal or external — war is a notoriously bad option; apart from wreaking misery on millions for generations, it usually doesn’t deliver on political assertion either. Like many world leaders before him, Russian President Vladimir Putin got it wrong despite being a military man. Under his watch, the second strongest army in the world has been reduced to the second strongest military in Ukraine. The retreat from Kherson could be for Putin what the Battle of the Bulge was for Hitler — the beginning of the end.

And, that is happening largely because Putin lost touch with reality. He started believing in his propaganda and overplayed his hand one too many times. Senior commanders and ministers who should have been counselling against the misadventure or, more importantly, the state of preparedness and morale of the troops failed to do so and caused the unnecessary slaughter of soldiers and misery. Putin overestimated the shelf life of his war-rating popularity and has now opened a second front within Russia, which can have serious global repercussions. If Russia does not win this war conclusively, renegade provinces will renew their separatism. A weakened

Russia threatens India's national security, given our military dependence on it. It also pushes India further into US influence as a riposte to China. No matter how it ends, Ukrainians and Russians will suffer for generations, the region will be fractured, and all global concerns such as the climate crisis will be overshadowed. The current generation destroys the next generation's well-being by choosing war as an option for political assertion. The countries with the third and fourth strongest armies in the world should heed that lesson.

<https://www.hindustantimes.com/opinion/doctrinal-lessons-from-the-russia-ukraine-war-101668778407906.html>

R. REPUBLICWORLD.COM

Sat, 19 Nov 2022

Major Escalation Fear in Russia-Ukraine War as Moscow Moves 100 Missiles Back From Belarus

By Bhagyasree Sengupta

The fear of escalation of the Russia-Ukraine war is all-time high amid reports that Moscow has secretly moved around 100 air defence missiles sparking speculations that Kremlin might resort to using "dirty bombs". On Friday, The Mirror reported that the commanders have secretly moved almost 100 air defense missiles from Belarus to Russia. According to the report, air-freighting scores of S-300 and S-400 defense missiles have been taken to Russia either as a precaution against retaliation from Ukraine forces or as a sign of a much bigger attack.

A Russia expert told The Mirror, "Whatever Russia has in mind to inflict on Ukraine the Kremlin appears to be expecting retaliation on its own soil from Ukraine or the West," adding that "these missile moves done so rapidly, just prior to this week's massive bombardments, the two are interconnected." The expert sums up his assertion, stating, "the worst is yet to come."

Moscow now intensifying its assault on the eastern Donetsk region

Russian administration's need to protect the capital, even more, raises concerns about the use of the "dirty bomb" by the Putin administration. The reports come after Russia announced the withdrawal of its troops from Kherson, the only Ukrainian province capital it captured earlier since the beginning of its invasion in February.

The Mirror reported that Moscow is now intensifying its assault on the eastern Donetsk region. The recent reports also claim that Moscow is fortifying its defenses in the southern region and has built a new trench system near the border of Crimea. Earlier this week, the Russian defense ministry also said Ukrainian troops were "pushed back from Yahidne in Ukraine's eastern Kharkiv province". Earlier today, the Russian Defence ministry came out with a statement that all its missile army troops are now being re-equipped with the Iskander-M missile system. The rising weaponisation and fortification of the capital by the Russian bloc are now causing concerns all around the world about the further escalation of the Russia-Ukraine war, which might result in severe consequences.

Meanwhile, the Ukrainian administration is investigating the atrocities committed by the Russian bloc in Kherson. Citing a claim by a Ukrainian official, The Mirror reported that Ukraine has opened 430 war crimes cases in the region and investigating four alleged torture sites.

<https://www.republicworld.com/world-news/russia-ukraine-crisis/major-escalation-fear-in-russia-ukraine-war-as-moscow-moves-100-missiles-back-from-belarus-articleshow.html>



Sat, 19 Nov 2022

War with Russia will be Over by...: Ukraine's Deputy Defence Minister Predicts

Ukrainian forces could be back in Crimea by the end of December and the entire war with Russia will be over by the spring, Ukrainian deputy defence minister said. Volodymyr Havrylov, a retired major general told Sky News his country will never stop fighting until victory. Asserting that he believed the probability of an atomic attack by Russia is low, the minister said, "Yeah, it would be drama. For everybody it will be just - God knows what scenario - but it [a tactical nuclear strike] is not [a] threat which will stop us from... continuing our war."

On peace talks with Russia, Volodymyr Havrylov said that it would only happen when Russian troops are ready to leave every inch of Ukraine, including Crimea that Russian president Vladimir Putin seized in 2014. "There is a decision inside the society in Ukraine that we are going up to the end," he said in London during a trip to the UK this week. It doesn't matter what kind of scenario is on the table. People paid a lot of blood, a lot of efforts to what we have already achieved. And everybody knows that any delay or frozen conflict is only the continuation of this war against the existence of Ukraine as a nation," the minister said.

On Ukraine's recent successes in the battlefield, Volodymyr Havrylov said, "It's only a matter of time and, of course, we would like to make it sooner than later." "I think Russia can face a black swan in their country, inside Russia and it can contribute to the success of us with Crimea," the minister said. There was "also a military option as well with some kind of combination of forces, resources and something else", he added, saying, "We can step in Crimea, for example, by the end of December. Possible, possible. Not excluded that it be so."

<https://www.hindustantimes.com/world-news/russiaukraine-war-war-will-be-over-by-end-of-spring-ukraine-s-deputy-defence-minister-predicts-101668845802160.html>



Mon, 21 Nov 2022

Germany Offers Poland Missile Defence System after Stray Missile Crash

After a stray missile crashed in Poland last week, Germany offered Warsaw the Patriot missile defence system to help secure its airspace, Defence Minister Christine Lambrecht told a

newspaper on Sunday. After the incident, which at first raised concerns that the conflict in Ukraine could cross the border, the German government had already declared that it would provide its neighbour with additional assistance in air policing using German Eurofighters. "We have offered Poland support in securing airspace - with our Eurofighters and with Patriot air defence systems," Lambrecht told the Rheinische Post and General Anzeiger.

According to NATO Secretary General Jens Stoltenberg, the missile that struck Poland last week and killed two people appeared to have been fired by Ukraine's air defences rather than a Russian attack. To stop approaching missiles, ground-based air defence systems like Raytheon's Patriot are designed. Since Russia's invasion of Ukraine in February, NATO has taken action to bolster air defences in eastern Europe. In October, a project to jointly purchase air defence systems for various layers of threats, including Patriot, was launched by more than a dozen NATO allies under the leadership of Germany.

When NATO's frontline state during the Cold War was Germany, it had 36 Patriot units. Two of the 12 Patriot units that the German military currently possesses are stationed in Slovakia.

<https://www.livemint.com/news/world/germany-offers-poland-missile-defence-system-after-stray-missile-crash-11668971760862.html>



Sun, 20 Nov 2022

Russia's Ukraine Invasion, a Preview to Potential Global Tyranny: US Defence Secretary

In a speech to a security forum in Canada on Saturday, U.S. Defense Secretary Lloyd Austin said that Russia's invasion of Ukraine has provided a glimpse into "a possible world of tyranny and turmoil." Austin made some of his strongest statements to date about the necessity for the international community to support Kyiv's victory after almost nine months of war. Russian missile attacks on Ukraine's energy infrastructure, which could expose millions of civilians to the bitter winter weather, are being planned in response to a string of battlefield losses. According to Pentagon officials, Moscow wants to overwhelm Ukraine's missile defences and buy itself some time to reorganise its forces.

Austin said Russia was breaking the laws of war. "These aren't just lapses. These aren't exceptions to the rule. These are atrocities." Austin further stressed on the hardships Ukrainians are facing due to the war, he said, "Russian missile barrages have left innocent Ukrainians without heat, water, and electricity. We've seen schools attacked. Children killed. Hospitals bombed. Centers of Ukrainian history and culture reduced to rubble."

Moscow disputes claims that its military targets civilians or civilian infrastructure on purpose. While refraining from directly intervening in a war against nuclear-armed Russia, the US and its allies have assisted in arming, informing, and preparing Ukrainian forces. Austin vowed that the United States wouldn't join Russian President Vladimir Putin's "war of choice," but he cautioned that if Moscow won, there would be a risk of widespread nuclear proliferation.

"Putin's fellow autocrats are watching. And they could well conclude that getting nuclear weapons would give them a hunting license of their own. And that could drive a dangerous spiral of nuclear proliferation," Austin said. Austin claimed that Beijing, like Moscow, sought "a world where might makes right". Austin claimed that Chinese aircraft were flying near self-governing Taiwan in record numbers almost every day and that China was increasingly engaging in what he called "dangerous interceptions" of American or allied forces at sea or in the air.

Since China held war drills close to the democratically run island in August following a visit by U.S. House Speaker Nancy Pelosi, tensions between Taipei and Beijing have increased. Beijing, which sees Taiwan as a province of China, has long promised to annex the autonomous island and hasn't ruled out using force to do so. Beijing's claims are rejected by the Taipei government, which asserts that only Taiwan's citizens have the authority to determine the future of their country.

<https://www.livemint.com/news/world/russias-ukraine-invasion-a-preview-to-potential-global-tyranny-us-def-secy-11668883145729.html>



Sun, 20 Nov 2022

China Says Open to Meeting with US Defence Secretary

China said on Sunday it is open to a meeting with the US defense secretary on the sidelines of a regional security forum in Cambodia this week, in a sign of thawing relations after the countries' top leaders met earlier this month. China Defence Minister Wei Fenghe and U.S. Secretary of Defense Austin Lloyd previously confirmed separately that they would attend the forum with Southeast Asian countries, the ASEAN Defence Ministers' Meeting-Plus.

On Sunday, China's defence ministry issued a statement featuring a question about whether the two would meet, with spokesman Tan Kefei quoted as saying, "China holds a proactive and open attitude for exchange with the United States." He also said both sides are coordinating regarding an "exchange" at the forum, set to take place on Wednesday. A meeting would represent the first high-level military exchange between the countries since China halted regular dialogue between military commanders in August in retaliation for U.S. House Speaker Nancy Pelosi's visit to Taiwan. China regards democratically ruled Taiwan as a renegade province. In Indonesia last week, on the sidelines of a Group of 20 summit, China President Xi Jinping and U.S. President Joe Biden held their first face-to-face meeting since the latter took office in early 2021. Ties between the world's two largest economies have deteriorated in recent years amid issues such as trade, human rights and Taiwan.

<https://indianexpress.com/article/world/china-says-open-to-meeting-with-u-s-defence-secretary-8278893/>

US should be Cautious, Hesitant in Delivering more Military Support to Pakistan: Report

The US should be cautious and hesitant in delivering more military support to Pakistan, such as the F-16s, where there is no guarantee that they will be used competently. Dr Sajjan M Gohel, the international security director at the Asia-Pacific Foundation think-tank and Marcus Andreopoulos, a senior research fellow at the Asia-Pacific Foundation, writing in War On The Rocks (WOTR) said that by fulfilling Pakistan's wishes on the F-16, the Biden administration may be hoping it will help shore up the fragile governing coalition from outside interference. However, it is the machinations of Pakistan's military that remain constant and will continue to shape what transpires within the country.

The Biden administration authorized the sale of military equipment worth USD 450 million to Pakistan to enhance the air-to-ground capabilities of the country's current stock of F-16 fighter aircraft. This most recent sale is the latest chapter in a decades-long back and forth between Washington and Islamabad, in which bilateral relations have fluctuated erratically, said Gohel and Andreopoulos. The contorted situation of the F-16 raises a perennial yet fundamental dilemma on whether Washington can ever really achieve its objectives with Pakistan regarding cooperation in preventing Afghanistan from becoming a safe haven for terrorist groups, curtailing nuclear proliferation, ending hostilities with India, and containing China's expanding clout in South Asia. The answers will likely turn out to be disappointing, as they have in the past. In part, this is because multiple US administrations pass laws with the intention of taking a principled stand in holding Pakistan accountable for its ties to terrorism or nuclear proliferation but then subsequently seek to find workarounds when there is an impending strategic security concern. Pakistan has understood this all too well, reported WOTR.

For Pakistan's establishment, statecraft of strategic depth outweighs the economic and social challenges that continue to engulf the country and which in turn heighten insecurity in the region. The security ramifications of how the United States handles the F-16 matter carry enormous geopolitical significance, ranging from nuclear conflict, conventional warfare, counter-terrorism, and containing Chinese influence, said Gohel and Andreopoulos. The history of US negotiations with Pakistan illustrates that the temporary, tactical, and transactional nature of the relationship has enabled Pakistan to pursue its adversarial military doctrine of strategic depth in Afghanistan to hedge against India, in which the F-16s became a key tool, while also furthering the ambitions of a nuclear weapons programme. F-16 refurbishments are not going to resolve Pakistan's crippling economic and humanitarian crisis and may instead contribute to the cycle of military opacity and intransigence over the stable democratic civilian rule, reported WOTR.

Washington should stop using F-16s to try and leverage security and non-proliferation commitments from Pakistan. As Pakistan is mired in political, economic, and environmental instability, the risk is that providing Islamabad with more weapons will be counterproductive because they exacerbate regional tensions, said Gohel and Andreopoulos.

Instead, Washington should recognize that these sales and upgrades prop up actors in the country that sometimes work against American interests, all but ensuring that clashes over the sale of this jet — and other American hardware — will continue long into the future. Moreover, the nuclear risk is a by-product of Pakistan's instability, which has occurred directly due to the troubling relationship its military sustains with violent extremists.

Pakistan's commitment to preserve its nuclear arsenal is also configured to level the defence battlefield with India. Ironically, instead of being a conventional deterrent, the F-16 could instead be used to carry nuclear warheads. Expressing apprehensions over the Biden administration's decision to upgrade Pakistan's F-16 fleet, India's External Affairs Minister S Jaishankar implied that the primary use of the aircraft would be to wage war with India. Jaishankar's concerns are not without merit. Tensions between Pakistan and India ignited in February 2019, after the Jaish-e-Mohammed terrorist group carried out a suicide bombing in Jammu and Kashmir that killed 40 Indian security personnel. Pakistan had deployed F-16s against India as opposed to the Chinese-built JF-17 Thunder that they initially claimed to have used, violating the terms of sale from the United States.

<https://theprint.in/world/us-should-be-cautious-hesitant-in-delivering-more-military-support-to-pakistan-report/1225951/>

नवभारत टाइम्स

शनिवार, 19 नवंबर 2022

अमेरिकी F-16 फाइटर जेट बनाम चीन के घटिया हथियार, दुविधा में पाकिस्तान, भारत से दुश्मनी पड़ी भारी

भारत से दुश्मनी मोल लेनी वाली पाकिस्तान की सेना इन दिनों अजीब दुविधा से गुजर रही है और उसके लिए एक तरफ कुंआ तो दूसरी तरफ खाई वाली स्थिति पैदा हो गई है। एक पाकिस्तान की सेना अपने सदाबहार दोस्त चीन से लगातार फाइटर जेट, ड्रोन, रेडॉर और आर्टिलरी ले रही है, वहीं उसकी अमेरिकी हथियारों पर निर्भरता लगातार बनी हुई है। इसकी वजह यह है कि चीन के हथियार अभी भी उतने विश्वसनीय नहीं हैं जितने कि अमेरिका के। यही वजह है कि पाकिस्तान की अमेरिकी एफ-16 फाइटर जेट पर निर्भरता लगातार बनी हुई है। उधर, अमेरिका और चीन के बीच तनाव बढ़ता ही जा रहा है जिससे पाकिस्तान के लिए दोनों में संतुलन बैठाना बहुत मुश्किल होता जा रहा है।

पाकिस्तान की यह दुविधा कराची में शुरू हुए 11वें अंतरराष्ट्रीय रक्षा प्रदर्शनी में देखने को मिली। इस प्रदर्शनी में चीन की 7 बड़ी कंपनियों ने दुनिया के 50 से अधिक देशों के प्रतिनिधियों को कई अत्याधुनिक हथियार दिखाए। चीन के इन हथियारों में विंग लूंग ड्रोन, सीएच सीरीज ड्रोन, मल्टी रोल ड्रोन शिप, वाई-

9ई ट्रांसपोर्ट प्लेन, वीटी-4 मेन बैटल टैंक, इलेक्ट्रॉनिक वारफेयर डिफेंस सिस्टम का भी प्रदर्शन किया गया। पाकिस्तान पहले ही बड़े पैमाने पर चीनी हथियारों का इस्तेमाल करता रहा है।

चीन भारत को ध्यान में रखकर पाकिस्तान को हथियार दे रहा

पाकिस्तान सेना के पास चीन का वीटी-4 टैंक, एसएच-15 होवित्जर तोप, टाइप 054 फ्रीगेट, जेएफ-17 और जे-10 सी फाइटर जेट और जेडडीके-03 अर्ली वार्निंग एयरक्राफ्ट शामिल है। चीन के सरकारी अखबार ग्लोबल टाइम्स ने पाकिस्तान के रक्षा अधिकारियों के हवाले से दावा किया कि चीन के सैन्य हथियार दुनियाभर में चर्चित हैं। इस बात में कोई संदेह नहीं है कि चीन भारत को ध्यान में रखकर पाकिस्तान को अपने हथियारों की सप्लाई कर रहा है। इसके अलावा चीन चाहता है कि पाकिस्तान उसके हथियारों की मदद से सीपीईसी का विरोध कर रहे विद्रोहियों को कुचल दे।

विशेषज्ञों का कहना है कि पाकिस्तान को मिले चीन के हथियार घटिया क्वालिटी के हो सकते हैं। यही वजह है कि पाकिस्तान के पुराने पड़ते एफ-16 समेत पश्चिमी देशों के अन्य हथियार आज भी भारत के खिलाफ सबसे कारगर हैं। पिछले दिनों खबर आई थी कि पाकिस्तान नौसेना के चीन में बने 4 जुल्फिकार फ्रीगेट बेकार इलेक्ट्रॉनिक्स से लैस थे। यही नहीं उनके इंजन में भी गंभीर कमी थी और हथियार भी सही से काम नहीं कर रहे थे। यही वजह थी कि पाकिस्तान नौसेना को खराब क्वालिटी के बाद भी उन्हें चलाने लिए मजबूर होना पड़ा।

अमेरिका के साथ अच्छे रिश्ते रखने के लिए बाध्य पाकिस्तान

यही नहीं चीन में बनी पाकिस्तानी टैंक, रेडॉर, एयर डिफेंस सिस्टम भी विश्वसनीयता का संकट झेल रहे हैं। पाकिस्तानी सेना को जो चीनी टैंक मिल गए हैं, वे ठीक से काम नहीं कर रहे हैं। उनके गोलों में भी दिक्कत आ रही है। चीन के इन बेकार हथियारों की वजह से ही पाकिस्तान को अमेरिका के साथ अच्छे रिश्ते रखने के लिए बाध्य होना पड़ रहा है। पिछले दिनों अमेरिका ने भारत के विरोध के बाद भी पाकिस्तान को एफ-16 पैकेज दिया था।

<https://navbharattimes.indiatimes.com/world/pakistan/pakistan-reliability-issues-with-chinese-weapons-dependent-on-us-made-f-16-jet-against-india/articleshow/95624979.cms>

Business Standard

Sat, 19 Nov 2022

North Korea's Kim Boasts New Intercontinental Missile as US Flies Bombers

North Korean leader Kim Jong UN boasted that a recently tested intercontinental ballistic missile is another reliable and maximum-capacity weapon to contain US military threats, state media reported on Saturday. The United States responded to the North's weapons launch by flying

supersonic bombers in a show of force. The North's Korean Central News Agency said Kim oversaw the launch of the Hwasong-17 missile, a day after its neighbours said they had detected the launch of an ICBM that showed a potential ability to reach anywhere in the United States.

KCNA said Kim observed the launch with his wife Ri Sol Ju and their beloved daughter as well as senior officials. State media photos showed Kim walking hand-in-hand with his daughter, who was clad in a white coat, together watching a huge missile loaded on a launch truck.

It's the first time for North Korea to publish the photo of Kim's daughter. Observers say Kim observing a weapons launch with his family suggests that he was confident in its success. Kim, 38, is the third generation of his family to rule North Korea. South Korean media reported he has three children born in 2010, 2013 and 2017 respectively. It wasn't immediately known which child he took to the launch site.

Friday's launch was part of the North's ongoing barrage of missile tests that are seen as an attempt to expand its weapons arsenal and boost its leverage in future diplomacy. Some foreign experts said the Hwasong-17 missile is still under development but is the North's longest-range ballistic weapon designed to carry multiple nuclear warheads to defeat US missile defence systems. KCNA said the missile fired from the Pyongyang International Airport travelled up to a maximum altitude of about 6,040 kilometres and flew a distance of about 1,000 kilometres before it landed on the preset area in international waters off the country's east coast.

The test-fire clearly proved the reliability of the new major strategic weapon system to be representative of (North Korea's) strategic forces and its powerful combat performance as the strongest strategic weapon in the world, KCNA said. Kim Jong Un solemnly declared that if the enemies continue to pose threats to (North Korea), frequently introducing nuclear strike means, our party and government will resolutely react to nukes with nuclear weapons and to total confrontation with all-out confrontation, KCNA said.

Kim's statement suggests North Korea will continue its weapons testing activities as the United States is pushing to bolster its security commitment to its allies South Korea and Japan. There are concerns that North Korea could soon conduct its first nuclear test in five years. US B-1B bombers conducted joint aerial drills Saturday with other South Korean and US warplanes in response to the North Korean launch, according to South Korea's Joint Chiefs of Staff. It said the drills demonstrated an iron-clad US security commitment to South Korea and the allies' combined defense posture. North Korea is sensitive to the deployment of US B-1B bombers because they're capable of carrying a huge payload of conventional weapons. Earlier this month, the US sent B-1B bombers streaking over South Korea as part of earlier joint drills, in the bombers' first such flyover in five years.

On Friday, the US military held separate aerial drills with South Korean and Japanese forces. South Korea's military said it also staged unilateral exercises on Friday simulating aerial strikes on North Korean mobile missile launchers. The United Nations Security Council scheduled an emergency meeting for Monday morning on North Korea's latest ballistic missile launch at Japan's request. But it's unclear if it can slap fresh sanctions on North Korea because China and Russia, two of the council's veto-wielding members, opposed the United States and its allies' moves to toughen sanctions on the North over its banned tests of ballistic missiles earlier this year. US National Security Council spokesperson Adrienne Watson condemned Friday's launch and said the United States will take all necessary measures to guarantee the safety of its territory and South Korea and Japan.

Vice President Kamala Harris separately met with the leaders of those countries and of Australia, Canada and New Zealand who are attending a regional forum in Bangkok to discuss a joint response to North Korea. Japanese Defence Minister Yasukazu Hamada said on Friday that depending on the weight of a potential warhead, the missile had a range exceeding 15,000 kilometres, in which case it could cover the entire mainland United States. The North's nuclear and missile arsenals are shrouded in secrecy. Some experts say North Korea is still years away from possessing a functioning nuclear missile, saying it has yet to prove technologies to ensure that warheads survive the harsh conditions of atmospheric reentry.

But others say North Korea has likely already acquired such capacities given the number of years spent on its nuclear programme. In recent months, North Korea has performed dozens of shorter-range missile tests that it called simulations of nuclear attacks on South Korean and US targets. North Korea said its tests were aimed at issuing a warning to the United States and South Korea over their military training that the North views as an invasion rehearsal. Seoul and Washington have said their regular exercises are defensive in nature.

North Korea halted weapons launches for about a week before it fired a short-range ballistic missile on Thursday. Before that launch, North Korean Foreign Minister Choe Son Hui threatened to launch fiercer military responses to steps by the US to bolster its security commitment to South Korea and Japan. US President Joe Biden met with his South Korean and Japanese counterparts on November 13 on the sidelines of a regional gathering in Cambodia, issuing a joint statement that strongly condemned North Korea's recent missile tests and agreed to work together to strengthen deterrence. Biden reaffirmed the US commitment to defend South Korea and Japan with a full range of capabilities, including nuclear weapons.

https://www.business-standard.com/article/international/north-korea-s-kim-boasts-new-intercontinental-missile-as-us-flies-bombers-122111900357_1.html

Science & Technology News



Sun, 20 Nov 2022

After Feat for Private Sector, ISRO Parachute Test in 'Milestone' for Gaganyaan

After India's first privately built rocket was launched by the Indian Space Research Organisation (ISRO) on Friday, the space agency carried out another test which, it stressed, "marks a significant milestone toward realising the nation's ambitious Gaganyaan project". It's the first project taken up by ISRO to demonstrate the human space flight capability. The Integrated Main Parachute Airdrop Test - or IMAT - that was conducted in Uttar Pradesh's Jhansi on Friday simulates the case when the main parachute fails to open. How was it done? A 5-ton dummy mass - which was said to be equivalent to the crew module mass - was dropped from 2.5 km using Indian Air Force's IL-76 aircraft. Then, two small pyro-based mortar-deployed pilot

parachutes pulled the main parachutes, the space agency described in a statement. This will be useful when the astronauts return from space. "The fully inflated main parachutes reduced the payload speed to a safe landing speed and the payload mass landed softly on the ground in a sequence that lasted about 3 minutes," it further added.

This is the first in a series of tests which have been planned to simulate different failure conditions for the human spaceflight mission. The Parachute based Deceleration system for Crew module is a joint venture between the ISRO and the Defence Research and Development Organization (DRDO). The Gaganyaan project aims to achieve autonomy in access to space, and enhance the capability of cutting edge scientific research in the country through human in loop micro-gravity experiments. The step forward towards the ambitious project comes as the space agency also celebrated the entry of private players in the sector on Friday with the launch of Vikram-S, developed by Skyroot Aerospace. Prime Minister Narendra Modi had opened the sector to private players in 2020, which the government had hailed as a big reform.

[https://www.hindustantimes.com/science/after-feat-for-private-sector-isro-parachute-test-in-milestone-for-gaganyaan-101668908669154-amp.html#amp_tf=From%](https://www.hindustantimes.com/science/after-feat-for-private-sector-isro-parachute-test-in-milestone-for-gaganyaan-101668908669154-amp.html#amp_tf=From%00)



Fri, 18 Nov 2022

Vikram-S: India's First Private Rocket Blasts off Successfully, Everything about 'Prarambh Mission'

India's first privately developed rocket has been sent into orbit by Skyroot Aerospace on Friday, marking the nation's first private space launch. The Vikram-S launch vehicle is intended to carry out the Prarambh mission as a demonstration flight in the second week of November. The mission will be significant since the Indian Space Research Organisation (ISRO) formerly controlled the creation, design, and launch of space missions in India, making rockets a public sector enterprise.

"Mission Prarambh is successfully accomplished. Congratulations" ISRO announced on Twitter. The rocket launch, according to Union Minister Jitendra Singh, who was in Sriharikota, Andhra Pradesh to witness the historic launch, marked a turning moment for Indian startups.

Why the name 'Prarambh'?

Prarambh, which means "the beginning" and denotes a new era for the private space industry, is the name given to the mission by the Hyderabad-based rocket start-up. With this first mission, Skyroot Aerospace will launch a rocket into orbit for the first time as a commercial space enterprise in India, ushering in a new era for the space industry, which was recently opened up to allow for private sector participation, the company stated.

"We could build and get our Vikram-S rocket mission-ready in such a short time only because of the invaluable support we received from ISRO and IN-SPACE, and the technology talent that we inherently possess," said Pawan Kumar Chandana, CEO and Co-Founder.

The name "Vikram" is given to Skyroot Aerospace's launch vehicles in honour of Dr Vikram Sarabhai, the eminent scientist who founded the Indian Space Programme.

All about Vikram-S

In honour of Vikram Sarabhai, the pioneer of India's space programme, a small-lift launch vehicle known as the Vikram S was created. The chief operating officer of Skyroot, Naga Bharath Daka, described the Vikram-S rocket as a single-stage sub-orbital launch vehicle that would be able to transport three client payloads and assist test and verifying most of the technology in the Vikram family of space launch vehicles. Three rockets, dubbed Vikram I, II, and III, are part of the "Vikram" series. Broadband internet, GPS, and Internet of Things (IoT) from orbit and imagery of the planet will all be supported by these rockets.

According to Skyroot, "The leading technology architecture of Vikram vehicles offers unique capabilities like multi-orbit insertion, interplanetary missions; while providing customised, dedicated and rideshare options covering a wide spectrum of small satellite customer needs." According to Skyroot, the Vikram series is engineered to be manufactured and launched in less than 72 hours and has the "lowest cost in the payload sector." These rockets are capable of launching satellites into sun-synchronous polar orbits and low Earth orbits that may weigh up to 815 kg each (SSPOs).

The highlight of the mission

Three customer satellites from Skyroot Aerospace will be launched aboard Vikram S in a sub-orbital flight as part of the Prarambh project. Three client payloads will be carried by Vikram S during this mission, which will also assist in the testing and validation of technologies for the Vikram family of space launch vehicles. The 2.5-kilogramme payload "Fun-Sat," which was created by kids from India, the US, Singapore, and Indonesia, will also be launched on board Vikram S by Spacekidz, an aerospace firm located in Chennai.

Significance of the mission

Suborbital spaceflight is often conducted at a lower altitude than orbital spaceflight, frequently at a height of around 100 kilometres above the surface of the Earth, and it is believed that they are essential for completing space mission experiments before true commercial trips take place. Three separate Vikram rocket versions are currently being developed by Skyroot. According to sources, the Vikram-I, Vikram-II, and Vikram-III can launch payloads weighing up to 480 kilogrammes, 595 kilogrammes, and 815 kilogrammes into a 500-kilometre low-inclination orbit, respectively. To send commercial satellites into orbit, the business is creating cutting-edge space launch vehicles. It wants to lower entry barriers for low-cost satellite launch services as well as space travel by expanding its mission of making spaceflights accessible, dependable, and common for everyone.

<https://www.wionews.com/science/vikram-s-indias-first-private-rocket-blasts-off-successfully-everything-about-the-prarambh-mission-535231>

ISRO to Launch PSLV-C54 and 8 Nano Satellites on 26 November

The Indian Space Research Organisation will launch PSLV-C54/ EOS-06 mission with Oceansat-3 and eight nano satellites on board from Sriharikota spaceport on November 26. The launch is scheduled at 11.46 am on Saturday, said the national space agency. Asked about the passengers aboard the rocket, a senior ISRO official said, " The mission includes EOS-06 (Oceansat-3) plus eight nano satellites (BhutanSat, 'Anand' from Pixxel, Thybolt two numbers from Dhruva Space, and Astrocast - four numbers from Spaceflight USA).

Separately, the Indian space agency's Vikram Sarabhai Space Centre has conducted the Integrated Main Parachute Airdrop Test (IMAT) of its crew module deceleration system for maiden Gaganyaan human spaceflight programme on Sunday. The parachute airdrop was conducted in Jhansi district of Uttar Pradesh. The Gaganyaan deceleration system consists of three main parachutes, besides the smaller ACS, pilot, and drogue parachutes, to reduce the speed of the crew module to safe levels during its landing, ISRO said in a statement.

Two of the three main chutes are sufficient to land the astronauts on earth, and the third is redundant, ISRO said adding that the IMAT test simulated the case when one main chute failed to open. The IMAT test is the first in a series of integrated parachute airdrop tests planned to simulate different failure conditions of the parachute system before it is deemed qualified to be used in the first human spaceflight mission. In this test, a five-tonne dummy mass, equivalent to the crew module mass, was taken to an altitude of 2.5 kilometres and dropped using the Indian Air Force's IL-76 aircraft. Two small pyro-based mortar-deployed pilot parachutes then pulled the main parachutes.

"The fully inflated main parachutes reduced the payload speed to a safe landing speed. The entire sequence lasted about 2-3 minutes as the scientists watched the different phases of the deployment sequence unfold with bated breath," ISRO said in a statement. The design and development of the parachute-based deceleration system is a joint venture of ISRO and the Defence Research and Development Organisation (DRDO).

<https://www.livemint.com/science/news/isro-to-launch-pslv-c54-and-8-nano-satellites-on-26-november-11668922066107.html>

THE ECONOMIC TIMES

Centre Makes Exception for ISRO, Exempts it from Explosive Rules

The Indian Space Research Organisation has been exempted of a taxing central inspection and approval regime introduced in 2008 for manufacturing solid propellants for space rockets. ET

gathers that following representations from Isro over the years, the Department for Promotion of Industry and Internal Trade (DPIIT) has exempted the national space organisation from the "operation of all provisions of the explosives rules, 2008, for manufacturing, storage, use and transportation of Solid Propellant for Space Rockets falling under UN Class 1 (Explosives)".

The exemption, given only to Isro, was notified by the Centre last week. PESO, earlier known as the Department of Explosives, regulates safety of hazardous substances including explosives, compressed gases and petroleum in the country. In effect, the latest exemption means that Isro will not need approvals and inspection from the Petroleum and Explosives Safety Organisations (PESO) on solid propellant usage and manufacture. "ISRO is a premier national space organisation. They have all the expertise to handle explosive material. Hence, it was felt that they need not be subject to PESO inspections and approvals multiple times. ISRO had put in a request and it was found rational to allow the exemption in view of the adequate safety mechanisms they have in place. They also had such an exemption prior to 2008. So, it was decided to restore the same," an official told ET on condition of anonymity.

While Isro was exempted from PESO oversight through the early years of India's space programme, the Explosive Rules 2008, did not make that exception for it. Officials say permissions on solid propellants were given and even fast-tracked by PESO on a case-to-case basis for Isro but the delays involved had become an issue of concern. There was also the argument that Isro was well-equipped to handle solid propellants and did not need PESO oversight and monitoring. The Isro argument came on the back of decades of work on solid propellant-based rocket technology, considered essentially home-grown and heralded in 1963 with the launch of the first composite solid propellant 'Mrinal' from Thumba. Isro's Sriharikota-based Solid Propellant Space Booster Plant is at the forefront of the same. The rulebook of 2008, however, was increasingly seen as a constraint.

Isro will be required to follow the Storage and Transportation of Explosives Committee guidelines for construction of buildings for manufacture, storage, transportation and use of explosives and carry out biennial safety audit of the solid propellant manufacturing facilities with the participation of a member from defence ministry organisation -- the Center for Fire, Explosive and Environment Safety.

<https://economictimes.indiatimes.com/news/science/centre-makes-exception-for-isro-exempts-it-from-explosive-rules/articleshow/95645703.cms>

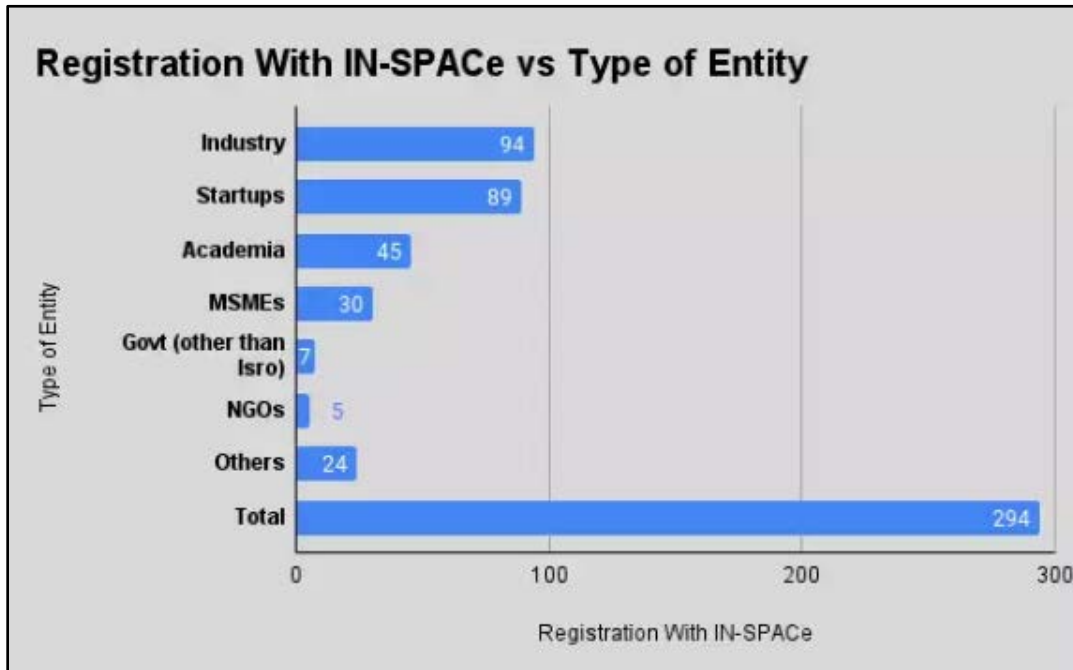
THE TIMES OF INDIA

Thu, 17 Nov 2022

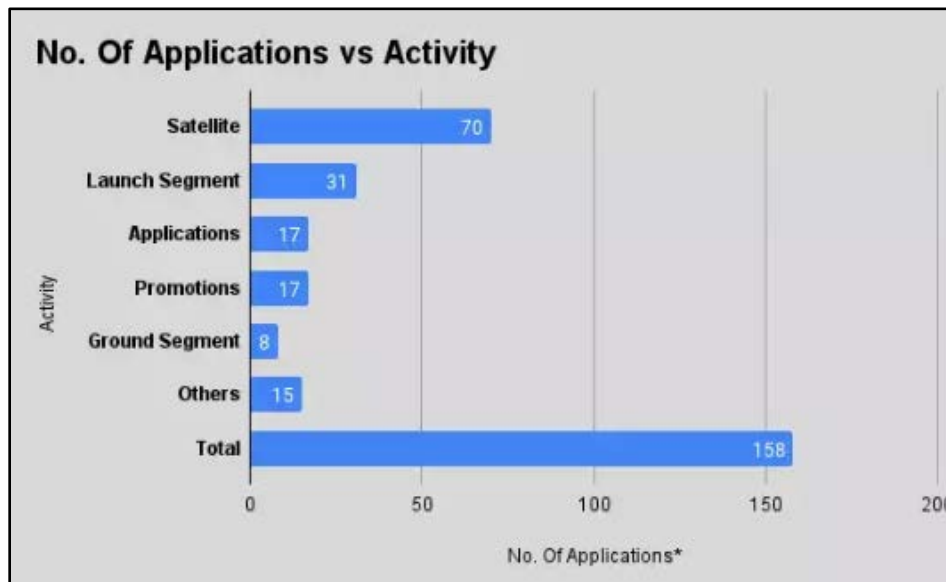
Beyond Skyroot: 158, Including 31 Launch Projects, Want IN-SPACE Nod; 294 Entities have Registered

Not just Skyroot — scheduled to launch its small, single-stage rocket from ISRO'S sounding rocket complex in Sriharikota on Friday — but the Indian National Space Promotion and Authorization Center (IN-SPACE) has more than 30 applications from entities wanting a nod for launch segment activities. In fact, within months forming its directorates and beginning operations, IN-SPACE, India's space regulator-and-promoter, has nearly 300 entities registered expressing their interest in carrying out business or other activities in the Space sector. Out of

these, 89 are startups, 94 are classified as industry and 30 as MSMEs. There are also applications from academia, NGOs and others.



“We have already cleared four proposals in the last six months, including the launch of Skyroot, which is scheduled to launch on November 18. But this is only the beginning. Among the many applications we have, there are those seeking promotions where we will help them get mentors, expert consultancy and more,” Vinod Kumar, director, directorate of promotions, IN-SPACE, said. Including the 30-plus applications seeking IN-SPACE’s nod for launch vehicle related activities, there are a total of 158 applications the agency is vetting on a case-by-case basis. Most of them (141) are proposals seeking authorisation.



PK Jain, director-project management and authorisation, IN-SPACE, told TOI the applications for launch segment activities are those related to the development and testing of launch vehicles

or associated systems and subsystems. Of the 158 applications, the most are for satellite projects (70), while there are 17 seeking approval for applications and eight for ground segment related activities. Comparatively, in August 2022, IN-SPACE had 97 applications seeking its permission to carry out Space activities, including 21 for launch vehicles and 54 for satellites. Some of the proposals that are in advanced stage of consideration by IN-SPACE are by: Agnikul Cosmos, Bellatrix Aerospace, Astrome Technologies, Tathya, Manastu Space, Dhruva Space, Scanpoint Geomatics Ltd (SGL), Pixxel India, OneWeb India Communications, Hughes Communications, MTAR Aerospace, Ananth Technologies, LBS Institute of Technology for Women and ITCA, Bengaluru - 75 Student Satellite project.

Of these, as reported by TOI earlier, Agnikul, which already has some clearances, is targeting a year-end launch of its sub-orbital launch vehicle, while Bellatrix has already expanded with a new facilities, Dhruva Space and Pixxel will launch their payloads on November 26 onboard a PSLV. The other companies too are making progress with technology demonstration and in-house testing of systems. IN-SPACE, responsible to promote, enable, authorise and supervise various space activities in the country, operates with three directorates: Promotions, Project management-and-authorisation and Technical.

<https://timesofindia.indiatimes.com/india/beyond-skyroot-158-including-31-launch-projects-want-in-space-nod-294-entities-have-registered/articleshow/95584677.cms>



Press Information Bureau
Government of India

Ministry of Science & Technology

Sun, 20 Nov 2022

Union Minister Dr Jitendra Singh Chairs a High Level Review Meeting for the Preparations of Science-20 Meetings of the G-20 Summit to be Held in India Next Year

Minister says, all the six Science Ministries and Departments, including Science & Technology, Biotechnology, CSIR, Earth Sciences, Space and Atomic Energy are fully geared up for the upcoming G-20 Summit meetings. Some of the expected deliverables of S-20 Summit will be Creation of better and encouraging frameworks for environmentally responsible technologies and assertion of IP sharing and technology transfers, Creation of a global ecosystem for start-up mentorship and funding: Dr Jitendra Singh

Union Minister of State (Independent Charge) Science & Technology; Minister of State (Independent Charge) Earth Sciences; MoS PMO, Personnel, Public Grievances, Pensions, Atomic Energy and Space, Dr Jitendra Singh today chaired a high level review meeting for the preparations of Science-20 meetings of the G-20 Summit to be held in Delhi next year. The meeting was attended by Principal Scientific Advisor to Government of India Ajay Kumar Sood and Secretaries of all the six Science Ministries and Departments, including Science & Technology, Biotechnology, CSIR, Earth Sciences, Space and Atomic Energy.

Dr Jitendra Singh said after the meeting that all the six Science Ministries and Departments under him are fully geared up for the upcoming G-20 Summit meetings. The Minister also welcomed the topics and subjects assigned to Science Ministries. He said, all the stakeholders will meet again with Sherpa of G-20, Shri Amitabh Kant this week to firm up Human Resources and Experts for assigned topics. Dr Jitendra Singh informed that apart from S-20 Summit and Side meetings, another important event assigned to DST is Research Innovation Initiated Gathering (RIIG) with side events.

Dr Jitendra Singh said, the expected deliverables of the S-20 and RIIG will be Creation of better and encouraging frameworks for environmentally responsible technologies and assertion of IP sharing and technology transfers, Creation of a global ecosystem for start-up mentorship and funding, Encouragement of more mega science projects, Creation of framework for global holistic health program and mental health program, Creating common cultural dialogue for science through more engagement programs and interdisciplinary partnerships, Creation of a common digital global heritage that is accessible for all citizens.

The Science-20 Summit meeting will be held in Coimbatore from 21st to 22nd July, 2023 with the theme of “Disruptive Science for Innovative and Sustainable Growth”. The Sub-themes (side event topics) are- Non-conventional energy for a greener future, Connecting Science to Society and Culture and Holistic Health: Cure and Prevention of Disease. Meeting schedule and venues for S-20 are as follows- Inception meeting: Pondicherry (30-31 January 2023), Side-event1: Bangaram Island, Lakshwadeep (27-28 February 2023), Side-event2: Agartala (3-4 April 2023), Side-event3: Indore (16-17 June 2023).

The S-20 Secretariat will be chaired by Dr Vijay P Bhatkar of Indian Institute of Science, Bengaluru. Prof Ajay K Sood and Prof Gautam Desiraju are also eminent members of the Secretariat. Dr Jitendra Singh said, DST will also take care of the Research Innovation Initiated Gathering (RIIG) on the subject of “Research and Innovation for Equitable Society”. The Sub-theme/ topics for RIIG gathering will be Materials for Sustainable Energy (CSIR), Scientific Challenges and Opportunities towards Achieving a Sustainable Blue Economy (MoES), Bio-resource/ Biodiversity and Bio-economy (DBT) and Eco-Innovations for Energy Transition (SERB).

Meetings schedule and venues for RIIG are the following: Inception meeting: Kolkata (9-10 February 2023), Side-event1: Ranchi (21-22 March 2023), Side-event 2: Dibrugarh & Itanagar (24-25 March 2023), Side-event 3: Shimla (19-20 April 2023), Side-event 4: Diu (18-19 May 2023) and the RIIG Summit and Research Minister meeting, Mumbai (4-6 July 2023).

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